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## Political connections and firms' formalization

Evidence from Viet Nam

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**Abstract:** The literature shows that political connections have different effects on firms' activities. However, the question of how political connections affect firms' formalization has not been explored. Using data from three waves of the Vietnam Small and Medium Enterprise Survey for the period from 2007 to 2011, this paper aims to examine the relationship between political connections and firms' formalization in Viet Nam. We find that firms with political connections increase their share of formal workers. The results also show that smaller firms tend to be more formalized if they have political connections. To overcome bias and inconsistency concerns due to potential omitted variables and reverse causality, we use political connections in a firm's industry in other districts as an instrumental variable. The instrumental variable results confirm our previous results that political connections do indeed lead to a higher level of formalization.

**Key words:** political connections, formalization, Viet Nam

**JEL classification:** D72, E26

**Tables:** at the end of the paper

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## 1 Introduction

Most firms in developing countries are informal (La Porta and Shleifer 2008). A firm's decision to become formal depends on the costs and benefits of formality. Firms compare the perceived formal costs, including initial registration and enforcement costs (such as higher government regulatory burdens, controls by more government officials, higher tax payments, and likely higher informal payments) with their perceived formal benefits (such as easier access to credit and government contracts) (de Mel et al. 2013). Larger firms may choose to become formal because they are big enough to benefit from having access to formal institutions, whereas smaller and less productive firms may not find formality attractive because they may receive no benefit from accessing these formal institutions (Maloney 2004). Many governments have put a great deal of effort into increasing the formality of firms. However, despite the introduction of many formalization policies, most small firms in developing countries remain informal (Bruhn and McKenzie 2014).

There is a vast literature showing that political connections have effects on economic outcomes. Political relations have been said to enhance firm efficiency (Johnson and Mitton 2003; Li et al. 2008), increase the value of firms (Claessens et al. 2008; Fisman 2001; Roberts 1990), and enable firms to benefit, for example, from favourable regulatory conditions (Agrawal and Knoeber 2001), access to bank loans (Claessens et al. 2008; Faccio 2006; Khwaja and Mian 2005; Li et al. 2008), and securing property rights (Hellman et al. 2003). However, the question of how political connections affect firms' formality has not been explored.

Using data from three waves of the Vietnam Small and Medium Enterprise Survey (VSMES) for the period from 2007 to 2011 (for 2007: University of Copenhagen n.d.; for 2009–11: CIEM et al. 2011)<sup>1</sup>, this paper aims to describe the evolution of political connections and the formalization of firms in Viet Nam. At the same time, it explores the relationship between political connections and the formalization of firms and their share of formal workers. In particular, we want to answer the question of whether firms with more political connections have a higher probability of becoming formal and of having a greater share of formal workers.

We find that firms with political connections increase their share of formal workers. The results also show that smaller firms tend to be more formalized if they have political connections. To address potential omitted variable problems, we use the average level of political connections in the same industry in other districts as an instrument for firms' political connections in Viet Nam. By instrumenting political connections, we can estimate the local average treatment effect of political connections on formalization. The results from our instrumental variable (IV) estimations confirm our findings that having political connections does indeed lead to a higher level of formalization. We also examine mechanisms through which political connections can affect firms' behaviours and find that political connections increase firms' propensity to borrow, to subcontract, and to have better sales.

Our paper makes several contributions to the literature. First, although there is a large literature on informality, its determinants and its consequences are not yet well understood (McCaig and Pavcnick 2018). This paper complements the existing literature on the determinants of firms' formality, particularly the effects on workers moving from informal to formal positions. Second,

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<sup>1</sup> See Berkel et al. (2020) for further description and background on the data.

it provides empirical evidence on the ways in which political connections can promote a firm's formality.

The paper is structured as follows. In Section 2, we describe the institutional context of the informal sector in Viet Nam. Section 3 outlines the conceptual framework on the effects of political connections on the formalization of firms. Section 4 discusses the data together with the descriptive analysis, and then presents the empirical model. Section 5 provides the estimation results and robustness tests. Section 6 summarizes the key results and makes some policy recommendations.

## 2 Background

The informal sector in Viet Nam has a historical feature. After declaring its independence in 1945, Viet Nam introduced its central planning economy where all types of private businesses were deemed officially illegal (Abrami and Henaff 2004). However, local authorities deliberately ignored these illegal but socially beneficial entrepreneurial activities (Fforde and de Vylder 1996). The 1986 renovation policy restructured the state sector, which had employed most of the country's formal workers. Many consequently became either self-employed workers or worked in family-run businesses, resulting in a boom in employment in the household business sector. This economic reform legalized private sector activity and introduced the registration process for household enterprises through the first enterprise laws in 1990 and their updated versions in 1999, 2005, and 2014. Since then, the household business sector has played a crucial role in the functioning of the economy, filling gaps wherever and whenever the government system has failed (Malesky and Taussig 2009).

Decree No. 88 of the 2005 Enterprise Laws required household businesses wishing to formalize to obtain a registration certificate (BRC) and a Tax Registration Certificate and tax code, which are registered at the district level. It is worth noting that, while many household businesses operate with both a BRC and tax code, some have a BRC but no tax code (Rand and Torm 2012). In our analysis, therefore, to be classified as a formal or registered household firm, these businesses must have both a BRC and a tax code. When these firms have more than ten workers and/or use more than one business premises, they have to register as enterprises at the province level and operate in accordance with the Enterprise Law. According to the General Statistics Office of Vietnam, there are around 5.1 million household businesses, of which 1.3 million have BRC, and about 518,000 enterprises in the country in 2017 (GSO 2018).

Not all household businesses have to register, however. It is legal for them to be exempt from registration if they operate as agricultural households, street vendors, mobile businesses, or if they have an income below a certain amount, which varies across districts. These businesses and those without tax codes are identified as informal firms in our analysis. However, the registration exemption rules are not very clear in identifying which household businesses should legally have a business licence. Even where it is illegal not to have registration, policy makers choose to tolerate these firms by giving them attractive incentives to encourage them to formalize, thereby signalling they are institutionally acceptable rather than punishing them (Tonoyan et al. 2010).

There are pros and cons for Vietnamese household firms in deciding whether to formalize their businesses. One benefit of formalization is that formal firms are better able to expand their activities through easier access to export permits, customs approvals, and government contracts (Malesky and Taussig 2009). Formalization also provides greater access to credit, infrastructure, and other productive public goods, as well as to a larger customer base (McKenzie and Sakho

2010), which in turn can have a positive impact on corporate income. In some cases, where households want to expand their business or hire more workers, they are more likely to be formalized. The bigger the company, the more visible it is, and thus the more likely it will be monitored by public authorities who will compel it to register (Cling et al. 2012).

However, for small household businesses, which, as mentioned earlier, have limited knowledge of registration requirements, formalization may involve more costs than benefits. These include the direct costs from the requirement for more accurate accounting procedures (such as the costs of learning how to carry out the procedures or even of employing a certified accountant) and the indirect costs related to transparency. When firms formalize, provincial bureaucrats are more conscious of the scale of their activities, which may lead to exploitation by officials in poorly governed districts or provinces. Informal household businesses may fear that formalizing their business will exacerbate the frequency and size of bribe payments (Malesky and Taussig 2009) and they may think that continuing with their informal status may help them to avoid or evade some business taxes.

When an informal company formalizes its operations and registers as a non-household establishment, it becomes subject to the Labor Code. This code specifies that all employees working for a period of at least three months per year must have written contracts with specific terms and conditions of employment and be covered by the Social Insurance Law of 2007. Formal businesses need to register workers with the Social Insurance Fund for the payment of health insurance and social insurance. It is very common for informal firms to have labour relations which are focused on family or personal relationships and casual or short-term jobs (lasting less than three months) rather than formal contractual agreements.

The 2007 Social Insurance Law requires firms employing workers with contracts to contribute to social insurance on a more regular basis, which is associated with higher labour costs. To reduce these costs, both formal and informal businesses find it useful to hire casual labour, which enables them to take on those with particular skill sets without paying the associated labour costs. However, most formal firms, and a few informal firms, want to hire contracted workers. These firms tend to have a longer-term business vision. They are more willing to invest in their workers and provide formal contracts to attract workers with higher skill sets, which in turn increases their long-term business stability and productivity.

### **3 Conceptual framework**

We briefly discuss why political connections can affect firms' decisions to formalize or not. This discussion guides the later empirical framework and analysis.

One of the potential benefits of formalization is that it provides firms with easier access to external borrowing. Having political connections can help to increase this access. Leuz and Oberholzer-Gee (2006) found that political connections helped firms to obtain preferential local financing in Indonesia. Mian and Khwaja (2005) noted that, between 1996 and 2002, Pakistani firms with political connections borrowed more than firms without such connections and had a significant (50 per cent) higher default rate on their liabilities. Li et al. (2008) observed a positive relationship between politically connected firms and a lower cost of capital and found that this was greater in regions with poorer institutions and legal security. In a cross-country study analysing how the cost of capital correlated with political connections, Boubakri et al. (2012) confirmed this finding, particularly for older and larger firms and firms operating in weaker institutional settings. For Viet Nam, Malesky and Taussig (2009) observed that political links increased the likelihood of obtaining

a loan by 4 per cent and found that, as firms expanded their business, they were more likely to invest in their workers and provide formal contracts to attract workers.

Formalization can help firms to be involved in government contracts. Political connections can increase their ability to get government contracts, and this creates an incentive to formalize. Goldman et al. (2013) and Tahoun (2014) found that, in the USA, politically connected firms enjoyed higher firm value, as measured by size, and obtained a larger amount of government contracts. Duchin and Sosyura (2012) showed that politically connected businesses were more likely to be financed by government investment. In the case of Viet Nam, the Provincial Competitiveness Survey 2016 found that, on average, almost 77 per cent of firms responded that contracts, land, and other economic resources were mainly in the hands of firms with close links to local authorities (VCCI and USAID 2017). As they received more contracts, they tended to hire more long-term workers.

Having political connections can reduce the likelihood of being examined by government officials when firms are formalized. Furthermore, having government links can help firms to overcome government imperfection such as red tape, poor compliance with property rights, strict government restrictions, or informal payments (Chen et al. 2011). These are all incentives for firms to become formalized.

## 4 Empirical methodology

### 4.1 Data description

The dataset used in this paper is taken from the Vietnam Small and Medium Scale Manufacturing Enterprise Survey (VSMES), an unbalanced biannual panel dataset covering the period from 2005 to 2015 which traces the same manufacturing firms in ten provinces over time. The population of non-state manufacturing firms in the ten selected provinces is based on the Establishment Census and the Industrial Survey. The samples are stratified by ownership to ensure that all forms of non-state enterprises, including officially registered households, private companies, cooperatives, limited liability corporations, and joint ventures, are represented. For implementation purposes, the surveys are limited to particular districts in each province/city. Firms are spread across 18 sectors, and the dominant ones are food processing, fabricated metal products, and production of wood products. According to the current World Bank definition, firms are classified as micro, small, medium, and large (CIEM et al. 2011), more than 72 per cent of which are microfirms. The VSMES also provides detailed information about firm demographics, ownership, business activities, employment, salaries, assets, business performance, revenue, and profit.

Several important aspects of the data should be noted. Most of the firms are considered to be smaller household enterprises. In addition, as well as including registered firms (formal firms), the surveys include informal household firms based on random selection within the survey districts identified by the enumerator. However, this on-site identification of informal firms may not be representative of the informal sector in Viet Nam due to the unidentified size of the country's informal sector.

We use the rounds from 2007 to 2011 to examine the relationship between political connections and formalization. In addition, to minimize the likelihood of parameter estimates being affected by the exit and entry of firms rather than by intra-firm variations, we limit the sample to the firms that were present at least twice during this period.

### *Formalization variables*

We are interested in two outcome variables: the formality of a firm and its share of formal workers. Firms are classified as being formal if they have an Enterprise Code Number or Business Registration Certificate with tax code. Formal workers are full-time employees with a formal contract.

### *Political connection variables*

The variables proxied for political connections are constructed using information from the survey questions which asked about the number of politicians and civil servants that firms have regular contact with and whether these people are useful for firms' business operations. Respondents were asked whether they had contact with 0, 1, 2, or 3 or more persons. We created a measure with the binary value of 0 and 1, where 0 corresponds to the response '0' and 1 to other responses.

Table 1 presents a summary of the descriptive statistics of the main variables. On average, 58 per cent of firms reported having political connections. However, there are variations over time in the number of firms with connections. The share of enterprises that became formalized increased over the period from 2007 to 2011. This increase in the number of formalized firms can be attributed to microenterprises. As shown in Table 1, the share of formal workers in formal firms increased sharply, from 18 per cent in 2007 to 40 per cent in 2009, and then decreased to 37 per cent in 2011.

Table 2 displays the characteristics of some of the main variables of firms with and without political connections. As shown in Table 2, the two groups are statistically different in all the indicators. They provide an initial indication that there are differences in outcome variables between the control and treatment groups.

Table 3 shows the pattern of political connections in the manufacturing sector. As can be seen, the firms with the highest level of connections are in the apparel and paper sectors. The figures show that chemical product firms had the greatest growth in the number of connections, (from 54 per cent in 2007 to 78 per cent in 2011) and that motor vehicles had the greatest decline (from 70 per cent in 2007 to 53 per cent in 2011). In general, more than 50 per cent of firms in most manufacturing sectors have political connections.

## 4.2 Baseline model

To investigate the correlation between political connections and formalization, we begin the analysis with the following equation:

$$y_{ijt} = \alpha + \beta PC_{ijt} + \gamma X_{ijt} + \lambda_i + \sigma_j + \varphi_t + \varepsilon_{ijt} \quad (1)$$

where  $y_{ijt}$  is the firm-level outcome of interest (which is the firm's formality and share of full-time workers with formal contracts) of firm  $i$  in industry  $j$  at time  $t$ . Our main variable,  $PC_{ijt}$ , is the political connections by firm  $i$  in industry  $j$  at time  $t$ , which is defined as the number of politicians and civil servants that firms have regular contact with and whether these people are useful for firms' business operations. The coefficient of interest is  $\beta$ , which captures the relationship between political connections and formalization.  $X_{ijt}$  are the firm characteristics. They include firm size, firm age, legal status, and industrial zone dummies.  $\lambda_i$ ,  $\sigma_j$  and  $\varphi_t$  are firm, industry, and time fixed effects. By examining both the impacts of political networks on formalization and the share of workers with a formal contract, we can identify the mechanisms through which

individuals can obtain formal jobs when informal household businesses are expanding and registering in the formal sector. The standard errors are clustered at the firm level throughout the analysis. In addition, in equation (1) above, we use linear probability models wherever the outcome of interest is a dummy variable to avoid the incidental parameter problem.

### 4.3 Instrumental variable method

Our purpose is to identify  $\beta$  in equation (1). If political connections are exogenous, the ordinary least squares (OLS) estimate of  $\beta$  indicates the effects of political connections on formalization. The positive value of  $\beta$  means that having political connections promotes formalization by firms; otherwise, political connections do not have a beneficial effect. However, there are three reasons why our results may be biased. First, there may be reverse causality between political connections and formalization. Formalization expands firms' connections, which can be beneficial to them, thereby increasing their propensity to invest in political connections. Firms may also gain political connections as part of their formalization process. This could bias our estimates upwards. Second, some unobserved firm characteristics may be associated both with having political connections and formalization. Third, the measure of political connections is self-reported and retrospective and may therefore involve a significant measurement error. This measurement error in the political connection variable biases the OLS estimates toward zero. All these factors suggest that the OLS estimate of  $\beta$  from equation (1) may be biased and inconsistent. In addition, we do not know the direction of the biases.

One way to address the potential problem of endogeneity biases, particularly the problem of omitted unobservable firm attributes, is to use fixed-effects estimations. The main advantage of the fixed-effect model is that it eliminates the bias caused by the time-invariant firm characteristics. However, the fixed-effect model has two drawbacks. First, the endogeneity bias caused by unobserved time-variant factors cannot be overcome. Second, measurement error can result in significant attenuation bias in the fixed-effects estimator.

The use of an IV approach is an alternative way to minimize endogeneity bias and overcome the drawbacks of the fixed-effect estimator. Specifically, we rely on the idea of Bai et al. (2017) by taking as an IV the average political connections in the firm's industry in other districts in the province. The identifying assumption is that firms' formalization is determined independently by each district. In particular, we rule out the possibility of large-scale formalization specific to an industry in a given year. Our first-stage specification for the leave-one-out IV is as follows:

$$PC_{idjt} = \psi + \theta PC_{d-jt} + \rho X_{idjt} + \varphi_j + \tau_i + \eta_t + \mu_{djt} \quad (2)$$

where the variable  $PC_{d-it}$  is the political connection of firms in industry  $j$  and year  $t$  in all other districts other than  $d$  in the province. We also control for industry and year fixed effects, so the specification captures common national time and industry patterns.

## 5 Empirical results

This section presents evidence that political connections can affect firms' formalization and share of formal workers.

### *OLS estimates*

We first present the OLS results as a benchmark. In Table 4, we present the OLS regressions with the different formalization outcomes as the dependent variables. The independent variables include political connections as well as firm and year fixed effects. Standard errors are adjusted for clustering of observations of the same firms in all estimations. As illustrated in column (1), we find that firms with political connections increase their probability of formalization. However, the magnitude of the main coefficient is small and not statistically significant. The findings in column (2) demonstrate that firms with political connections have a higher share of formal workers than those without connections.

We also check the robustness of our results to the inclusion of other firm characteristics such as firm employment, firm age, industrial dummies, and dummies for firm ownership. Industry-level fixed effects capture all the time-invariant features of an industry associated with political connections and the prevalence of firm formalization and number of formal employees. Any possible challenges to the underlying identification assumption would emerge from firm time-varying factors which correlate with the firm's political connections and independently influence the propensity of firms to be formalized. Large firms may be more likely to be formalized and have more connections. Long-established firms also tend to be more formal and can create their political connections over time.

When controlling for these variables in the regressions, we find that our results for the relationship between political connections and formalization do not change much. Column (2) of Table 5 shows that firms with political connections are associated with a 0.067 higher share of formal workers, which is approximately 25 per cent of the mean share of formal workers.

We also conduct another sensitivity test. Rather than using political connections as a binary variable, we use the number of political connections instead. The main variable is the number of politicians and civil servants that firms have regular contact with and that these people are useful for firms' business operations. The results, presented in Table A1 in the Appendix, confirm that political connections are positively associated with firms' formality and their share of formal workers.

### *Heterogeneity*

The literature shows a link between firm size and political connections and that large firms tend to be more likely to be formalized. Regressions exploring the relationship between political connections and formality by firm size are estimated using a linear probability model and the same specification as for the regressions in Table 5 is presented in Table 6. The results in Table 6 confirm that the estimates of the influence of political connections vary by firm size. The findings show that having political connections has a more significant effect on the formalization of small firms.

As the sample is mostly comprised of household businesses, we conduct separate analysis for household firms and non-household firms. The results are presented in Table 7. The findings in column (2) show that household firms which are politically connected tend to have a higher proportion of formal workers than non-household firms.

### *IV estimates*

The possible endogeneity biases that may arise from reverse causality and measurement errors lead us to use IV estimates which account for unobserved time-varying influences that could simultaneously affect firms' formalization decisions and political connections. We re-estimate

equation (1) using the fixed-effects regression with an IV, which is the average level of political connections of firms in the same sector in other districts. All models control for time dummies to take account of changes over time in the economic setting. In all estimates, we also include firm attributes to control for time-varying factors that could bias the results. The IV tables provide estimated coefficients with robust standard errors clustered at the firm level.

The bottom part of Table 8 reports the first-stage results of the IV estimations. These are positive and significant at the 1 per cent level. The F-statistic of excluded instruments in all specifications is well above the critical value (10) defined by Staiger and Stock (1997), which indicates that a weak instrument is not our concern.

The results in the upper part of Table 8 confirm the positive effect of political connections on formalization for the existing workers. The coefficients on the indicator of political connections are not statistically significant in column (1), which indicates that political connections do not affect firms' formalization. The estimated effect in column (2) is statistically significant and indicates a 0.41 increase in the share of worker formalization, which is about 1.5 times the mean of share of worker formalization. This figure is larger than the fixed-effects estimate. The larger main coefficient indicates that not controlling for unobservables and measurement errors underestimates the true size of the effect of political connections on formalization. Another reason is that the IV estimates estimate the local average treatment effect. Due to the heterogeneity in the sample, the effects on the subgroup of firms which benefit from the connections are larger than average.

One of the identification assumptions in our IV estimation is that firms' political connections are determined separately by industries in each province. This assumption may have been challenged. Political connections may depend on the economic development of provinces, which may also be associated with the growth of industry at the province level. Economic development in the provinces, which could concurrently influence the variables of political connections and formalization outcomes, could therefore bias our estimates.

To check for these biases, we perform a sensitivity analysis by introducing provincial economic variables, including provincial outputs and employment. If the findings are biased as a result of confounding provincial factors, we would expect the estimates to be responsive to the inclusion of these variables. The findings in Table 9 show that the coefficients are almost identical to those in Table 8 in all estimations and are statistically significant, confirming the role of political connections in firms' formalization.

In Table 10, we estimate the impacts of political connections separately for different types of firm size. The results in columns (2) and (4) confirm that there are differences in the effects of political connections on formalization between micro, small, and medium firms.

#### *Testing for potential mechanisms*

One of the ways that political connections may affect firms' formalization is they can facilitate access to external borrowings. We test for this transmission mechanism by examining the correlation between having political connections and whether firms have borrowings. Another way in which having political connections can affect firms' formalization is that they increase the likelihood of firms receiving government contracts. We examine this by associating the political connections with the chance that firms have of being subcontractors. We also test whether having political connections is associated with higher sales, which may incentivize firms to be formal.

The results of both the OLS and IV estimates are reported in Table 11. In columns (1) to (3), the estimated coefficients for political connections are positive and statistically significant and show that political connections increase firms' propensity to borrow and have subcontracts. They also increase firms' sales. All of these are consistent with the above hypothesis that political connections complement the formalization of the manufacturing firms. In columns (4) to (6), the coefficients are positive but are not statistically significant because the standard error is substantially larger than for the OLS estimates. However, the magnitudes of coefficients are similar.

## 6 Conclusion

This paper has explored the relationship between firms having political connections and their formalization. Using firm-level data from Vietnamese SMEs for the period from 2007 to 2011, we find that firms with political connections increase their share of formal workers. The results also show that smaller firms tend to be more formalized as result of having political connections. To address potential measurement errors or omitted variable problems, we use the average level of political connections in other districts as an instrument for firms' political connections. The results from the IV estimations confirm our previous results that having political connections does indeed lead to a higher level of formalization.

This empirical analysis also provides insights into the evolution of political connections and firms' formality. It also identifies mechanisms through which political connections might affect firms' behaviours in terms of a higher propensity to borrow and having subcontracts and better sales.

The findings from our empirical analysis provide significant evidence of the effects of informal networks on economic behaviour in developing economies. If firms without political connections were able to obtain equally strong access to finance and face lower levels of bureaucracy as the well-connected firms, then the number of formal workers and formal firms could increase. As a result, the activities that improve microfirm efficiency and encourage formalization are a high priority to improve the jobs and the livelihoods of workers in developing countries.

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Table 1: Summary of descriptive statistics

	2007	2009	2011	Average
Whether firms have political connections (:=1)	0.55	0.63	0.56	0.58
Micro firms	0.66	0.60	0.64	0.63
Small and medium firms	0.34	0.40	0.36	0.37
Formal firms	0.67	0.73	0.80	0.66
Informal firms	0.33	0.27	0.20	0.44
Whether firms are formal (:=1)	0.59	0.65	0.72	0.65
Micro firms	0.55	0.52	0.60	0.55
Small and medium firms	0.45	0.48	0.40	0.44
Formal workers	0.18	0.40	0.37	0.33
Informal workers	0.82	0.60	0.63	0.68
Share of formal workers	0.26	0.28	0.27	0.27
Ln (Number of employees)	1.93	2.07	1.98	2.00
Ln (Revenue)	13.25	13.16	13.80	13.39
Number of observations	2,111	2,532	2,049	6,692

Note: mean values. Micro firms have up to 10 employees. Firms have political connection politicians and civil servants if firms have at least one politician and civil servant that they have regular contact with and these people are useful for firms' business operations. Firms are defined as being formal if they have an Enterprise Code Number or a Business Registration Certificate with tax code. Formal workers are full-time workers with contracts.

Source: authors' calculations from Vietnam Small and Medium Enterprise Survey 2007–11.

Table 2: Summary statistics by political connections

VARIABLES	Mean		Difference in means	
	With political connection sample	Without political connection sample	T-statistics	P- value
Whether firms are formal	0.74	0.53	17.56	0.00
Share of formal workers	31.23	20.85	11.41	0.00
Ln (Number of employees)	2.19	1.74	16.13	0.00
Ln (Revenue)	13.61	13.08	7.70	0.00
Number of observations	3,897	2,796		

Note: mean values. Firms have political connections if they have at least one politician and civil servant that they have regular contact with and these people are useful for firms' business operations. Firms are defined as being formal if they have an Enterprise Code Number or a Business Registration Certificate with tax code. Formal workers are full-time workers with contracts.

Source: authors' calculations from Vietnam Small and Medium Enterprise Survey 2007–11.

Table 3: Level of political connections by manufacturing sectors

	2007	2009	2011	Average
Food and beverages	0.55	0.57	0.50	0.54
Tobacco	0.14	0.50	0.00	0.22
Textiles	0.42	0.75	0.51	0.58
Apparel	0.54	0.80	0.69	0.68
Leather	0.54	0.56	0.58	0.56
Wood	0.52	0.56	0.41	0.50
Paper	0.63	0.73	0.65	0.68
Publishing and printing	0.61	0.72	0.67	0.67
Chemical products etc.	0.54	0.68	0.78	0.65
Rubber	0.54	0.75	0.70	0.67
Non-metallic mineral products	0.56	0.64	0.63	0.61
Basic metals	0.48	0.67	0.56	0.58
Fabricated metal products	0.56	0.67	0.61	0.62
Electronic machinery, computers, radio	0.54	0.65	0.54	0.58
Motor vehicles etc.	0.70	0.74	0.53	0.67
Other transport equipment	0.67	0.86	0.88	0.83
Furniture, jewellery, music equipment,	0.58	0.61	0.59	0.59
Recycling etc.	0.38	0.67	0.25	0.40
Number of observations	2,111	2,520	2,026	6,657

Note: mean values. Firms have political connections if they have at least one politician and civil servant that they have regular contact with and these people are useful for firms' business operations.

Source: authors' calculations from Vietnam Small and Medium Enterprise Survey 2007–11.

Table 4: Political connection and formality (OLS estimates)

VARIABLES	(1)	(2)
	Whether firms are formal	Share of formal workers
Firms have political connections	0.009 (0.008)	0.065*** (0.011)
Other variables	No	No
Observations	6,693	6,574
R-squared	0.059	0.009
Number of firms	2,532	2,532
Firm fixed effects	Yes	Yes
Year dummy effects	Yes	Yes

Note: firms have political connections if they have at least one politician and civil servant that they have regular contact with and these people are useful for firms' business operations. Firms are defined as being formal if they have an Enterprise Code Number or a Business Registration Certificate with tax code. Standard errors are robust to heteroskedasticity and clustered at the firm level. \*\*\*Significant at the 1% level, \*\*Significant at the 5% level, \*Significant at the 10% level.

Source: authors' calculations from Vietnam Small and Medium Enterprise Survey 2007–11.

Table 5: Political connection and formality. Adding other variables (OLS estimates)

VARIABLES	(1)	(2)
	Whether firms are formal	Share of formal workers
Firms have political connections	0.010 (0.008)	0.067*** (0.011)
Other variables	Yes	Yes
Observations	6,646	6,539
R-squared	0.083	0.039
Number of firms	2,533	2,533
Firm fixed effects	Yes	Yes
Year dummy effects	Yes	Yes

Note: firms have political connections if they have at least one politician and civil servant that they have regular contact with and these people are useful for firms' business operations. Firms are defined as being formal if they have an Enterprise Code Number or a Business Registration Certificate with tax code. Formal workers are full-time workers with contracts. Standard errors are robust to heteroskedasticity and clustered at the firm level. Other variables include  $\ln(\text{employment})$ , firm ages, dummies for firms' ownership, and sectoral dummies.

\*\*\*Significant at the 1% level, \*\*Significant at the 5% level, \*Significant at the 10% level.

Source: authors' calculations from Vietnam Small and Medium Enterprise Survey 2007–11.

Table 6: Political connection and formality by firm sizes (OLS estimates)

VARIABLES	(1)	(2)	(3)	(4)
	Micro firms		Small and medium firms	
	Whether firms are formal	Share of formal workers	Whether firms are formal	Share of formal workers
Firms have political connections	0.018* (0.011)	0.063*** (0.009)	0.002 (0.010)	0.034* (0.019)
Other variables	Yes	Yes	Yes	Yes
Observations	4,565	4,452	2,092	2,087
R-squared	0.104	0.354	0.085	0.571
Number of firms	1,925	1,925	1,012	1,011
Firm fixed effects	Yes	Yes	Yes	Yes
Year dummy effects	Yes	Yes	Yes	Yes

Note: micro firms have up to 10 employees. Firms have political connections if they have at least one politician and civil servant that they have regular contact with and these people are useful for firms' business operations. Firms are defined as being formal if they have an Enterprise Code Number or a Business Registration Certificate with tax code. Formal workers are full-time workers with contracts. Standard errors are robust to heteroskedasticity and clustered at the firm level. Other variables include  $\ln(\text{employment})$ , firm ages, dummies for firms' ownership, and sectoral dummies. \*\*\*Significant at the 1% level, \*\*Significant at the 5% level, \*Significant at the 10% level.

Source: authors' calculations from Vietnam Small and Medium Enterprise Survey 2007–11.

Table 7: Political connection and formality by types of household businesses (OLS estimates)

VARIABLES	(1)	(2)	(3)	(4)
	Household firms		Non-household firms	
	Whether firms are formal	Share of formal workers	Whether firms are formal	Share of formal workers
Firms have political connections	0.012 (0.011)	0.050*** (0.008)	0.002 (0.004)	0.024 (0.019)
Other variables	Yes	Yes	Yes	Yes
Observations	4,485	4,373	2,161	2,155
R-squared	0.100	0.398	0.052	0.555
Number of firms	1,750	1,749	930	929
Firm fixed effects	Yes	Yes	Yes	Yes
Year dummy effects	Yes	Yes	Yes	Yes

Note: firms have political connections if they have at least one politician and civil servant that they have regular contact with and these people are useful for firms' business operations. Firms are defined as being formal if they have an Enterprise Code Number or a Business Registration Certificate with tax code. Formal workers are full-time workers with contracts. Standard errors are robust to heteroskedasticity and clustered at the firm level. Other variables include Ln(employment), firm ages, dummies for firms' ownership, and sectoral dummies. \*\*\*Significant at the 1% level, \*\*Significant at the 5% level, \*Significant at the 10% level.

Source: authors' calculations from Vietnam Small and Medium Enterprise Survey 2007–11.

Table 8: Political connection and formality (IV estimates)

VARIABLES	(1)	(2)
	Whether firms are formal	Share of formal workers
<i>Second stage</i>		
Firms have political connections	-0.009 (0.025)	0.47*** (0.04)
<i>First stage</i>		
Average level of political connections in the industry in other districts	0.75*** (0.04)	0.75*** (0.04)
Other firm variables	Yes	Yes
Other province characteristics	Yes	Yes
Observations	6,537	6,381
Number of firms	2,488	2,450
Firm fixed effects	Yes	Yes
Year dummy effects	Yes	Yes
F-test for an excluded instrument: 440		

Note: firms have political connections if they have at least one politician and civil servant that they have regular contact with and these people are useful for firms' business operations. Firms are defined as being formal if they have an Enterprise Code Number or a Business Registration Certificate with tax code. Formal workers are full-time workers with contracts. Standard errors are robust to heteroskedasticity and clustered at the firm level. Other firm variables include Ln(employment), firm ages, dummies for firms' ownership, and sectoral dummies. Other province variables include a province's employment and output \*\*\*Significant at the 1% level, \*\*Significant at the 5% level, \*Significant at the 10% level. In the first stage of IV estimation, average level of political connections in the industry in other districts is used as an instrument for firms' political connections. The F-test for an excluded instrument is larger than 10, implying the instrument is strong (see Staiger and Stock, 1997).

Source: authors' calculations from Vietnam Small and Medium Enterprise Survey 2007–11.

Table 9: Political connection and formality. Adding provincial characteristics (IV estimates)

VARIABLES	(1)	(2)
	Whether firms are formal	Share of formal workers
<i>Second stage</i>		
Firms have political connections	-0.005 (0.025)	0.41*** (0.04)
<i>First stage</i>		
Average level of political connections in the industry in other districts	0.75*** (0.04)	0.75*** (0.04)
Other variables	Yes	Yes
Observations	6,554	6,398
Number of firms	2,490	2,452
Firm fixed effects	Yes	Yes
Year dummy effects	Yes	Yes
F-test for an excluded instrument: 440		

Note: firms have political connections if they have at least one politician and civil servant that they have regular contact with and these people are useful for firms' business operations. Firms are defined as being formal if they have an Enterprise Code Number or a Business Registration Certificate with tax code. Formal workers are full-time workers with contracts. Standard errors are robust to heteroskedasticity and clustered at the firm level. Other variables include Ln(employment), firm ages, dummies for firms' ownership, sectoral dummies, Ln(provincial employment, and Ln(provincial output). \*\*\*Significant at the 1% level, \*\*Significant at the 5% level, \*Significant at the 10% level. In the first stage of IV estimation, average level of political connections in the industry in other districts is used as an instrument for firms' political connections. The F-test for an excluded instrument is larger than 10, implying the instrument is strong (see Staiger and Stock, 1997).

Source: authors' calculations from Vietnam Small and Medium Enterprise Survey 2007–11.

Table 10: Political connection and formality by firm sizes (IV estimates)

VARIABLES	(1)	(2)	(3)	(4)
	Micro firms		Small and medium firms	
<i>Second stage</i>				
Firms have political connections	0.032 (0.029)	0.238*** (0.028)	-0.062 (0.053)	0.191* (0.103)
<i>First stage</i>				
Average level of political connections in the industry in other districts	0.87*** (0.04)	0.87*** (0.04)	0.46*** (0.07)	0.46*** (0.07)
Other variables	Yes	Yes	Yes	Yes
Observations	4,238	4,087	1,787	1,780
Number of firms	1,639	1,601	733	730
Firm fixed effects	Yes	Yes	Yes	Yes
Year dummy effects	Yes	Yes	Yes	Yes
F-test for an excluded instrument in (1) to (2):	408			
F-test for an excluded instrument in (3) to (4):	44.6			

Note: micro firms have up to 10 employees. Firms have political connections if they have at least one politician and civil servant that they have regular contact with and these people are useful for firms' business operations. Firms are defined as being formal if they have an Enterprise Code Number or a Business Registration Certificate with tax code. Formal workers are full-time workers with contracts. Standard errors are robust to heteroskedasticity and clustered at the firm level. Other variables include Ln(employment), firm ages, dummies for firms' ownership, and sectoral dummies. \*\*\*Significant at the 1% level, \*\*Significant at the 5% level, \*Significant at the 10% level. In the first stage of IV estimation, average level of political connections in the industry in other districts is used as an instrument for firms' political connections. The F-test for an excluded instrument is larger than 10, implying the instrument is strong (see Staiger and Stock, 1997).

Source: authors' calculations from Vietnam Small and Medium Enterprise Survey 2007–11.

Table 11: Potential mechanisms

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)
	Whether firms borrow	OLS estimates		Whether firms borrow	IV estimates	
		Ln(Revenue)	Firms are subcontractors		Ln(Revenue)	Firms are subcontractors
Firms have political connections	0.110*** (0.036)	0.045*** (0.012)	0.022** (0.010)	0.054 (0.107)	0.042 (0.041)	0.000 (0.033)
Other variables	Yes	Yes	Yes	Yes	Yes	Yes
Observations	6,646	6,644	6,645	6,537	6,534	6,536
R-squared	0.072	0.033	0.011	0.077	0.034	0.011
Number of firms	2,533	2,533	2,533	2,488	2,487	2,488
Firm fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Year dummy effects	Yes	Yes	Yes	Yes	Yes	Yes
F-statistics for an excluded instrument (4) to (6): 440						

Note: firms have political connections if they have at least one politician and civil servant that they have regular contact with and these people are useful for firms' business operations. Firms are defined as being formal if they have an Enterprise Code Number or a Business Registration Certificate with tax code. Other variables include Ln(employment), firm ages, dummies for firms' ownership, and sectoral dummies. \*\*\*Significant at the 1% level, \*\*Significant at the 5% level, \*Significant at the 10% level. In the first stage of IV estimation, average level of political connections in the industry in other districts is used as an instrument for firms' political connections. The F-test for an excluded instrument is larger than 10, implying the instrument is strong (see Staiger and Stock, 1997).

Source: authors' calculations from Vietnam Small and Medium Enterprise Survey 2007–11.

## Appendix

Table A1: Political connection and formality. Robustness check (OLS estimates)

VARIABLES	(1)	(2)
	Whether firms are formal	Share of formal workers
Number of political connections	0.006*	0.02***
	(0.003)	(0.005)
Other variables	Yes	Yes
Observations	6,646	6,539
R-squared	0.084	0.035
Number of firms	2,533	2,533
Firm fixed effects	Yes	Yes
Year dummy effects	Yes	Yes

Note: number of political connections is the number of politicians and civil servants that firms have regular contact with and these people are useful for firms' business operations. Firms are defined as being formal if they have an Enterprise Code Number or a Business Registration Certificate with tax code. Formal workers are full-time workers with contracts. Standard errors are robust to heteroskedasticity and clustered at the firm level. Other variables include Ln(employment), firm ages, dummies for firms' ownership, and sectoral dummies. \*\*\*Significant at the 1% level, \*\*Significant at the 5% level, \*Significant at the 10% level.

Source: authors' calculations from Vietnam Small and Medium Enterprise Survey 2007–11