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Direct or indirect? The impact of political connections on export mode of Chinese private enterprises

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Declarations of interest

None

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Abstract

The learning-by-exporting effect can vary by mode of export (direct or indirect via intermediaries), which raises the importance of understanding factors associated with how firms export. This paper investigates the effect of political connections, one form of informal institutions particularly important in China, on the choice of export mode by Chinese private enterprises. By using firm-level survey data and addressing endogeneity, we find that having political connections significantly increases the probability of direct exporting, while it has no effect on indirect exporting through trade intermediaries. We further test the underlying mechanisms behind these findings. The results show that corporate political connections can help alleviate financial constraints by promoting the (external) access to bank credits and by reducing the (internal) extra-tax burdens, which are disproportionately important for direct exporting relative to indirect exporting. In addition, we find limited evidence supporting the importance of contract enforcement and managerial efficiency as channels though which political connections affect the choice of export mode.

Keywords: Political connections; Export mode; Financial constraints; China

JEL classification: F14; P26; P33

1. Introduction

At the current state of economic development, one fundamental question for China's growth is how to shift from input-led growth to innovation-led growth (Wei, Xie, & Zhang, 2017). This puts the issue of competence building for innovation center stage. Recent studies have shown that an important mechanism of innovation and productivity improvement for developing economies is to enter the foreign markets through exporting (Van Biesebroeck, 2005; De Loecker, 2007; Aw, Roberts, & Xu, 2011; Bustos, 2011; Atkin, Khandelwal, & Osman, 2017). The so-called learning-by-exporting mechanism suggests that exporting firms may learn and absorb new knowledge and technology through the access to new markets, production methods, products design or management practices.

As one of the world's leading export economies, China seems to have a large potential to generate growth opportunities by exploiting the learning-by-exporting effect. Nevertheless, recent studies have pointed out that how much firms can learn from exporting to a large extent depends on how firms export and particularly how they choose between direct trading and indirect trading (Bai, Krishna, & Ma, 2017). More precisely, it has been documented that compared with firms exporting through intermediaries, firms exporting directly have better access and more opportunities to learn about foreign technology and preferences. Therefore, to enlarge the learning-by-exporting effect so as to facilitate innovation-driven growth in China, an important question to be addressed is how to explain the choice of export mode between direct and indirect trading by Chinese exporting firms. However, as most existing literature has been focusing on the volume of exports, relatively few studies have investigated the potential factors determining the choice of export mode.

This study aims to narrow this research gap by investigating the impact of corporate political connections on export mode, in particular on direct and indirect exporting, of Chinese private enterprises. We emphasize the role of political connections as a potential determinant of export mode in China for two reasons. On the one hand, in a transitional country like China with relatively weak market-supporting institutions, political connections can be of significant importance in firm performance including exports (Li, Meng, Wang, & Zhou, 2008; Haveman, Jia, Shi, & Wang, 2017; Ding, Fan, & Lin, 2018; Kung & Ma, 2018). As Chinese governments, at both state and local levels, have large control over resource allocations and high involvement in economic activities, the political connections literature has shown that politically connected firms may obtain better access to bank credits and be less subject to heavy government regulation than their non-connected peers (Bai, Lu, & Tao, 2006; Li et al., 2008; Guo, Jiang, Kim, & Xu, 2014). On the other hand, though recent trade studies have started to stress the importance of institutions in determining a country's comparative advantage in international trade (Levchenko, 2007; Nunn, 2007; Manova, 2013; Nunn & Trefler, 2014), very few have explored the relation between informal institutions and exports. One exception is the study by Ding et al. (2018), which examines how government connections affect the export value in the context of China. However, to our best knowledge, there has been no work linking political connections to the choice of export mode, not to mention analyzing the causality or mechanisms in this matter.

To identify the effect of political connections on export mode, we employ several approaches to deal with endogeneity and conduct the analysis with interaction terms to explore the potential mechanisms involved. Based on nationally representative survey data

of Chinese private enterprises between 2004 and 2008, we find that having political connections significantly increases the probability of direct exporting but not that of indirect exporting through trade intermediaries, especially for firms in sectors with relatively high financial dependence. We also present some evidence that the positive effect of political connections on direct exporting is more significant in regions with a lower development of local financial institutions and a higher level of corporate extra-tax burdens. These findings suggest that corporate political connections can affect export mode through the channel of reducing (external and internal) financial constraints that to a large extent restrain the ability of private firms to export directly. In addition, the channels of contract enforcement and managerial efficiency seem to play a trivial role in explaining the difference in the choice between direct exporting and indirect exporting.

This study contributes to the existing literature in several ways. First, as far as we know, we are the first to examine the effect of political connections on export mode and explore the underlying mechanisms behind this effect. This adds to the literature on export mode and enriches our understanding of the factors determining the choice of trade regimes. Second, our results show that corporate political connections not only affect the volume of exports as suggested by Ding et al. (2018), but also shape firms' choice of export mode. Considering political connections as an important type of informal institutions or social arrangements in China, our study extends the literature on institutions and trade. Third, we find that the impact of political connections on export mode is larger in regions with weaker formal institutions. This provides some evidence for the substitution relationship between formal and informal institutions and therefore offers more insights into the literature on

institutions.

The rest of this paper is organized as follows. Section 2 introduces the literature review on political connections and export mode and discusses the potential mechanisms linking the two. Section 3 shows the data source, variables, and the estimation strategy. Section 4 presents the baseline results, addresses the endogeneity issues, tests the underlying mechanisms, and conducts several robustness checks. Section 5 concludes.

2. Literature review

2.1. The learning-by-exporting effect and export mode

There has been extensive discussion regarding the association between trade liberalization and firm productivity. On the one hand, causality may run from productivity to exports. In a theoretical framework with firm heterogeneity and monopolistic competition, Melitz (2003) and subsequent papers like Helpman, Melitz, and Yeaple (2004) emphasize that only self-selected firms with high productivity can cover high trade costs and thereby enter into the export markets. On the other hand, recently there has been emerging evidence from developing economies supporting the so-called learning-by-exporting effect, i.e. exporting has a positive impact on raising firm productivity and innovation. For example, Van Biesebroeck (2005) finds that Sub-Saharan African manufacturing firms become more productive once they export. Controlling for the self-selection bias, De Loecker (2007) shows that there is a significant productivity gain from exports for Slovenian manufacturing firms. Bustos (2011) provides evidence for the positive effect of trade liberalization on technology upgrading by Argentinean firms. Focusing on Taiwanese electronics industry, Aw et al. (2011)

find that the decision to export can raise the productivity levels of exporters. Dai and Yu (2013) support the effect of exports on productivity improvement for Chinese manufacturing firms and further point out that the learning-by-exporting effect is contingent on firm R&D investment. Based on firm-specific demand shocks in the destination countries, Hu, Lin, and Wang (2016) test whether exports causally raise firm productivity and find affirmative evidence of the learning-by-exporting effect in the context of China.

Recently, the learning-by-exporting effect has started to be linked to export mode, particularly to direct and indirect exporting. Direct exporting refers to a mode that firms directly export self-produced products to foreign markets, while indirect exporting firms export through trade intermediaries. Though exporting indirectly may help firms to reduce the upfront costs and match with potential customers, it has been shown that direct exporting can result in more opportunities to learn and therefore larger learning-by-exporting benefits (Bai et al., 2017). By developing and estimating a dynamic discrete choice model, Bai et al. (2017) find that compared with firms exporting through intermediaries, firms exporting directly learn more about foreign technology and preferences so that they gain a larger improvement in productivity. They also show that the elimination of the rules on direct exporting significantly contributes to the growth of Chinese exports since China entered the World Trade Organization (WTO) in 2001. These findings motivate our study to investigate the factors determining the choice between direct and indirect exporting in China.

2.2. Factors of the choice between direct and indirect exporting

It was not until recently that researchers have begun to shift their attention from the

differences between trading and non-trading firms towards the differences among exporting firms and towards the choice of export mode. Especially, compared with discussions about processing and ordinary trade in China (Yu, 2015; Dai, Maitra, & Yu, 2016; Manova & Yu, 2016), relatively less efforts have been devoted to understanding what drives the decision of Chinese firms to export directly or indirectly.

The literature on the factors influencing the choice between direct and indirect exporting may be captured in two streams. The first stream of research has focused on the matching process between buyers and sellers and thereby the role of intermediaries in reducing information asymmetry in international trade (Blum, Claro, & Horstmann, 2009; Antràs & Costinot, 2011; Dasgupta & Mondria, 2018). For example, Feenstra and Hanson (2004) examine the role of Hong Kong traders in distributing China's exports and find that intermediaries play a significant role in resolving information problems, especially for differentiated goods and products with high variance in export prices. Developing a model with multiple intermediation technologies, Blum et al. (2009) show how international trade is intermediated and explore the influence of changes in the trading environment on trade costs and trading activity.

The second strand of literature has extended the seminar work of Melitz (2003), which proposes that only firms with high productivity can cover the fixed costs of exporting. In the context of the Melitz model, by selling through a third party, firms avoid the upfront or fixed costs of market research, searching for and identifying foreign customers, establishing foreign wholesale affiliates, maintaining foreign currency accounts, setting up distribution networks, and building customer service capacities (Ahn, Khandelwal, & Wei, 2011;

Felbermayr & Jung, 2011; Bernard, Grazzi, & Tomasi, 2013; Bai et al., 2017; Akerman, 2018; Chan, 2019). Therefore, compared with exporting through intermediaries, direct exporting generates higher profits on the one hand but incurs higher fixed costs on the other hand. This trade-off may give rise to a sorting pattern that the choice of export mode is determined by firm productivity. For example, based on Chinese firm-level data, Ahn et al. (2011) find that firms endogenously choose between direct and indirect exporting based on productivity and only those with high productivity can choose direct exporting which involves higher fixed costs. Related to this, they also show that the share of indirect exporting increases with trade costs measured by the distance and market size of the destination country. Akerman (2018) points out that intermediaries have the economies of scope in fixed costs with a theoretical model and shows that the choice of export mode is closely associated with firm productivity using Swedish data.

In line with this stream of literature, one factor which is directly related to the fixed costs of exports and thereby could be a potential determinant of the choice of export mode is financial constraints. For the export decision, Chaney (2016) introduces financial constraints into the Melitz (2003) model and shows that both internal liquidity and access to external finance are important to cover the fixed costs required to enter a foreign market. Based on a model with heterogeneous firms and aggregated trade data, Manova (2013) shows that financial constraints affect not only the selection of firms into exporting but also the level of exports. With the same reasoning, financial constraints have been proposed and shown to be an important factor of the choice of export mode. For example, Manova and Yu (2016) find that firms with financial constraints tend to conduct processing trade rather than

ordinary trade, as the latter entails higher fixed costs and requires more working capital. Closely related to our analysis, Chan (2019) provides both theoretical model and empirical evidence on the role of financial constraints in determining the choice between direct and indirect trading. He addresses that firms with greater financial frictions are more likely to choose indirect exporting as exporting through intermediaries requires lower upfront or fixed costs than direct exporting.

Recent studies on trade intermediation have also raised the relevance of the contracting environment. Using Italian firm-level data, Bernard et al. (2013) find that direct exporting is more prevalent when there is a generally better contracting environment. They argue that compared to indirect trading, direct exporting involves more complex goods with more specialized inputs and thereby requires a higher quality of contracting environment to enforce detailed contracts with intermediate input producers. However, taking a different perspective by emphasizing the contracts between producers and intermediaries, Felbermayr and Jung (2011) find that trade intermediation is more likely with the presence of enforceable contracts. In line with the transaction cost theory, their findings imply that weak contract enforcement lowers the attractiveness of indirect exporting relative to direct exporting, as incomplete contracts between producers and intermediaries may result in the hold-up problem which lowers the revenues of the exporters. The seemingly contradictory findings from these studies suggest that the effect of the contracting environment on the choice of export mode can be complex and dependent on the technology of the production process and the type of the contracts involved.

2.3. Political connections and exports in China

Broadly speaking, corporate political connections refer to relationships between firms and government bureaucrats (Faccio, 2006). As one type of informal institutional arrangements, political connections are prevalent in China, one of the largest transitional economies lacking well-developed market-supporting formal institutions (Allen, Qian, & Qian, 2005; Li et al., 2008; Kung & Ma, 2018). In China, political connections can take several forms and the most usual ones are those obtained by the entrepreneurs or senior executives through the membership of the People's Congress (PC) or the Chinese People's Political Consultative Conference (CPPCC) (Li, Meng, & Zhang, 2006; Fan, Wong, & Zhang, 2007; Fisman & Wang, 2015). Given the leading role of Chinese (state and local) governments in resource allocations, establishing political connections has been considered as an important corporate strategy for promoting firm growth and market value (Li et al., 2008; Haveman et al., 2017; Cheng, 2018; Kung & Ma, 2018).

Recent studies in the trade literature have started to look at the role of political connections in influencing international trade flows. On the one hand, some argue that there is no need for politically connected firms to export as they receive preferential treatments and have a comparative advantage in the domestic market (Du & Luo, 2016). On the other hand, more studies have pointed out that political connections have a positive effect on firm exports. Developing a general equilibrium model and employing Chinese firm-level data from 2004-2013, Ding et al. (2018) show that politically connected firms have higher export values than non-connected firms, as they gain a better access to external finance and enjoy a better contracting legal environment. Ma, Ding, and Yuan (2016) use data of Chinese private enterprises and show that political capital has a positive moderation

effect on the relationship between the development of local institutions and the volume of exports.

The prior studies have pointed out that political connections may affect international trade mainly through three channels. First, establishing political connections can help to reduce financial constraints, which have been shown to restrict international trade flows in cross-country settings (Berman & Héricourt, 2010; Chor & Manova, 2012; Chan & Manova, 2015) and for Chinese firms (Feenstra, Li, & Yu, 2014; Manova, Wei, & Zhang, 2015; Chen, Poncet, & Xiong, forthcoming). For external financing, politically connected firms may obtain better access to bank credits than firms having no political connections (Bai et al., 2006; Li et al., 2008; Guo et al., 2014). For example, Li et al. (2008) find that the membership of the Communist Party can help private entrepreneurs to obtain loans from banks or other state institutions. For internal financing, political connections may help firms to get preferential taxation and subsidies (Wu, Wu, Zhou, & Wu, 2012; Feng, Johansson, & Zhang, 2015; Cheng, Cheng, & Zhuang, 2019). Based on data of Chinese listed firms from 1999 to 2007, Wu et al. (2012) find that private firms with politically connected managers attain more tax benefits than firms without such managers. Second, political connections can lower the costs related to weak contract enforcement, which is important for exports of goods intensive in relationship-specific inputs according to Levchenko (2007) and Nunn (2007). For example, Ang and Jia (2014) find that politically connected firms are more likely to use courts to resolve contractual disputes and get favorable judicial outcomes than their non-connected peers. Firth, Rui, and Wu (2011) show that having political connections can help private firms receive preferential treatments in the judicial process. Using data on commercial

lawsuits involving listed firms in China, Lu, Pan, and Zhang (2015) also provide evidence that Chinese courts favor private firms with political connectedness. Third, political connections may be linked to managerial inefficiency, which plays a negative role in exports suggested by Bloom, Manova, Van Reenen, Sun, and Yu (2018). Based on firm-level accounting data from 19 countries, Chaney, Faccio, and Parsley (2011) show that the quality of earnings reported is lower for politically connected firms that for non-connected firms, since the managers of connected firms feel less market pressures and pay less attention to increasing the quality of information. Using a sample of private firms in China, Fan et al. (2007) find that firms with political connections tend to have a high involvement of bureaucrats in management, which may be related to the poor performance of these firms.

As discussed in subsection 2.2, these mechanisms may also work to result in a significant impact of political connections on the choice of export mode. However, though political connections have been raised as a potential determinant of export decisions and flows, the existing literature has not devoted much attention to the effect of political connections on export mode that significantly matters for the learning-by-exporting effect. To add to the literature, this study explores how political connections affect the choice between direct and indirect exporting through various potential mechanisms. By doing so, our study connects the literature stressing the determinants of export mode and the literature about the effect of political connections on international trade.

3. Data and methodology

3.1. Sample and variables

Our firm-level data is taken from the Biennial National Survey of Chinese Private Enterprises. The survey was jointly organized and conducted by the United Front Work Department of the Central Committee of the Communist Party of China, the All-China Federation of Industry and Commerce, the State Administration of Industry and Commerce, and the Private Economy Research Institute of China. The survey traced the development of the Chinese private firms and has been widely employed in previous studies (e.g., Li et al., 2008; Chen, Liu, & Su, 2013; Du, Lu, & Tao, 2015). Though the survey was conducted every two years since early 1990s, we work with three waves of survey data in 2004, 2006, and 2008 since the survey question regarding firm export mode was asked only in these years. The survey collects information from the previous year, so the firm information in our data corresponds to years 2003, 2005, and 2007. The data is repeated cross-sectional in nature as firms are re-sampled nationally for each survey. A unique feature of our data is that in the survey questionnaire for the sampled years, a specific question was illustrated asking the exporting firms to classify themselves into direct or indirect exporters. This helps to reduce the potential classification bias in some prior studies that are based on corporate financial data or customs data to infer the choice of export mode of firms. Before 2004, privately owned domestic firms in China needed to have registered capital exceeding a certain level to be eligible to obtain direct trading rights.[1] However, as pointed out by Bai et al. (2017), the direct trading restrictions became less binding over time with the relaxation of trade regulations[2] and had been completely removed by the Chinese government in 2004. Therefore, we include all available firms in our main analysis to make full use of the sample

[1] Details can be seen in the Notice of Ministry of Commerce on Adjustment of Import and Export Qualification Standards and Approval Procedures, accessed at http://www.mofcom.gov.cn/article/b/e/200308/20030800120305.shtml.

[2] For example, the capital threshold was 3 million RMB after July 2001 and dropped to 0.5 million RMB by August 2003.

and exclude those firms that might be ineligible for direct trading (in 2003) in robustness checks.[3] After dropping observations with no industry code or missing values on some key variables, we obtain a final sample consisting of 6782 firms from 231 cities.

The dependent variables in our study capture the export status of private firms. We employ several variables to better account for the difference between direct and indirect exporting. The first is an ordinal variable *exp_order* which takes on a value of zero if a firm does not engage in exporting, one if a firm exports through intermediaries, two if a firm chooses direct exporting.[4] The ranking is given according to order of increasing level of the learning-by-exporting effect of different export status categories indicated by previous research (Ahn et al., 2011; Bai et al., 2017; Lu, Lu, Sun, & Tao, 2017). The second is a dummy variable comparing direct exporting and non-exporting: *direct_nonexp* taking on the value of one if a firm exports directly and zero if a firm sells only in the domestic market. Similarly, we also use a dummy variable *indirect_nonexp* which is equal to one for indirect exporting and zero for non-exporting. Lastly, for exporters, we generate a dummy variable *direct_indirect* to distinguish direct and indirect exporting (one for direct and zero for indirect). Table 1 presents the details on variable definition and Table 2 reports descriptive statistics for the main variables. Table 3 provides a summary of the distribution of firms' export status and export mode over the sample years. We find that on average exporters account for 24.0 percent of the sample and around 70.8 percent of the exporters using

[3] In our sample, in 2003 around 12 percent of the firms with registered capital below 0.5 million RMB reported having direct exporting. This suggests that the restrictions might not be stringently applied.

[4] In our sample, 323 firms reported having both direct and indirect exporting. Following Bai et al. (2017), such firms are classified as direct exporters in our main analysis. We also experiment with an alternative export mode variable, which takes on a value of zero if a firm is not engaged in exports, one if a firm exports only through intermediaries, two if a firm exports both directly and indirectly, and three if a firm exports only directly. The results using this alternative dependent variable are similar to those in the main analysis and are available upon request.

direct exporting. These statistics for Chinese private firms are comparable to those reported in previous studies using other data sources. For example, in Bai et al. (2017) based on Chinese customs data, we find that from 2003 to 2006 around 20.3 percent of the sample firms are exporters and among these exporters the proportion of direct exporting is about 60.0 percent. The corresponding figures are 17.7 percent and 70.1 percent, respectively, in Chan (2019) using World Bank Enterprise Surveys between 2006 and 2015.

[Tables 1-3 about here]

Following prior studies on political capital in China (Li et al., 2006; Zhao & Lu, 2016; Ding et al., 2018), we measure political connections based on the membership of entrepreneurs in the Chinese People's Congress (PC) and/or the Chinese People's Political Consultative Conference (CPPCC). To account for the strength of political connections, we use an executive-position weighted ordinal index of political capital following Zhao and Lu (2016). The index of the political connections degree (*pol_degree*) is calculated as follows. For the PC membership, a score is first given to different administrative levels, with 1 to township, 2 to county, 3 to city, 4 to province, and 5 to state, respectively. An executive-position-based weight is then assigned to various positions (1 to standing member, 2 to vice chairman, and 3 to chairman). Also, the executive-position-based weight is scaled by a score representing the administrative level of the position (1 for township, 2 for county, 3 for city, 4 for province, and 5 for state). The political connections score for the PC membership is calculated by multiplying the administrative-level membership score with the sum of the executive-position-based weight and the administrative-level score of the position. A similar score for the CPPCC membership can be constructed using the same procedure. Finally, the

overall index of the political connections degree used in this paper is specified as the sum of the PC score and the CPPCC score.[5] In robustness checks, we use alternative measures of political connections by decomposing the index of the political connections degree. Specifically, we construct four political connections variables: a dummy variable indicating whether the entrepreneur is a member of the PC (*pc_dummy*), an ordinal variable showing the increasing administrative levels of the PC membership (*pc_rank*, 1 = township, 2 = county, 3 = city, 4 = province, 5 = state), a dummy variable indicating whether the entrepreneur is a member of the CPPCC (*cppcc_dummy*), and an ordinal variable showing the administrative levels of the CPPCC membership (*cppcc_rank*, 2 = county, 3 = city, 4 = province, 5 = state).

In Table 2, we observe that the index of the political connections degree (*pol_degree*) ranges from 0 to 24, with a mean of 1.62 and a standard deviation of 3.56, suggesting a large variation in political capital across entrepreneurs. Regarding the membership in different political organizations, about 20.92 percent of the entrepreneurs in our sample are deputies of the PC and 27.97 percent have the CPPCC membership.

To alleviate the omitted variables problem in our regressions, we incorporate a large set of control variables. As for firm characteristics, we control for firm labor productivity (*productivity*)[6], firm size (*firm_size*), and firm age (*firm_age*). In line with recent research that has linked management practices to export (Bloom et al., 2018), we add a dummy variable on whether an entrepreneur is both the president and the manager of a firm

[5] There are 467 entrepreneurs holding dual membership of both the PC and the CPPCC in our sample. For these entrepreneurs, the sum of the PC and CPPCC scores would imply a relatively high magnitude of their political capital (Zhao & Lu, 2016). Our main results are robust to the exclusion of these entrepreneurs (results are available upon request). In robustness checks, we separately examine the effect of the membership of the PC and the CPPCC and find consistent results.

[6] Though total factor productivity (TFP) is a widely used measure of overall firm productivity, unfortunately we are not able to estimate it as there is no proper measure of capital stock in our survey. Hence, following Chan (2019), we instead control for labor productivity measured by the logarithm of sales per worker.

(*duality*) to capture corporate governance. In addition, we include a dummy variable indicating whether a firm was privatized from state-owned or collectively owned enterprises (*trans*), as these firms may enjoy preferential treatments due to their political heritage. Variables on entrepreneurial characteristics include the gender (*female*), age (*age*), and education level (*higher_edu*) of entrepreneurs. To better identify the effect of political connections on export mode, we further add several variables which capture the social capital and work experience of entrepreneurs: whether an entrepreneur is a member of the Communist Party of China (*cpc*),[7] whether an entrepreneur had previously worked in (central or local) party and government organs or public institutions as a cadre (*former_cadre*), in state-owned enterprises (*soe_exp*), in foreign invested firms (*foreign_exp*), and in other private firms as a manager (*mgr_exp*).

3.2. Estimation strategy

To investigate the effect of political connections on export mode, we set up the following econometric model:

$$Export\ mode_{icst} = \beta_0 + \beta_1 pol\_degree_{icst} + \Phi Controls_{icst} + \sigma_{cs} + \delta_{ct} + \lambda_{st} + \varepsilon_{isct} \quad (1)$$

where *i*, *c*, *s*, and *t* denote firm, city, sector, and year, respectively. *Export mode* represents the export mode variables including the ordinal dependent variable for an increasing extent of the learning-by-exporting effect (*exp_order*), the dummy for direct exporting and non-exporting (*direct_nonexp*), the dummy for indirect exporting and non-exporting

[7] It may be proposed that the membership in the Communist Party can also be an indicator of political connections (Li et al., 2008). In our research setting, however, being deputies of either the PC or the CPPCC is more important and valuable for entrepreneurs, given the prestigious political status and functions of these organizations (Li et al., 2006; Ma & Parish, 2006). Nonetheless, we control for the membership of the Communist Party in all regressions.

(*indirect_nonexp*), and the dummy comparing direct and indirect exporting (*direct_indirect*). *pol_degree* is the key explanatory variable and denotes the strength of a firm's political connections. *Controls* capture a set of firm and entrepreneurial characteristics. We control for the city-sector, city-year, and sector-year fixed effects by including corresponding dummy variables (σ_{cs}, δ_{ct}, and λ_{st}). ε is the random error term. To control for outliers, we winsorize the continuous variables at the 1th and 99th percentile of their distributions. As we control for a large set of dummy variables, there might be the incidental parameters problem when using nonlinear data estimation methods like probit or logit (Lancaster, 2000). Therefore, we employ the linear probability (LP) specification following Bertrand, Luttmer, and Mullainathan (2000) in the baseline regressions and the two-stage least squares (2SLS) estimation following Angrist (2001) to address endogeneity.[8] We cluster the standard errors at the city level in all regressions to accommodate potential heteroscedasticity and serial correlation.

We further explore the potential mechanisms underlying the effect of political connections on export mode. In line with the literature review, we add into the baseline regressions the interaction terms between political connections and the sector-level measures of financial dependence, contract dependence, and managerial dependence, respectively and simultaneously.[9] The measure of financial dependence at the sector level is compiled from a question in the survey reflecting the perception of entrepreneurs on the difficulty of obtaining bank loans. We first code the firm response of having difficulty in

[8] For robustness, we also try the ordered probit method for *exp_order* and the probit estimation for *direct_nonexp*, *direct_indirect*, and *indirect_nonexp*, respectively. We also use the IV ordered probit and IV probit methods for the IV regressions. The results are quite similar to those presented in the paper and are available upon request.

[9] We compute these sector measures based on several relevant questions in the survey. We are not able to employ the widely used data on financial dependence in Rajan and Zingales (1998) and contract intensity in Nunn (2007), as they focus on the manufacturing sector but we cover a broader set of sectors.

obtaining loans due to high financial costs or strict regulations as one and the response of not having difficulty as zero. We then compute the average of the coded responses at the sector level and generate a dummy variable (*financial_dep*) which takes on the value of one if the average is above the median value and zero otherwise. We define a sector to be financial dependent if a large proportion of firms in this sector regard financing difficulty as an obstacle for their business operations. For sector contract dependence, we create a measure based on a survey question asking entrepreneurs to indicate whether or not acquiring legal knowledge has been their most important learning content in the past two or three years. We first code the firm-level responses (one for yes and zero otherwise) and then generate a dummy variable (*contract_dep*) using the sector-level average of the coded responses (one if the average is above the median value and zero otherwise). We define a sector as contract dependent if a large number of entrepreneurs in this sector put large efforts to learn legal topic knowledge, which is assumed to be especially important in sectors with high contract intensity and thereby potentially more legal disputes. We measure sector managerial dependence using information on the proportion of management time in total work time of the entrepreneurs. We generate a dummy variable (*managerial_dep*) which takes on the value of one if the sector average of the proportion of management time is above the median value and zero otherwise. A sector is therefore defined as managerial dependent if entrepreneurs in this sector assign significant importance to managerial practices and tasks.

We specify the identification strategy as follows. First, if reducing financial constraints is an important mechanism behind the effect of political connections, we would observe a

significantly positive coefficient for the interaction of political connections and financial dependence (*pol_degree*×*financial_dep*). As political connections can help firms to obtain bank loans and reduce corporate extra-tax burdens, acquiring political capital would be more important for firms in sectors with high financial dependence to cover the fixed costs of exporting (especially of direct exporting), compared with those in low financial dependent sectors. Second, we would expect the interaction of political connections and contract dependence (*pol_degree*×*contract_dep*) to be significant if improving contract enforcement is an important channel through which political connections play a role. However, the sign of the coefficient of this interaction variable may be ambiguous for the choice between direct and indirect exporting. As contract enforcement can be important for both direct exporters having more contracts with intermediate input producers and indirect exporters holding more contracts with trade intermediaries, the interaction could be positive or negative depending on which effect dominates. Third, we would find a significantly negative interaction term between political connections and managerial dependence (*pol_degree*×*managerial_dep*) if political connections affect export mode by having a negative influence on managerial efficiency. In sectors requiring high managerial skills, firms are less likely to choose direct exporting that involves more managerial practices and tasks than indirect exporting if establishing political connections lowers managerial efficiency.

We then distinguish between external and internal financial constraints so as to provide more detailed evidence on the effect of financial constraints. The degree of external financial constraints is linked to the development of local financial markets. In regions with low financial development, private firms may be subject to strong external financial

constraints as they may have considerable difficulty in obtaining external funds through market approaches. Therefore, in these locations, the interaction between political connections and financial dependence is expected to be significantly positive. By contrast, we expect a much weaker link between political connections and export mode in regions with higher levels of financial development, as private firms in these regions have better access to external finance. The same reasoning also applies when it comes to internal financial constraints, which are to a large extent influenced by the levels of corporate extra-tax burdens. In regions with high extra-tax payments, political connections may play an important role in reducing internal financial constraints of private firms and in turn promoting their choice on export mode requiring higher fixed costs. Nevertheless, political connections may have a smaller effect on export mode in regions with low extra-tax burdens. We measure the development of local financial markets by an index of the marketization degree of the allocation of loan credits compiled by Fan, Wang, and Zhu (2011). The degree of internal financial constraints is measured by an index reflecting regional corporate extra-tax burdens. Specifically, we sum over the firm-level extra-legal payments and unauthorized levies by province and year, both scaled by the number of workers.[10] For each of these regional indexes, we take the median values by year and split firms into groups located in regions with relatively high or low (external and internal) financial constraints.

4. Empirical results

[10] Our results are robust to the use of the index measuring government efforts in reducing corporate extra-tax burdens from Fan et al. (2011). We present the results using the variable on the actual corporate extra-tax payments in the main analysis because it can reflect the internal financial burden of sampled firms more accurately. Results using the index from Fan et al. (2011) are available upon request.

4.1. Baseline results

Table 4 reports the benchmark regression results. We first show the linear probability (LP) results for the ordinal export mode variable (*exp_order*) in Column (1). We find that the corporate political connections degree variable (*pol_degree*) has a significantly positive effect on the order of export mode. To shed more lights on the relation between political connections and different export modes, we then report the LP results comparing direct exporting and non-exporting (*direct_nonexp*) in Column (2), direct and indirect exporting (*direct_indirect*) in Column (3), as well as indirect exporting and non-exporting (*indirect_nonexp*) in Column (4). In Column (2), the results show that private firms with stronger political connections have a higher probability of being direct exporters instead of non-exporters. For example, the likelihood of direct exporting increases by 2.0 percentage points if the political connections degree (*pol_degree*) rises from the value of 0 (the entrepreneur having no political connections) to the value of 2 (the entrepreneur being a deputy of the PC at the county level but with no executive position), holding other factors constant.[11] This relation is statistically significant at the 1 percent level. In Column (3), we further find that firms having a higher degree of political connections are significantly more likely to choose direct exporting over indirect exporting. The likelihood of direct exporting increases by 1.3 percentage points when the degree of political connections (*pol_degree*) rises by 1 unit, holding other factors constant. By contrast, in Columns (4), we find that the political connections variable plays an insignificant role in the choice between indirect exporting and non-exporting.

[11] Among the surveyed entrepreneurs who are politically connected, those with the political connections degree index of value 2 (*pol_degree* = 2) account for the highest proportion (about 37.59 percent) in our sample.

As for the control variables, the results in Table 4 are supportive of the productivity sorting pattern proposed in previous studies (e.g., Ahn et al., 2011; Lu et al., 2017). In Column (1), the coefficient on firm productivity (*productivity*) is positive and statistically significant at the 1 percent level, suggesting a sorting pattern on the choice of export mode. The results in Columns (2) and (3) further show that more productive firms are more likely to be direct exporters rather than only sell in the domestic market or export through intermediaries. However, the *productivity* variable is insignificant for the choice between indirect exporting and non-exporting at any conventional significance level. At the firm level, we also find that the probability of direct exporting is higher for firms with larger size (*firm_size*). With respect to entrepreneurial characteristics, there is some evidence that firms owned by entrepreneurs with work experience in state-owned enterprises (*soe_exp*) are more likely to export directly. In line with the spillover effect of foreign direct investment on international involvement of domestic firms documented in Liu, Lu, and Zhang (2014), the results show that the likelihood of direct exporting is significantly higher for firms whose entrepreneurs had previously worked in foreign invested firms (*foreign_exp*). In addition, prior managerial experience in other private firms (*mag_exp*) plays a significant role on the choice of export mode.

[Table 4 about here]

4.2. Addressing endogeneity

One potential endogeneity problem in our study is that the correlation between firm-level export mode and political connections could be attributed to some unobserved firm heterogeneity. Also, there might be reverse causality between exports and corporate

political connections. On the one hand, it is plausible that firms with stronger political connections are more likely to engage in exporting and especially direct exporting. On the other hand, compared with domestic firms, export firms, especially direct exporters, may have easier access to political capital given their productivity, firm size, and tax payment. To better identify the causal effect of political connections on export mode, we apply three approaches to address endogeneity issues that might bias our results. First, we adopt the instrumental variable (IV) estimation approach using the city-sector level average of political connections to instrument the potentially endogenous *pol_degree* variable. Second, we employ the heteroscedasticity-based identification strategy developed by Lewbel (2012) to further check the validity of our IV results. Third, we follow the method suggested by Oster (2019) to assess the likelihood that our results are exclusively driven by unobservables.

4.2.1. IV estimates

The IV approach requires an instrument that is correlated with corporate political connections but uncorrelated with other factors that may affect the choice of export mode once we include various controls. Following Fisman and Svensson (2007) and Lin, Lin, and Song (2010), for the firm-level political connections variable (*pol_degree*), we use the average score of the strength of political connections of firms in the same city and sector (*pol_embeddedness_cs*) as the instrumental variable. This IV is a proxy for the overall degree of corporate political embeddedness in a given city-sector cell in which the firm operates and thereby supposed to satisfy the relevance condition. Though we could confirm the relevance condition by the significance of the IV in the first stage regressions, the exclusion restriction condition requires more discussion.

Our IV and the error term can be orthogonal under three assumptions. First, the individual firm export behavior can hardly affect the city-sector level of corporate political embeddedness. Second, there is little possibility that the surveyed firms have the collective action. Third, the city-sector average degree of political embeddedness does not affect our outcome variables through other channels than corporate political connections. The first two assumptions are supposed to be valid in our case given the relatively high randomness in our sample and the powerful control (by the Communist party and local governments) over the selection process of members of the PC and CPPCC (Li et al., 2006; Ma & Parish, 2006). However, there may be possible sources that violate the third assumption if we omit some city and sector characteristics correlated with both the IV and export mode variables. For example, the local governments may promote exporting activities of some pillar or preferred sectors and provide entrepreneurs in these sectors more opportunities to participate in politics. Or, market conditions in some years are conducive to export for some sectors, which may raise the significance of these sectors in the local economy and result in more political participation of entrepreneurs in these sectors.

The best strategy to rule out other possibilities violating the validity of our city-sector level IV would be to control for a full set of city-sector dummy variables. However, this is not feasible given the multicollinearity between our IV and these dummies. We therefore incorporate some alternative sets of control variables in the IV regressions to support the exclusion restriction. First, we include a full set of sector-year dummies to rule out the possibility that the effect of our IV on export mode is through sector-year variations (e.g. market conditions for different sectors in various years or government policies towards

different sectors in different years). Second, we control for a full set of city-year dummies to rule out the possibility that our IV affects export mode through its link with city-year characteristics (e.g. variations in government policies or market conditions at the city level over years). Third, we add the interaction terms between various important time-varying city variables and sector dummies in order to reduce the possibility that the exclusion restriction is violated as cities with different characteristics may have different policies towards exports and corporate political participation in different sectors. Specifically, based on data from the Chinese City Statistical Yearbook published in the sampled years, we account for city characteristics including the general economic development (the logarithm of real GDP per capita), the degree of industrialization (the logarithm of real industrial output per capita), and the infrastructure construction (the logarithm of volume of railway freight and the logarithm of industrial power consumption). Besides, to better identify causation, we further check the validity of our instrument in Section 4.2.2, assess selection on unobservables in Section 4.2.3, and explore the underlying mechanisms in Section 4.4.

Table 5 reports the IV estimation results for various export mode variables. In Column (1), the second-stage results show that the political connections degree variable (*pol_degree*) has a significantly positive effect on the ordinal export variable indicating the extent of the learning-by-exporting effect (*exp_order*). The results in Columns (2) and (3) further show that the probability of choosing direct exporting is significantly higher for firms having stronger political connections (*direct_nonexp* and *direct_indirect*). By contrast, in Column (4), the strength of political connections has an insignificant impact on the choice between

non-exporting and indirect exporting through intermediaries (*indirect_nonexp*).[12] Compared with the LP estimates in Table 4, we find that the coefficients on the political connections degree variable (*pol_degree*) have comparable magnitudes in the IV regressions. In addition, the first-stage estimates show that our city-sector level instrumental variable is highly correlated with the firm-level variable on political connections. The *F*-statistic for excluded instruments also helps to rule out the weak instruments concern.

[Table 5 about here]

4.2.2. Heteroscedasticity-based identification strategy

As an additional approach to check the validity of the IV results, we employ the heteroscedasticity-based identification strategy suggested by Lewbel (2012). This method utilizes higher moments of the data and generates a set of internal instruments to supplement external instruments that may have weak validity. The advantage of combining the external and internal instruments is that it can improve the robustness of the estimates especially when it is difficult to ensure the satisfaction of the exclusion restriction of the external instruments like in our case.[13] According to Lewbel (2012), identification is achieved under two assumptions. The first is that the first-stage errors are heteroscedastic, which can be confirmed using the Breusch-Pagan test for heteroscedasticity in our analysis. The second is the presence of covariates that are not related to the conditional covariance between first- and second-stage errors. To satisfy this requirement, following Lewbel (2012),

[12] Results of the reduced-form regressions also show a significantly positive relationship between the instrumental variable (*pol_embeddedness_cs*) and the export mode variables including *exp_order*, *direct_nonexp*, and *direct_indirect*. The relationship is insignificant at any conventional significance level for the export mode variable *indirect_nonexp*. Results are available upon request.

[13] This method has also been widely used in empirical studies where external instrumental variables are not available to deal with the endogeneity problem (e.g., Hoang, Pham, & Ulubaşoğlu, 2014; Arcand, Berkes, & Panizza, 2015; Deuflhard, Georgarakos, & Inderst, 2019).

we use the product of the first-stage errors and the mean-centered variables of all the control variables as the internal instruments in our analysis.

We report in Table 6 the two-stage least squares estimation results using both the external instrument (*pol_embeddedness_cs*) and the internal instruments. Similar to the results in Table 5, firms with stronger political connections are significantly more likely to export directly, while political capital plays an insignificant role in choosing between non-exporting and indirect exporting through intermediaries. The large first-stage *F*-statistic eliminates the concern of weak instruments and the Hansen *J*-statistic fails to reject the overidentifying restrictions of using multiple instruments. These findings support our IV estimates in Section 4.2.1 and provide further evidence for the validity of using the city-sector average political embeddedness as the instrumental variable.

[Table 6 about here]

4.2.3. Assessing selection on unobservables

For robustness, we further conduct a formal test suggested by Oster (2019) to assess the unobservable selection in our baseline regressions. To assess the omitted variable bias, this approach calculates the coefficient of proportionality (δ) which indicates the degree of selection on unobservables relative to observables. Following Oster (2019), we set the multiplier of the maximum *R*-squared, from a hypothetical regression with all the observed and unobserved controls, over the *R*-squared from the regression with all observed controls as 1.3. We calculate the coefficients of proportionality (δ) for regressions from Column (1) to Column (4) in Table 4 and report the estimates at the bottom row of Table 4.

The coefficients of proportionality (δ) are around 2 for regressions in which the political

connections degree (*pol_degree*) has a significantly positive effect on export mode (Columns 1 to 3 in Table 4). These estimates are larger than 1, an appropriate bound in many cases suggested by Oster (2019), and imply that unobservable factors would need to be more than 2 times as important as all controls included to overturn our baseline results. As we have included a comprehensive set of control variables in all regressions including firm and entrepreneurial characteristics, city-sector, city-year, and sector-year fixed effects, the results of the Oster approach would therefore indicate a very low probability that our baseline findings are spuriously driven by unobservable omitted variables.

4.3. Further robustness checks

In this subsection, we first check whether our main results are robust to excluding some observations and report the results in Table 7. As our baseline results are robust to various endogeneity tests, for the rest of the paper we only report the LP results for convenience. In Panel A, we exclude firms that were privatized from state-owned or collectively owned enterprises so as to focus on purely private firms. We find that our main findings hold. Next, to rule out the possible effect of the government restrictions on direct trading rights, we exclude firms that had registered capital below 0.5 million RMB in 2003 and thus might be ineligible for direct trading. The results in Panel B of Table 7 show that our main findings are robust to this concern. In Panel C of Table 7, we restrict our analysis to a subsample of firms in the manufacturing sector (accounting for about 45.19 percent of the full sample), which is the main exporting sector in China. When we focus on one sector, we control for city-year fixed effects. The results are consistent with the findings in the main analysis.

[Table 7 about here]

We then decompose the index of the political connections degree (*pol_degree*) used in our main analysis into four political connections variables to separately test the effect of the membership of the PC and the CPPCC. We report the LP results for various dependent variables using these political connections variables in Table 8. We find that the membership of both the PC and the CPPCC has a significantly positive effect on enhancing export mode levels. In addition, there is some evidence that the PC related political connections have a larger and more significant influence on export mode than the CPPCC related political connections, probably because the PC is the highest political authority according to the Chinese Constitution.

[Table 8 about here]

4.4. Exploring the underlying mechanisms

We then conduct the analysis with interaction terms to explore the mechanisms underlying the effect of corporate political capital on the choice of export mode. In line with previous research, we add into the baseline regressions the interaction variables between political connections and three sector characteristics that are closely related to both political connections and export mode. In Table 9, we report the results by adding the interactions with the sector-level measures of financial dependence (*financial_dep*) in Panel A, contract dependence (*contract_dep*) in Panel B, managerial dependence (*managerial_dep*) in Panel C, and the three simultaneously in Panel D.

In Column (1) of Panel A, we find that the effect of corporate political connections on export mode is contingent on sector financial dependence. The significantly positive interaction (*pol_degree*×*financial_dep*) suggests that the effect of political connections is

especially larger when the sector of the firm is characterized as high financial dependence. Across Columns (2) and (4), we then investigate the effect of political connections on direct and indirect exporting, respectively. In Column (2) of Panel A, the results show that the political connections variable has a significantly larger effect on the choice between direct exporting and non-exporting in high financial dependent sectors. Similarly, in Column (3) of Panel A, we find that firms with more political capital are significantly more likely to export directly rather than indirectly when they operate in sectors with high financial dependence. Nevertheless, for indirect exporting which is much cheaper to conduct compared with direct exporting, we find in Column (4) of Panel A that the influence of political connections on the choice between indirect exporting and non-exporting is not dependent on sector financial dependence.

In Panel B of Table 9, the interaction variable between political connections and sector contract dependence (*pol_degree×contract_dep*) is only statistically significant in Column (2) for the choice between direct exporting and non-exporting. Consistent with Levchenko (2007) and Nunn (2007), the results show that the effect of political connections on the probability of direct exporting over non-exporting is larger in contract-intensive sectors. However, as for the choice between direct and indirect exporting in Column (3), there is no significant difference in the effect of political connections between sectors with low and high contract dependence. Similar results are also observed for the probability of indirect exporting over non-exporting in Column (4) in which the interaction variable is statistically insignificant.

In Panel C of Table 9, we can see that the political connections variable itself is

significantly positive while the interaction term between political connections and sector managerial dependence (*pol_degree×managerial_dep*) is significantly negative in Columns (1) and (2). In line with Ding et al. (2018), the results indicate that acquiring political connections may have an adverse influence on firm exports due to managerial inefficiency, apart from its potential positive effects on exports. However, the interaction variable is insignificant at any conventional significance level in Columns (3) and (4) of Panel C, which suggests a trivial role of the managerial efficiency mechanism in the choice between direct and indirect exporting.

To compare the effects of various mechanisms, we add these interaction variables simultaneously in Panel D of Table 9. Across columns, we find that the interaction variable between political connections and sector financial dependence (*pol_degree×financial_dep*) has a dominant effect on the choice of export mode over other interaction variables. Especially for the choice between direct and indirect exporting in Column (3), the interaction between political connections and financial dependence is the only mechanism variable that has a significant and large effect. Taking together, the results in Table 9 suggest that alleviating financial constraints is the most important channel though which political connections affect the choice of export mode.

[Table 9 about here]

We further check the effects of external and internal financial constraints and report the results in Table 10. We present the results with a focus on local financial development in Panel A and extra-tax burdens in Panel B. In Columns (1) and (2) of both Panel A and Panel B, we find that the interaction variable between political connections and sector financial

dependence (*pol_degree×financial_dep*) is more significant in regions with low financial development and high extra-tax burdens. Probably due to the relatively small sample size in Column (3) of both panels, the results show no significant difference in regions with good or weak financial institutions. Nevertheless, the *F*-test results in this column show a positive marginal effect of the political connections variable, supporting our results in Panel A of Table 9. Overall, the results in Table 10 show that political connections play an important role in the choice of export mode for private firms subject to external and internal financial constraints. We find evidence that having political connections may help firms gain access to bank loans and reduce extra-tax burdens, both are important for direct exporting which requires significant start-up costs.

[Table 10 about here]

5. Conclusion

Based on nationally representative firm-level survey data from 2004 to 2008, this paper investigates whether and how political connections influence the choice of export mode, in particular between direct and indirect trading, by Chinese private enterprises. The results show that having political connections significantly facilitates direct exporting of firms, while it has an insignificant effect on indirect trading via intermediaries. We further find that alleviating (external and internal) financial constraints is the most important mechanism linking political connections to export mode, especially to direct exporting which requires significant fixed costs. In addition, we find limited evidence supporting the importance of contract enforcement and managerial efficiency as channels though which political

connections affect the choice of export mode.

Our findings are consistent with previous studies that emphasize the importance of institutions in international trade (Levchenko, 2007; Nunn, 2007; Manova, 2013; Nunn & Trefler, 2014) and particularly echo the results in Ding et al. (2018) on the positive link between political connections and the volume of exports. On top of this, our study adds to this literature by taking a step further to analyze the impact of political connections on the choice of export mode, which is closely associated with the learning effect and productivity growth. Moreover, we try to identify the causal linkage between political connections and export mode by employing several approaches to deal with endogeneity and exploring the potential mechanisms behind the effect of political connections. Our findings, together with other studies on export mode (Feenstra & Hanson, 2004; Dai et al., 2016; Bai et al., 2017; Brandt & Morrow, 2017), imply that more detailed analysis on trade regimes may be needed to better understand factors and consequences of trade.

Our findings also provide some important policy implications. On the one hand, it is important for the policy makers to recognize the significant role of informal institutions such as political connections in promoting export performance and productivity improvement. Our results that the impact of political connections is more significant in regions with weaker formal institutions also suggest that informal institutions can to a large extent substitute for the missing or weak formal institutions, especially in transitional countries like China. On the other hand, though not investigated in this study, the acquisition of political connections may involve unproductive entrepreneurship or even rent-seeking activities (Cai, Fang, & Xu, 2011; Fisman & Wang, 2015; Guo, Jiang, & Xu, 2017). Therefore, for policy makers in

transitional countries, more attention should be given to building up market-supporting regulatory and financial institutions, so as to provide an efficient market environment for businesses.

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Table 1

Definition of main variables.

Variable	Definition
Export mode	
exp_order	An ordinal variable that equals 2, 1, or 0 if a firm exports directly, indirectly, or does not export
direct_nonexp	A dummy variable that equals 1 if a firm exports directly and 0 if a firm does not export
direct_indirect	A dummy variable that equals 1 if a firm exports directly and 0 if a firm exports indirectly
indirect_nonexp	A dummy variable that equals 1 if a firm exports indirectly and 0 if a firm does not export
Political connections	
pol_degree	An executive-position weighted ordinal index of political capital following Zhao and Lu (2016)
pc_dummy	A dummy variable that equals 1 if an entrepreneur is a deputy of the People's Congress (PC) at any level, and 0 otherwise
pc_rank	An ordered variable that equals 5, 4, 3, 2, or 1 if an entrepreneur is a deputy of the People's Congress (PC) at nation-level, province-level, prefecture-level, county-level, or town-level, and 0 otherwise
cppcc_dummy	A dummy variable that equals 1 if an entrepreneur is a deputy of the Chinese People's Political Consultative Conference (CPPCC) at any level, and 0 otherwise
cppcc_rank	An ordered variable that equals 5, 4, 3, or 2 if an entrepreneur is a deputy of the Chinese People's Political Consultative Conference (CPPCC) at nation-level, province-level, prefecture-level, or county-level, and 0 otherwise
Firm characteristics	
productivity	The logarithm of labor productivity. Labor productivity is measured as sales per worker, where the number of workers is defined as follows: 1 × number of workers employed for the whole-year + 0.75 × number of workers employed for less than one year but more than 6 months + 0.25 × number of workers employed for less than 6 months
firm_size	The logarithm of the total equity in year at the time of the survey
firm_age	The number of years since a firm was established in year at the time of the survey
duality	A dummy variable that equals 1 if an entrepreneur is both the president and the manager of a firm, and 0 otherwise
trans	A dummy variable that equals 1 if the firm was privatized from a state-owned or collectively owned enterprise, and 0 otherwise
Entrepreneurial characteristics	
cpc	A dummy variable that equals 1 if an entrepreneur is a member of the Communist Party of China (CPC), and 0 otherwise
female	A dummy variable that equals 1 if an entrepreneur is a female, and 0 otherwise
age	The age of an entrepreneur in year at the time of the survey
higher_edu	A dummy variable that equals 1 if an entrepreneur has college degree or above, and 0 otherwise
former_cadre	A dummy variable that equals 1 if an entrepreneur had previously worked as a cadre in (central or local) party and government organs or public institutions, and 0 otherwise
mag_exp	A dummy variable that equals 1 if an entrepreneur had previously worked as a manager in other private firms, and 0 otherwise
soe_exp	A dummy variable that equals 1 if an entrepreneur had previously worked in state-owned enterprises, and 0 otherwise
foreign_exp	A dummy variable that equals 1 if an entrepreneur had previously worked in foreign invested firms, and 0 otherwise
Mechanism variables	
financial_dep	A sector-level dummy based on a survey question reflecting the perception of entrepreneurs on the difficulty of obtaining bank loans
contract_dep	A sector-level dummy based on a survey question indicating the importance of acquiring legal knowledge for business operations of the entrepreneurs
managerial_dep	A sector-level dummy based on the proportion of management time in total work time of the entrepreneurs

Table 2

Descriptive statistics.

Variable	Obs	Mean	Std. Dev.	Min	Max
exp_order	6782	0.410	0.763	0	2
direct_nonexp	6306	0.183	0.387	0	1
direct_indirect	1630	0.708	0.455	0	1
indirect_nonexp	5951	0.134	0.341	0	1
pol_degree	6782	1.923	3.564	0	24
pc_dummy	6782	0.209	0.407	0	1
pc_rank	6782	0.479	1.017	0	5
cppcc_dummy	6782	0.280	0.449	0	1
cppcc_rank	6782	0.674	1.129	0	5
productivity	6782	2.473	1.[illegible]6	0.000	6.399
firm_size	6782	4.381	2.[illegible]21	1.099	12.372
firm_age	6782	7.328	4.[illegible]72	0	30
duality	6782	0.904	0.294	0	1
trans	6782	0.184	0.388	0	1
cpc	6782	0.343	0.475	0	1
female	6782	0.139	0.346	0	1
age	6782	44.441	8.111	26	66
higher_edu	6782	0.213	0.416	0	1
former_cadre	6782	0.231	0.421	0	1
mag_exp	6782	0.198	0.399	0	1
soe_exp	6782	0.592	0.492	0	1
foreign_exp	6782	0.033	0.178	0	1
financial_dep	6782	0.676	0.468	0	1
contract_dep	6782	0.687	0.464	0	1
managerial_dep	6782	0.209	0.407	0	1

Table 3

Distribution of export status and export mode.

Year	Non-exporter		Indirect exporter		Direct exporter		Total
2003	1646	78.38%	84	4.00%	370	17.62%	2100
2005	1442	72.43%	198	9.94%	351	17.63%	1991
2007	2064	76.70%	194	7.21%	433	16.09%	2691
Total	5152	75.97%	476	7.02%	1154	17.01%	6782

Table 4

The impact of political connections on export mode.

	(1) exp_order	(2) direct_nonexp	(3) direct_indirect	(4) indirect_nonexp
pol_degree	0.018***	0.010***	0.013***	0.002
	(0.004)	(0.002)	(0.004)	(0.002)
productivity	0.030***	0.014***	0.025**	0.004
	(0.007)	(0.003)	(0.012)	(0.003)
firm_size	0.026***	0.013***	0.019***	0.006***
	(0.004)	(0.002)	(0.005)	(0.002)
firm_age	0.002	0.001	-0.003	0.002
	(0.002)	(0.001)	(0.004)	(0.001)
duality	-0.007	-0.005	-0.011	0.006
	(0.027)	(0.016)	(0.050)	(0.013)
trans	0.033	0.018	-0.008	0.028
	(0.035)	(0.019)	(0.032)	(0.017)
cpc	0.028	0.012	-0.046	0.010
	(0.024)	(0.013)	(0.034)	(0.015)
female	-0.035	-0.018	-0.106**	-0.002
	(0.023)	(0.012)	(0.043)	(0.011)
age	-0.002	-0.001	0.000	-0.001
	(0.001)	(0.001)	(0.002)	(0.001)
higher_edu	-0.022	-0.010	0.017	-0.019
	(0.021)	(0.011)	(0.029)	(0.013)
former_cadre	0.033	0.016	0.048	0.006
	(0.025)	(0.014)	(0.035)	(0.012)
mag_exp	0.072**	0.036**	0.022	0.014
	(0.033)	(0.016)	(0.043)	(0.021)
soe_exp	0.038	0.021*	0.039	0.014
	(0.022)	(0.012)	(0.028)	(0.010)
foreign_exp	0.122**	0.073***	0.111**	0.028
	(0.052)	(0.027)	(0.047)	(0.025)
Fixed effects				
City-sector	Yes	Yes	Yes	Yes
City-year	Yes	Yes	Yes	Yes
Sector-year	Yes	Yes	Yes	Yes
Observations	6782	6281	1424	5891
R-squared	0.366	0.371	0.308	0.297
δ	2.285	2.288	2.387	0.877

Note: Standard errors clustered at the city level are reported in parentheses. ***, ** and * indicate statistical significance at the 1%, 5% and 10% levels, respectively. The bottom row shows the coefficients of proportionality (δ) following Oster (2019).

Table 5

Addressing endogeneity: IV estimates.

	(1) exp_order	(2) direct_nonexp	(3) direct_indirect	(4) indirect_nonexp
Second stage: Dependent variable is export mode				
pol_degree	0.017**	0.009**	0.025*	0.004
	(0.008)	(0.004)	(0.015)	(0.004)
First stage: Dependent variable is *pol_degree*				
pol_embeddedness_cs	0.960***	0.963***	1.368***	0.910***
	(0.017)	(0.019)	(0.146)	(0.039)
Control variables	Yes	Yes	Yes	Yes
Fixed effects				
City-year	Yes	Yes	Yes	Yes
Sector-year	Yes	Yes	Yes	Yes
Time-varying city variables-sector	Yes	Yes	Yes	Yes
First-stage *F*-statistic	3043.115	2568.030	87.399	540.943
Observations	5936	5528	1312	5240

Note: Standard errors clustered at the city level are reported in parentheses. ***, ** and * indicate statistical significance at the 1%, 5% and 10% levels, respectively. Control variables in Table 4 are included but not reported (available upon request). Time-varying city variables include the general economic development (the logarithm of real GDP per capita), the degree of industrialization (the logarithm of real industrial output per capita), and the infrastructure construction (the logarithm of volume of railway freight and the logarithm of industrial power consumption).

Table 6

Addressing endogeneity: Lewbel (2012).

	(1) exp_order	(2) direct_nonexp	(3) direct_indirect	(4) indirect_nonexp
pol_degree	0.018***	0.010***	0.012**	0.003
	(0.005)	(0.003)	(0.005)	(0.003)
Control variables	Yes	Yes	Yes	Yes
Fixed effects				
City-year	Yes	Yes	Yes	Yes
Sector-year	Yes	Yes	Yes	Yes
Time-varying city variables-sector	Yes	Yes	Yes	Yes
First-stage *F*-statistic	109.168	113.233	19.964	68.378
Hansen *J*-statistic	11.025	11.318	12.535	6.792
p-value	0.609	0.584	0.484	0.913
Observations	5936	5528	1312	5240

Note: Standard errors clustered at the city level are reported in parentheses. ***, ** and * indicate statistical significance at the 1%, 5% and 10% levels, respectively. Control variables in Table 4 are included but not reported (available upon request). Time-varying city variables include the general economic development (the logarithm of real GDP per capita), the degree of industrialization (the logarithm of real industrial output per capita), and the infrastructure construction (the logarithm of volume of railway freight and the logarithm of industrial power consumption).

Table 7

Alternative samples.

	(1) exp_order	(2) direct_nonexp	(3) direct_indirect	(4) indirect_nonexp
Panel A: Exclude firms privatized from state-owned or collectively owned enterprises				
pol_degree	0.018***	0.010***	0.017***	0.001
	(0.004)	(0.002)	(0.005)	(0.002)
	Control variables & City-sector, City-year, Sector-year Fixed effects			
Observations	5429	5035	1018	4762
R-squared	0.387	0.391	0.334	0.312
Panel B: Exclude firms with registered capital below 0.5 million RMB in 2003				
pol_degree	0.019***	0.011***	0.014***	0.002
	(0.004)	(0.002)	(0.004)	(0.002)
	Control variables & City-sector, City-year, Sector-year Fixed effects			
Observations	5854	5386	1101	5057
R-squared	0.378	0.385	0.302	0.301
Panel C: Manufacturing firms				
pol_degree	0.025***	0.015***	0.016***	0.002
	(0.006)	(0.003)	(0.004)	(0.003)
	Control variables & City-year Fixed effects			
Observations	3050	2680	1157	2439
R-squared	0.259	0.281	0.268	0.208

Note: Standard errors clustered at the city level are reported in parentheses. ***, ** and * indicate statistical significance at the 1%, 5% and 10% levels, respectively. Control variables in Table 4 are included but not reported (available upon request). We control for city-year fixed effects when we focus on the manufacturing sector in Panel C.

Table 8

Different types of political connections.

	(1) exp_order	(2) direct_nonexp	(3) direct_indirect	(4) indirect_nonexp
Panel A: PC dummy				
pc_dummy	0.148***	0.081***	0.093***	0.027
	(0.030)	(0.016)	(0.034)	(0.017)
	Control variables & City-sector, City-year, Sector-year Fixed effects			
Observations	6782	6281	1424	5891
R-squared	0.366	0.370	0.306	0.297
Panel B: PC rank				
pc_rank	0.064***	0.035***	0.045***	0.011
	(0.013)	(0.007)	(0.012)	(0.007)
	Control variables & City-sector, City-year, Sector-year Fixed effects			
Observations	6782	6281	1424	5891
R-squared	0.366	0.371	0.308	0.297
Panel C: CPPCC dummy				
cppcc_dummy	0.077***	0.045***	0.051*	0.012
	(0.029)	(0.015)	(0.029)	(0.014)
	Control variables & City-sector, City-year, Sector-year Fixed effects			
Observations	6782	6281	1424	5891
R-squared	0.363	0.367	0.301	0.296
Panel D: CPPCC rank				
cppcc_rank	0.032***	0.018***	0.023**	0.004
	(0.011)	(0.006)	(0.011)	(0.006)
	Control variables & City-sector, City-year, Sector-year Fixed effects			
Observations	6782	6281	1424	5891
R-squared	0.363	0.367	0.302	0.296

Note: Standard errors clustered at the city level are reported in parentheses. ***, ** and * indicate statistical significance at the 1%, 5% and 10% levels, respectively. Control variables in Table 4 are included but not reported (available upon request).

Table 9

Exploring the underlying mechanisms.

	(1) exp_order	(2) direct_nonexp	(3) direct_indirect	(4) indirect_nonexp
Panel A: Financial dependence				
pol_degree×financial_dep	0.015**	0.010***	0.044*	-0.001
	(0.007)	(0.004)	(0.025)	(0.004)
pol_degree	0.008	0.003	-0.030	0.003
	(0.005)	(0.003)	(0.024)	(0.002)
	Control variables & City-sector, City-year, Sector-year Fixed effects			
Observations	6782	6281	1424	5891
R-squared	0.367	0.372	0.311	0.297
Panel B: Contract dependence				
pol_degree×contract_dep	0.011	0.007*	0.020	-0.001
	(0.009)	(0.004)	(0.024)	(0.004)
pol_degree	0.010	0.005	-0.006	0.003
	(0.006)	(0.003)	(0.024)	(0.003)
	Control variables & City-sector, City-year, Sector-year Fixed effects			
Observations	6782	6281	1424	5891
R-squared	0.367	0.372	0.309	0.297
Panel C: Managerial dependence				
pol_degree×managerial_dep	-0.014*	-0.009**	-0.005	-0.001
	(0.008)	(0.004)	(0.013)	(0.004)
pol_degree	0.021***	0.012***	0.014***	0.002
	(0.005)	(0.003)	(0.004)	(0.002)
	Control variables & City-sector, City-year, Sector-year Fixed effects			
Observations	6782	6281	1424	5891
R-squared	0.367	0.372	0.308	0.297
Panel D: All three mechanisms				
pol_degree×financial_dep	0.014**	0.010***	0.049*	-0.001
	(0.006)	(0.003)	(0.029)	(0.003)
pol_degree×contract_dep	0.000	0.001	-0.000	-0.002
	(0.009)	(0.005)	(0.035)	(0.003)
pol_degree×managerial_dep	-0.013	-0.008*	0.008	-0.003
	(0.009)	(0.005)	(0.030)	(0.003)
pol_degree	0.011	0.004	-0.035	0.005
	(0.010)	(0.005)	(0.035)	(0.004)
	Control variables & City-sector, City-year, Sector-year Fixed effects			
Observations	6782	6281	1424	5891
R-squared	0.368	0.373	0.311	0.297

Note: Standard errors clustered at the city level are reported in parentheses. ***, ** and * indicate statistical significance at the 1%, 5% and 10% levels, respectively. Control variables in Table 4 are included but not reported (available upon request).

Table 10

Evidence on external and internal financial constraints.

	(1) exp_order		(2) direct_nonexp		(3) direct_indirect		(4) indirect_nonexp	
Panel A: Financial development								
	Low	High	Low	High	Low	High	Low	High
pol_degree×financial_dep	0.021***	0.005	0.013***	0.005	0.013	0.044	0.002	-0.007
	(0.009)	(0.009)	(0.005)	(0.004)	(0.018)	(0.028)	(0.004)	(0.006)
pol_degree	0.010	0.006	0.004	0.002	0.002	-0.029	0.004	0.003
	(0.008)	(0.006)	(0.004)	(0.003)	(0.017)	(0.029)	(0.003)	(0.003)
	Control variables & City-sector, City-year, Sector-year Fixed effects							
Observations	3685	3032	3451	2772	779	632	3118	2719
R-squared	0.349	0.359	0.352	0.367	0.390	0.214	0.290	0.298
Panel B: Extra-tax burdens								
	Low	High	Low	High	Low	High	Low	High
pol_degree×financial_dep	0.001	0.030***	0.005	0.017***	0.003	0.068	-0.008	0.007*
	(0.011)	(0.007)	(0.006)	(0.004)	(0.012)	(0.048)	(0.005)	(0.004)
pol_degree	0.012	0.004	0.004	0.002	0.009	-0.050	0.006	-0.000
	(0.009)	(0.006)	(0.005)	(0.003)	(0.011)	(0.049)	(0.004)	(0.002)
	Control variables & City-sector, City-year, Sector-year Fixed effects							
Observations	3638	3041	3368	2821	774	628	3023	2783
R-squared	0.393	0.351	0.403	0.352	0.354	0.262	0.297	0.307

Note: Standard errors clustered at the city level are reported in parentheses. ***, ** and * indicate statistical significance at the 1%, 5% and 10% levels, respectively. Control variables in Table 4 are included but not reported (available upon request). The *F*-test results for Column (3) in both panels show that the political connections variable has a significant marginal effect (*p*-value 0.004 and 0.002 for low and high financial development; *p*-value 0.025 and 0.001 for low and high extra-tax burdens).

Direct or indirect? The impact of political connections on export mode of Chinese private enterprises

Highlights

- We investigate the causal effect of political connections on the choice of export mode of Chinese private enterprises.
- We find that having political connections significantly increases the probability of direct exporting, while it has no effect on indirect exporting through intermediaries.
- The results show that alleviating (external and internal) financial constraints is the most important channel though which political connections affect the choice of export mode.
- We find limited evidence supporting the importance of contract enforcement and managerial efficiency as the mechanisms linking political connections and export mode.