

Capitalism for the Children: Entrepreneurs with Cadre Parents under Big Government*

Ruixue Jia[†] and Xiaohuan Lan[‡]

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Abstract

Does the political background of parents affect the likelihood that their children become entrepreneurs? When and in what way does this background have such an effect? Employing both province-cohort data within China and cross-country data, we document that people whose parents work for the government are more likely to become entrepreneurs when government spending increases. This pattern is largely driven by the lower probability of entrepreneurship among the children of commoners under big government. Evidence suggests that the interactive effect of parents' government background and government spending is likely to stem from the enhanced value of political connections when government controls more of the economic resources. As further evidence of this process, we show that under big government, entrepreneurs with cadre parents earn more from their business and appreciate the importance of political connections in success more than average workers.

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[†]School of International Relations and Pacific Studies, University of California San Diego, and CIFAR, rxjia@ucsd.edu

[‡]School of Economics, Fudan University, xhlan@fudan.edu.cn

1 Introduction

Existing literature on entrepreneurship has documented that family background plays a key role in fostering entrepreneurship. In particular, entrepreneurs are more likely to be from an entrepreneurial family.¹ In this paper, we try to answer related but very different questions: Does the political background of parents matter for children’s involvement in business? When and in what way does it matter? On the one hand, it might appear that children whose parents have political connections would benefit from those connections in their business. For instance, the term “crony capitalism” is coined to describe an economy in which political connections determine business success and has been argued to be an important phenomenon in many economies.² On the other hand, from the American capitalism to the East Asian capitalism, the importance of political connections could vary substantially depending on how dominant a role that the government plays in the economy (Campos and Root 1996, Zingales 2012).

This paper aims to provide empirical evidence as to how parental traits – particularly parents’ political background – and the role of the government affect entrepreneurship at a micro level. We employ both cross-province data in China and cross-country data. The data come from the General Social Surveys (GSS). The cross-country data could describe broad patterns but suffer from empirical concerns of comparing regions characterized by very different institutions. The analysis across provinces within China avoids such identification issues. Moreover, as an example of fast-changing economy where the state plays a dominant role and the traditional culture esteems family ties, China provides an appropriate research ground to investigate how the interplay of the political economic environment and parental traits affects children’s careers. Anecdotal evidence suggests that children who have a parent working in government (“a cadre parent” henceforth) enjoy certain advantages related to running a business in China.³ Without systematic data analysis, however, it is difficult to know whether this is a general pattern or specific to certain regions.

We first document that the effect of parental government background on the probability of

¹See Lindquist, Sol, and Van Praag (2012) for recent empirical evidence and a literature summary.

²See more discussions on crony capitalism in different parts of the world by the Economist (2014).

³Among officials convicted of corruption, many cases involve their children who take advantage of the official’s power for their own firms. For example, a son of Jiating Li, the convicted former governor of Yunnan province, made a large illegal profit in real estate development (the story is from the Xinhua News Agency, the largest news agency in China, http://news.xinhuanet.com/legal/2004-02/06/content_1300929.htm). The daughter and the son-in-law of Suixin Mu, the convicted former mayor of Shenyang, monopolized the business of billboard ads in the city (the story is from the People’s Daily, the most influential official newspaper from the Communist Party of China, <http://www.people.com.cn/GB/paper81/4407/499556.html>). For more evidence that political connections influence the performance of Chinese firms, see Fan, Wong, and Zhang (2007) and Li et al. (2008).

becoming an entrepreneur depends on resources under the control of governments, measured by the share of government spending in GDP (“government spending” henceforth). On average, there is no significant correlation between having a cadre parent and the probability of becoming an entrepreneur. However, the difference-in-differences estimation shows that having a cadre parent increases the probability of becoming an entrepreneur when government spending expands in the economy. Across 28 provinces in China in 2005, a cadre parent with provincial government spending of one standard deviation (four percentage points) higher raises the probability of becoming an entrepreneur by about three percentage points. A similar pattern also holds across provinces and over a 25-year period beginning in 1980. Across 12 non-OECD countries in 2009, a cadre parent with government spending of one standard deviation (two percentage points) higher raises the probability of entrepreneurship by about two percentage points. This effect is not statistically significant across 21 OECD countries, although it is still positive and large in magnitude. These results are robust after controlling for individual demographic characteristics, such as educational attainment, and their interactions with government spending.

Since this finding stems from a difference-in-differences strategy, there are two possible ways to interpret the interaction effect between parental government background and government spending. One is that the probability of becoming an entrepreneur increases more with government spending for the children of cadres. The other is that the probability decreases more with government spending for the children of commoners. The latter is more consistent with the data. In other words, government expansion seems to reduce entrepreneurial opportunities among those without government background.

Why does the particular combination of government spending and having a cadre parent affect entrepreneurship? After all, government spending is related to other macro-economic and institutional variables that could also affect entrepreneurial activities, whereas having a cadre family may reflect entrepreneurial abilities other than political connections. By distinguishing government spending from other macro-variables and cadre parents from other forms of entrepreneurial ability, we argue that government spending creates more business opportunities for those politically connected, and that people from a cadre family take advantage of their available government connections and become entrepreneurs. This finding is consistent with the argument in Zingales (2012), which indicates that the larger the size of government spending, the easier it is to make money by diverting public resources.

We start with separating government spending from other macro-variables. As a widely used measure of economic resources directly under the control of the government, the share of government spending in GDP has been shown to be related to other macro-economic variables, such as GDP per capita (for example, the famous Wagner’s Law) and interna-

tional trade (Rodrik 1998), and to political regimes and other institutional variables (Persson, Roland, Tabellini 2000; Fatas and Mihov 2003). Government expansion has also been shown to reduce private investment (e.g., Alesina et al. 2002). In addition to controlling for provincial or country fixed effects in all specifications, we also allow for the interactions between having cadre parents and GDP per capita, international trade, measures of rule of law or government efficiency, and the investment from the private sectors. Unlike government spending, most of these macro-variables do not enhance or reduce the effect of cadre parents on entrepreneurship. One exception is private investment: a higher level of private investment reduces the effect of cadre parents on entrepreneurship. Since private investment is likely to reflect the converse of government spending, where more private investment suggests that fewer resources are controlled and allocated by the government, this finding is also consistent with our interpretation of the role of government spending. Moreover, even after controlling for the interactions of cadre parents and all of these macro-variables, the interactive effect of cadre parents and government spending does not diminish.

It is possible that children with cadre parents could also differ in entrepreneurial ability from those with non-cadre parents. Differences in ability, however, are unlikely to explain our empirical patterns for several reasons. First, in all specifications, we compare people with the same educational attainment and emphasize the *interaction* of cadre parents and government spending, which also filters out the average effect of having a cadre parent. Second, we find that the average probability of becoming an entrepreneur is *higher* for the children of commoners when government spending is low. If cadre families were indeed systematically different in the entrepreneurial abilities they cultivate in their children, we should have observed a higher probability of entrepreneurship among cadre families regardless of government spending. Third, since some entrepreneurial abilities could be either hereditary from or cultivated by an entrepreneurial parent, we also compare people with and without an entrepreneurial parent. On average, an entrepreneurial parent is more likely to raise an entrepreneurial child. However, this effect does not increase with government spending. In contrast, across non-OECD countries, the effect of an entrepreneurial parent on entrepreneurship *declines* when government spending increases. These comparisons suggest that having cadre parents affects entrepreneurship in children through channels other than ability.

Based on these results, we argue that government expansion creates more profitable opportunities for those politically connected, and that people with cadre parents take advantage of such opportunities and start their own businesses. We present two more sets of supportive evidence. Using rich income information in Chinese data, we first show that business earnings are indeed higher for entrepreneurs with cadre parents than for other entrepreneurs, when local government spending increases. We then resort to subjective evaluations of political

connections as a key determinant of success, a feature of the GSS data. Both in China and cross countries, entrepreneurs under a bigger government appreciate political connections more, suggesting that the value of these connections increases with government spending.

This study contributes to several lines of literature. First, it presents quantitative evidence of crony capitalism from an inter-generational perspective. Compared with most research on the value of acquired political connections, people with a cadre parent are born with some political connections that are likely to be exogenous.⁴ Moreover, we measure parents' job status prior to when their children reach adulthood. While government officials' status is likely to be influenced by their business allies, this definition of parents' status is unlikely to be affected by their children's career years later.⁵ Different from the literature on inter-generational welfare dependency that documents how parental wealth affects children's education and labor market outcome (for example, Behrman and Rosenzweig 2006), we emphasize how parents' political networks affect children's entry into business, which is inevitably influenced by the role of government in the economy.

Second, this paper joins the relatively new empirical works that investigate how parents' job connections affect children's job choice. Magruder (2010) shows that fathers' job connections help their sons find a job within the same industry in the same place in South Africa. Kramarz and Skans (2014) show that parental job connections help their children find a job in the same plant in Sweden. In both cases, however, the connections and effects are restricted to the same job sector for both parents and children. These effects also depend on relevant macro-economic conditions, such as the growth rate of the sector or the unemployment rate. We, on the other hand, show that parental government connections reach beyond the government sector and affect children's job choices in the private sector. This effect also depends on macro-conditions, such as government spending.

Moreover, the large empirical literature on the determinants of entrepreneurship emphasizes both "entrepreneurial genes" and business environments, but usually separately. We also find that having an entrepreneurial parent increases the chance of becoming an entrepreneur.⁶ However, our focus is on the interaction of parental traits and the macro-

⁴For some examples of the value of acquired political connections in China, such as having friends in government or direct participation in politics, see Li, Meng, and Zhang (2006) and Li et al (2008). More examples beyond China include Fisman (2001), Khwaja and Mian (2005) and Faccio (2006). Desai and Olofgard (2011) emphasize the costs as well as the benefits of political connections for firms.

⁵Besides contributions to election campaign funds, business people are able to help their political allies in many other ways during transitions in political power. See recent evidence from France (Bertrand et al. 2006), India (Sukhtankar 2012), and China (Lan and Li 2014).

⁶The empirical literature on entrepreneurship suggests that entrepreneurs are more likely to be from an entrepreneurial family. Some non-cognitive skills that affect entrepreneurship, such as patience and risk tolerance, could be hereditary (Bowles and Gintis 2002), while entrepreneurial parents may also invest more in such skills as a part of the human capital of their children (Doepke and Zilibotti 2013).

environment. Different macro-economic and institutional environment could promote or suppress overall entrepreneurial activities, as suggested in the literature and discussed in more details in Section 4.1, but we emphasize that it could also induce people with different backgrounds into entrepreneurial activities.

The rest of the paper is organized as follows. Section 2 describes the data and defines the key variables. Section 3 presents the main empirical results. Section 4 discusses the mechanism. Section 5 concludes.

2 Data

For discussions on China, we use individual-level data from the Chinese General Social Survey in 2006 (CGSS06), a Chinese version of the General Social Survey in the U.S. that is conducted by the National Opinion Research Center. The CGSS is also a part of the International Social Survey Programme (ISSP) that covers 48 countries including the U.S. Started in 2003, the CGSS is an annual repeated cross-sectional survey, jointly conducted by the Renmin University of China and the Hong Kong Science and Technology University. The survey uses a multi-stage stratified sampling design based on administrative units, from provinces to communities.⁷ The CGSS data are available upon application and the CGSS06 is the only wave that includes all information necessary for this research. A typical wave of the CGSS includes about 10,000 urban or rural households. We focus on urban residents whose most recent job started after 1980, the first year after the Chinese economic reform from a strict central-planning economy. Before the reform, people typically accepted whatever jobs were assigned by the government. As a national survey, the CGSS06 covers 28 out of 31 provinces in mainland China.⁸ The three western provinces that are not covered are Ningxia, Qinghai, and Tibet.

For our cross-country analysis, we use individual-level data from the ISSP 2009, specifically the module of Social Inequality IV. This module is the only module that records all information necessary and comparable to the CGSS06. The sample with variables comparable to the CGSS06 includes 33 countries: 21 member countries of the Organization for Economic Co-operation and Development (OECD) and 12 non-OECD countries.⁹

⁷Bian and Li (2012) describe the survey design of the CGSS in detail.

⁸The provincial-level administrative divisions in China include 22 provinces, 4 municipalities that report directly to the central government, and 5 autonomous regions. We refer to them simply as provinces.

⁹The 21 OECD countries are (the membership is classified by the year of the survey, 2009): Australia, Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Hungary, Italy, Japan, Korea, New Zealand, Norway, Poland, Slovak, Spain, Sweden, Switzerland, Turkey, and the U.S. The 12 non-OECD countries are Argentina, Bulgaria, Chile, Croatia, Cyprus, Estonia, Israel, Latvia, Philippines, Russia, Slovenia, and South Africa.

2.1 Definition of Key Variables

Following the large literature on entrepreneurship, in both the Chinese and the cross-country data, we define an *entrepreneur* as a person who owns a business or is self-employed. We also conduct robustness checks by defining entrepreneurs as business owners only.

A *cadre parent* in China refers to at least one parent who works in government or in a public organization affiliated with the government (known as “*shi ye dan wei*” or public institutions). The results are robust to a narrower definition of working in government only. We include those in the public institutions in the baseline results because many public institutions are essential branches of the Chinese government, endowed with great power and influence. For example, the three major institutions that supervise and regulate the whole financial sector, the China Banking Regulatory Commission, the China Securities Regulatory Commission, and the China Insurance Regulatory Commission, are not officially a part of the government, but are public institutions. The parents’ employer is defined as their employer at the time when the respondent was 18 years old. In the cross-country data, a *cadre parent* refers to at least one parent in national, state, or local government. The fathers’ employer is their employer at the time when the respondent was 14-16 years old. Similar information is not available for mothers, and we use mothers’ most recent employer instead.

In the cross-province analysis within China, we measure *government spending* by the fiscal spending of the residential province divided by the provincial GDP. The provincial fiscal spending includes both government consumption and public investment. It is the total spending of the provincial government and all sub-provincial governments such as city and county governments. The data are from the China Statistical Yearbook in various years. In China, local fiscal spending is much larger than local fiscal revenue, and is thus a more appropriate measure of the amount of resources controlled and allocated by the local government. After the tax reform in 1994 that divided tax revenues between local governments and the central government, the majority of tax revenue has been collected by the central government but the majority of fiscal spending remains in local governments.¹⁰

In the cross-country analysis, *government spending* refers to the share of government consumption in GDP, using the data from the Penn World Table V7.0 (Heston, Summers, and Aten 2011). This method of measuring government spending is also widely used in cross-country analysis (for example, Rodrik 1998, Goldfajn and Valdes 1999). Unfortunately there is no systematic information on government investment across countries.¹¹

¹⁰In 2005, while local governments spent 76% of the whole national budget, their revenue only accounted for 48% of the total government revenue (Lou 2008). The gap was filled by transfers from the central government to local governments.

¹¹Another related measure is the share of public expenditures in GDP. This information also includes interest payments and social benefits, which are less relevant in our context. Nevertheless, if we use it as

2.2 Descriptive Statistics

Cross-Province Data in China The cross-province sample includes urban residents in the labor force in 2005, older than 18 and younger than 70. By residential provinces, we match this sample with provincial characteristics in 2005 from the Chinese Statistical Yearbook. Panel A of Table 1 summarizes the sample. About 21% of the sample are entrepreneurs, or about one-fifth of Chinese urban households have an entrepreneur member. Since the CGSS is a household survey, this number should not be interpreted as the percentage of entrepreneurs in the Chinese urban work population, which could be lower. About 24% of the survey respondents report having at least one cadre parent.

The provincial government spending varies remarkably from 0.08 (Shandong) to 0.26 (Guizhou), with a mean of 0.15. GDP per capita varies from RMB 5,052 in Guizhou to 52,060 in Shanghai, or from \$616 to \$6,349, based on the average exchange rate in 2005. Figure 1 plots the spatial distribution of the provincial government spending. Small governments are concentrated in the developed coastal provinces in the east, while large governments are concentrated in the underdeveloped western area. The correlation coefficient between the provincial government spending and the log of GDP per capita is -0.46. Table 1 also shows large variations in the provincial economic openness, the total trade flow (imports plus exports) over the provincial GDP, from 0.06 in Guizhou to 1.63 in Shanghai.

Panel A of Table 1 reports some demographic variables that could affect the choice of entrepreneurship. Since our sample includes urban residents only, the probability of having completed a college education (four-year or two-year colleges) is high, at 0.31. In the Chinese elementary and middle school system, magnet schools are characterized by high-quality students, rigorous curricula, and better teachers. These schools are highly selective: only 18% of people in the sample attend them.

Retrospective Data Cross-Province and Over-time in China We exploit the retrospective questions in the CGSS06 on the start year of the current job, or the last job if currently unemployed or retired, as early as 1980. By job years and residential provinces, we match the sample with the provincial government spending based on the Statistical Yearbooks of various years. This sample, summarized in Panel B of Table 1, includes all people who have ever worked, which is 57% larger than the cross-province sample of only current workers. 16% are entrepreneurs in this retrospective sample, five percentage points lower than that in the cross-province sample in 2005, which reflects the expansion of the private sector from 1980 to 2005. Government spending over the 26 years varied from 0.05 to 0.27,

an alternative measure we find a similar pattern to that using government consumption, but the effect is generally weaker.

a wider range than in the cross-province sample.

Cross-Country Data The cross-country sample includes urban residents in the labor force in 2009, older than 18 and younger than 70. Panel C of Table 1 shows that about 15% of the sample are entrepreneurs. The percentage of having at least one cadre parent is 42%, higher than that in China. This sample includes four Scandinavian countries and 10 ex-Soviet bloc countries, in which over a half of respondents report having at least one parent working in the government. Government consumption varies from 0.05 (Philippines) to 0.14 (Slovak), with a mean of 0.09.

3 Empirical Patterns in China and across Countries

3.1 Results from Difference-in-Differences Estimations

Cross-Province Analysis in China To see the impact of having cadre parents on becoming entrepreneurs and how this effect depends on the role of the local government, we first run the following simple regression for individuals in *each province*:

$$entrepreneur_i = \beta_1 cadreparent_i + \varepsilon_i, \quad (1)$$

where $entrepreneur_i$ is a binary variable with 1 for individual i being an entrepreneur in 2005. $cadreparent_i$ is an indicator that either the father or the mother of i worked in government when i was 18-years old. Then for each province, we collect the estimated $\hat{\beta}_1$, the difference in the probability of entrepreneurship with and without a cadre parent.

The estimates of β_1 range from -0.3 to 0.2, suggesting that there is no systematic correlation between having cadre parents and the probability of becoming entrepreneurs. However, if we rank these estimates against government spending, Figure 2 clearly displays that $\hat{\beta}_1$ s increase with government spending. A simple regression of $\hat{\beta}_1$ of each province on government spending shows that a one percentage-point increase in government spending is associated with a 0.7 percentage-point increase in *the difference* in the probability of entrepreneurship between a cadre family and a non-cadre family.

More formally, we combine all province-specific regressions in equation (1) and use the following difference-in-differences specification:

$$\begin{aligned} entrepreneur_{ip} = & \beta_2 cadreparent_{ip} * dgovspend_p + \beta_c cadreparent_{ip} + province_p \\ & + X_{ip} + X_{ip} * dgovspend_p + \varepsilon_{ip}, \quad (2) \end{aligned}$$

where $dgovspend_p$ is the share of fiscal spending in GDP in province p minus the sample mean: $govspend_p - \overline{govsend_p}$. The demeaning transformation does not affect β_2 , while β_c can be interpreted as the effect of cadre parents on entrepreneurship at the mean value of government spending. A set of province dummies $province_p$ is included to control for local characteristics, such as the economic environment and the culture of entrepreneurship. We cannot include government spending separately in the equation since it would be absorbed by the province dummies. Besides political connections, children with cadre parents could be different in other dimensions. A vector of individual characteristics X_{ip} controls for college education, having attended a magnet elementary or middle school, age, gender, marital status, and minority status. All the standard errors are clustered at the province level to allow for spatial correlation among individuals within the same province. The clustered errors also reflect the fact that the variation in government spending is at the province level.¹²

Columns 1-2 in Table 2 show the average effect of cadre parents on entrepreneurship. The effect is close to 0 once the demographic information of the children is included. On average, college education is negatively correlated with the probability of being entrepreneurs. The probability of working in the government is about 30% higher among college graduates in our sample, which explains the low probability of entrepreneurship among college graduates. Before 1996, jobs for college graduates in China were assigned upon graduation by the government, which typically involved a position in the government or state-owned enterprise. This arrangement was terminated in 2000, after a three-year transition period. 40% of college-educated people in our sample graduated before 1996 and 53% graduated before 2000, and the most of them accepted the assigned government job. Married people are more likely to become entrepreneurs. Marriage could help pooling resources to start a business, or entrepreneurs have certain advantage on the marriage market.

Columns 3-4 report the interactive effect of cadre parents and government spending. Consistent with Figure 2, $\hat{\beta}_2$ is significantly positive, with or without controlling for demographic variables. A cadre parent with government spending of one standard deviation (four percentage points) above the mean raises the probability of being entrepreneurs by about three percentage points. Column 5 further controls for the interactions of the demographic variables and government spending, which only slightly changes the result. Column 6 shows that the result becomes larger if we use a narrower definition of cadre parents as those working for the government only. Column 7 restricts the definition of entrepreneurs to be business

¹²As shown in the Monte Carlo exercises with cross-sectional data in Cameron, Gembach, and Miller (2008), the cluster-robust standard errors work fine with 25 or 30 clusters. Considering the relatively small number of clusters (28 provinces), we also follow their procedure of wild cluster bootstrap. We bootstrap t-statistics 500 and 999 times, and the resultant p-values are 0.016 and 0.03, respectively.

owners only, and the pattern is similar.

One concern about the identification is the endogenous choice of parents' cadre status. Parents could choose a government job in order to help their children to run a business, particularly when parents expect that their government connections would become more important with government expansion. $\hat{\beta}_2$ would be overestimated due to this selection bias. However, this is unlikely in our case. $cadreparent_{ip}$ is the cadre status at the time when i was 18 years old, which had been predetermined before i started a job. Chinese government is a very closed system and the job mobility between governments and other sectors has been low, particularly among older generations. Most cadre parents started to work for the government even before their children were born. Among government workers who had an adult child in 2005, 83% started their entire career in the government and 12% started in state-owned enterprises.

Another concern about the identification is migration across provinces. If people with entrepreneurial skills move across provinces in response to local fiscal expenditures, *and if* the moving pattern differs across types of parents, our estimates might be biased. However, cross-province migration among urban residents is rare, only 3% in our sample.¹³ Our results are robust to restricting the sample to the natives.

Cross-Province and Over-time Analysis in China Cross-province analysis is not able to capture the timing of starting a business. Fiscal spending fluctuates over time, even within a province. If high spending generates extra business opportunities for cadre families, it should affect both the probability and the timing of becoming entrepreneurs. Based on the retrospective questions on the job start year, this section extends the cross-province analysis to over time. Our sample includes those who started their current job or the most recent job between 1980 and 2005.

Figure 3 shows the national pattern of entrepreneurship and government spending from 1980 to 2005, divided into three decades. Immediately after the economic reform from a centrally planned economy in 1979, the share of fiscal spending in GDP declined, from 0.22 in the 1980s to 0.13 in the 1990s. The private sector started to boom, and entrepreneurship rose quickly among both cadre families and non-cadre families, slightly faster for non-cadre families. From the 1990s to the 2000s, government spending rose again. While entrepreneurship among non-cadre families declined, it kept rising among cadre families. In the 2000s, children of cadre families were more likely to become entrepreneurs than children of non-cadre

¹³In a national survey of domestic migrants in China in 2010 (NPFPC 2011), cross-province urban migrants only accounted for 8% of all migrants. The number is higher than the 3% in our sample, the percentage of urban migrants among urban residents. The difference is the result of the larger population of urban residents (460 million in 2010) than the population of migrants (221 million in 2010).

families.

We extend the cross-province regression in equation (2) into the following regression

$$\begin{aligned} \text{entrepreneur}_{ipt} = & \beta_3 \text{cadreparent}_{ipt} * \text{dgovspend}_{pt} + \beta_c \text{cadreparent}_{ipt} + \text{province}_p * \text{year}_t \\ & + X_{ipt} + X_{ipt} * \text{dgovspend}_{pt} + \varepsilon_{ipt}, \quad (3) \end{aligned}$$

where $\text{entrepreneur}_{ipt}$ is 1 for individual i in province p who becomes an entrepreneur in year interval t . As in Figure 3, the period of 26 years (from 1980 to 2005) is divided into three 10-year intervals: 1980-1989, 1990-1999, and 2000-2005. Appendix Table A1 shows that the estimates are robust if we divide these years into 5-year intervals. govspend_{pt} is the average share of fiscal spending in GDP in province p during the decade t , and dgovspend_{pt} is its deviation from the sample mean. In addition to province fixed effects province_p , a set of time dummies year_t captures the general fluctuation in the macro-economy over time. We also include all interaction terms between these time dummies and province dummies. This flexible specification captures all province-year characteristics of a local market. X_{ipt} is the same set of demographic variables as in equation (2).¹⁴

Despite a larger sample and a different specification, the estimates of equation (3) in Table 3 are essentially the same as in Table 2. A cadre parent with government spending of one standard deviation above the mean raises entrepreneurship by about three percentage points. The probability of entrepreneurship is five percentage points lower among those who are ten years older, while there is no such difference in Table 2. This might reflect more entrepreneurial opportunities among the younger generations after the economic reform in China.

Cross-Country Analysis This section presents estimates with our cross-country data. Before proceeding to the empirical results, we would like to make a note of the caveats associated with this exercise. Unlike within-China analysis, there are many factors intertwined with government spending and with influences of cadre parents across countries, such as political institutions, macro-economic policies, and judicial systems. In order to mitigate the effects of these confounding factors, we first include a set of country fixed effects. That is, we only compare cadre families and non-cadre families within the same country. We then divide countries into two groups, OECD member countries and non-OECD countries. We conduct analysis within the same group of countries, assuming that government consumption

¹⁴In equation (2), marital status refers to the status at the time of the survey in 2006. Here, it refers to the marital status at the time of starting the job. 90% of people report that they had finished their highest education before they started their current job or the most recent job. Thus, we use the same educational attainment and school quality variables as in equation (2).

is more comparable between countries with similar level of economic development. However, considering the differences across countries and the lack of over-time variation within the same country, we acknowledge that the empirical evidence in this section is probably weaker than the within-China evidence.

As in regression (1), we first calculate the difference in the probability of entrepreneurship with and without a cadre parent for each of 33 countries. Figure 4 plots these differences against government spending of each country. A positive correlation is particularly salient across 12 developing (non-OECD) countries. We then formalize our analysis and rerun regression (2), separately among OECD countries and non-OECD countries, replacing the province fixed effects with a set of country fixed effects. Columns 1-3 of Table 4 show that the effect of a cadre parent, enhanced by government spending, on entrepreneurship is large and significant among non-OECD countries: a cadre parent with government spending of one standard deviation (two percentage points) above the mean raises the probability of being entrepreneurs by about two percentage points. The effect is not statistically significant among the OECD countries, though still positive, as shown in columns 4-6. Columns 7-9 pool all countries together and show a significantly large effect of a cadre parent under a large government.¹⁵

3.2 Understanding the Interaction Effect

The results above document a robust empirical pattern both within China and across countries: having a cadre parent increases the probability of becoming entrepreneurs when government spending is large, particularly among less developed economies. Since the finding stems from a difference-in-differences strategy, there are two possible ways to interpret this interaction effect between parental background and government spending. One is that the probability of becoming entrepreneurs *increases* more with government spending for the children of cadre parents, and the other is that the probability *decreases* more with government spending for the children of commoners. It is worthwhile to understand which effect is closer to the data since they could have different implications in aggregate entrepreneurial activities. More importantly, the change within each group could tell us whether government expansion really reduces entrepreneurial opportunities among non-cadre families.

We examine the average marginal effects of government spending for the two groups of children separately. We calculate the marginal effects based on the same specifications as in the previous subsection except that the regional fixed effects cannot be included, since it would absorb the effect of government spending. The exclusion of these fixed effects is not

¹⁵In the cross-country data, we do not have information to distinguish business owners from the broad job category of self-employment.

essential as our main estimates are robust without them. The marginal effects are visualized in Figure 5. In China and across countries, the probability of becoming entrepreneurs does not change substantially with government spending for the children of cadre families. However, for the children of commoners, the probability decreases substantially with government spending. These results suggest that the difference-in-differences estimates are driven by the fact that the probability of entrepreneurship *decreases* more with government spending for the children of commoners. Since there are more commoners than cadres, Appendix Table A2 shows that the overall probability of entrepreneurship declines with government spending, both in China and across countries.

In economies with small governments, the average probability of becoming an entrepreneur is higher for the children of commoners, as shown in the panels of Figure 5. In other words, the children of cadre parents are not always more likely to be entrepreneurs. This suggests that our main findings are not driven by the systematic difference in entrepreneurial skills related to family background, such as differences in human capital. We now turn to a discussion of the potential mechanisms behind our difference-in-differences estimates.

4 Understanding the Mechanism

We take three steps to understand the mechanism behind the empirical patterns. First, we compare the effect of government spending with that of other macro variables to show that our finding is specific to government spending, a measure of economic resources under the direct control of the government. Second, we compare the effect of having a cadre parent with that of having an entrepreneurial parent to check whether our finding reflects the value of political background or entrepreneurial skills. Finally, we present two sets of evidence consistent with the interpretation that the value of political connections in running a business is enhanced under big government.

4.1 Government Spending and Other Macro Variables

Government spending, reflecting economic resources under the control of the government, is related to other macro-economic or institutional variables that could also affect overall entrepreneurial activities. However, this section shows that unlike government spending, most of these potentially confounding factors fail to enhance the effect of cadre parents on entrepreneurship. Furthermore, these factors are not able to absorb the effect of government spending either. We consider five factors: GDP per capita, international trade, the size of investment from the private sector, government bureaucratic efficiency in dealing with private

business, and the legal environment. Appendix Table A3 presents descriptive statistics of these variables, as well as their correlations with government spending.

Many researchers have discussed the correlation between government spending and GDP per capita or international trade. For example, the well-known Wagner’s Law states that government spending tends to grow as a society becomes wealthier. The large empirical literature, however, produces ambiguous evidence on this conjecture (see, for example, Shelton 2007; Durevall and Henrekson 2011). Across countries, government spending also increases with economic openness, measured by the total foreign trade volume (exports plus imports) over GDP (Rodrik 1998; Ram 2009). In our Chinese data from the China Statistical Yearbooks, a larger provincial government is related to both lower GDP per capita (also shown in Figure 1) and lower economic openness.¹⁶ In the cross-country data from the Penn World Table V7.0, these correlations are positive.

Government spending could also affect overall investment and business activities in the private sector. For example, Alesina et al. (2002) show that government spending raises wages in the labor market, leading to lower firm profits and less private investment. Across provinces in China, we calculate fixed asset investment from the private sector as a share of GDP from the China Statistical Yearbooks, which is negatively related to provincial government spending. Across countries, we do not have such a consistent measure of private investment, particularly among non-OECD countries. Instead, we use the share of bank credits to the private sector in GDP to proxy private investment. The data are from the International Financial Statistics of the International Monetary Fund, calculated by Beck, Demirgüç-Kunt, and Levine (2010).

Larger government is usually related to lower bureaucratic efficiency or more regulations, which could also affect entrepreneurship. For example, Djankov et al. (2002) imply that more regulatory procedures on business entry may reduce the number of start-up firms. In our cross-country analysis, we follow Djankov et al. (2002) and use the log of the number of bureaucratic procedures that people must go through to start a firm.¹⁷ Their data are now a part of the World Bank’s Doing Business database. Without such an objective measure of regulatory procedures for Chinese provinces, we rely on subjective evaluation on government efficiency by over four thousand firm owners and managers around the country, rated on a scale of 1 (very bad) to 5 (very good). The provincial average of their evaluations is from Wang, Fan, and Li (2012). Both in China and across countries, the size of government is

¹⁶At the national level, government spending to GDP, GDP per capita, and economic openness have all increased simultaneously in the last two decades.

¹⁷In addition to the number of bureaucratic procedures, they also use the minimum number of business days required to comply with entry regulations and official fees as a fraction of GDP per capita. Using these two measures generates similar results in our analysis.

negatively related to its efficiency.

The quality of the legal environment, such as property rights protection, is important for running a business and certainly is related to the role of government in the economy. In China, we use the index of the legal environment across provinces calculated by Fan, Wang, and Zhu (2011). This index combines several aspects such as the protection of rights of both producers and consumers, the protection of patent and intellectual property, and the number of lawyers. A lower index value reflects a poor ranking of a province’s legal environment. In our Chinese data, this ranking deteriorates when the government becomes bigger. Across the world, we use the index of the rule of law from the World Governance Indicators, which estimates the confidence “in and abide by the rules of society, and in particular the quality of contract enforcement, property rights, the police, and the courts, as well as the likelihood of crime and violence” (Kaufmann, Krray, and Mastruzzi 2010).

Tables 5 and 6 present our estimates using these macro-variables in China and across countries, respectively.¹⁸ There are two general patterns. First, unlike government spending, most of these variables are not able to alter the effect of cadre parents on entrepreneurship across specifications. Second, after controlling for the interactions between cadre parents and these macroeconomic and institutional variables, the interactive effect of government spending and cadre parents becomes even larger. The salient exception is private investment in China and credits to the private sector in non-OECD countries, which have the opposite effect to that of government spending. Since private investment is likely to reflect the converse of government spending, where more private investment implies fewer resources under the control of the government, this finding is also consistent with our interpretation of the role of government spending in this context.

Government spending generally increases the total employment in the public sector, and it is informative to know whether the difference in the probability of becoming entrepreneurs is driven by the difference in the probability of working for the government or in the probability of working for private employers. In China, columns (1)-(4) in Table A4 show little difference in the probability of working for the government sector between the two types of families as government spending increases. On average, people with cadre parents are more likely to work for the government, but this propensity does not change with government spending. As a comparison, the children of cadre parents are less likely to work for private employers when government spending increases. Across countries, columns (5)-(8) in Table A4 show that higher government spending seems to attract more people from common families to work for government, though the evidence is weak.

¹⁸For simplicity, all these regressions do not include the interactive terms between demographic variables and government spending. Our results are robust if we include them.

4.2 Cadre Parents and Entrepreneurial Parents

Cadre parents could affect their children's human capital related to entrepreneurship, or they could provide political connections that enable children to become entrepreneurs. The former is unlikely to be critical for our finding, since we have controlled for educational attainment, school quality, and their interaction with government spending. In this subsection, we go one step further and examine whether the impact of having an entrepreneurial parent on entrepreneurship. Many non-cognitive skills related to entrepreneurship could be hereditary (Bowles and Gintis 2002) or cultivated by entrepreneurial parents (Doepke and Zilibotti 2013), thus having an entrepreneurial parent could indicate certain unobserved entrepreneurial abilities in the children. Does the effect of having an entrepreneurial parents change with government spending?

Table 7 shows that having an entrepreneurial parent raises entrepreneurship, both in China and across countries. These findings are consistent with Djankov et al. (2005, 2006) who also report a positive correlation between the probability of entrepreneurship and having an entrepreneurial family member in China and Russia. However, the positive effect of entrepreneurial parents is not enhanced by local government spending in all specifications and samples. Furthermore, even after controlling for entrepreneurial parents and their interaction with government spending, our baseline results of cadre parents do not alter much. Interestingly, in non-OECD countries, the effect of entrepreneurial parents even declines with a larger government. One possibility is that in these countries, experienced entrepreneurs know that a large government tends to tilt business opportunities toward those politically connected, and they warn their children about the risk. These results suggest that government expansion is likely to enhance the role of political connections but not necessarily the role of entrepreneurial skills. In other words, the entrepreneurial children from cadre families are more likely to benefit from their political connections instead of general human capital. Now we turn to more direct measures of the value of their political connections.

4.3 The Value of Political Connections and Government Spending

When government expands, the political connections of cadre parents become more valuable, which promotes entrepreneurship among their children. This section provides further evidence related on this mechanism. We first show that when government spending expands, those entrepreneurs with a cadre parent earn more from their businesses than other entrepreneurs, while the salary earners with a cadre parent do not enjoy such extra income. We then show that compared to other workers, entrepreneurs tend to believe political connections are more important as a determinant of success when government spending increases.

Earnings of Entrepreneurs and Non-entrepreneurs in China We only have data on the business earnings of entrepreneurs in China in 2005. Thus, we use a specification similar to equation (2) to estimate the interactive effect of cadre parents and government spending on the earnings. The dependent variable is the log of after-tax business earnings for entrepreneurs. If the business has multiple partners, the earnings here are the individual share earned by the respondent, not the total earnings generated by the business. We also include three dummies for four broad industrial sectors: agriculture, mining and manufacturing, utilities and construction, and service. These dummies control for the systematic difference in earnings across sectors. At last, we control for the size of the entrepreneur’s firm, measured by the log of the number of employees.

Column 1 of Table 8 shows that for entrepreneurs from a cadre family, a standard deviation (four percentage-point) increase in the size of the government increases their business earnings by about 40%. This result is broadly consistent with Li et al. (2008). They show that the connections of entrepreneurs to the ruling Communist Party of China, measured by their party membership, increases the profitability of private firms. Their measure of the Party connection, however, could be endogenous, since those who are interested in running businesses would be more likely to build political connections (Li, Meng, and Zhang 2006). The effect of a cadre parent does not vary with other macroeconomic and institutional variables, as shown in columns 2-6. After we control for the interactions between a cadre parent and all these macro-variables, government spending enhances the role of a cadre parent even more, as shown in column 7. Such an enhanced effect of government spending does not exist for an entrepreneurial parent, as shown in columns 8 and 9.

With more business opportunities created by government spending, it seems more profitable for those with political connections to start their own businesses, instead of working for their employer. For salary earners, column 10 shows that the effect of the interaction between cadre parents and government spending on salary is neither statistically nor economically significant. Unlike among entrepreneurs, however, having a cadre parent, on average, increases salaries by about 13%. This result is surprisingly close to the results of Li et al. (2012). They find that among fresh college graduates in urban China, having a cadre parent increases the wage of the graduates’ first job by 14% to 15%. Having a cadre parent is valuable for a worker, but the value does not increase with government spending, at least not as reflected in their reported salary.

Self-evaluation of the Importance of Political Connections Under big government, politically connected entrepreneurs benefit more from their connections, as shown in their business earnings. If these benefits are prevalent, *all* entrepreneurs, politically connected or

not, should understand the importance of political connections for business success. This section tests whether entrepreneurs indeed appreciate political connections more under big government.

Across provinces in China, the CGSS06 asks respondents to evaluate the importance of connections to powerful officials for success. Across countries, the ISSP records similar self-evaluation of the importance of political connections for “getting ahead”. In both surveys, people choose one of six evaluations: “essential”, “very important”, “important”, “not very important”, “not important at all”, and “hard to say or cannot choose”. We drop the last category and recode the remaining evaluations from 1 (not important at all) to 5 (essential). As a comparison, we also create a similar categorical variable to measure the self-evaluation of “hard work” for success.

Table 9 first reports the sample means and standard deviations of these self-evaluations. Within China and across countries, people believe that both political connections and hard work are important for success. On average, hard work is believed to be more important than connections. The belief in hard work also varies less than the belief in connections. In China, however, the belief in the importance of political connections is much stronger and less variable than in other countries.

We then regress these self-evaluations on the indicator of being an entrepreneur and its interaction with government spending, controlling for a set of demographic variables and regional fixed effects. As government spending expands, Panel A shows a consistent pattern both within China and across countries: entrepreneurs believe that political connections become significantly more important than other workers. These results are robust even when we include interaction terms of entrepreneurs and other macroeconomic and institutional variables. In China, government spending of one standard deviation (or 0.04) above the mean raises the evaluation of political connections among entrepreneurs by about 0.3 (or 0.3 standard deviations), relative to other workers. This effect is somewhat larger than that in other countries: government spending of one standard deviation (0.02) above the mean raises the evaluation of political connections among entrepreneurs by about 0.06 (0.05 standard deviations) in non-OECD countries, and by about 0.11 (0.09 standard deviations) in OECD countries. As a comparison, Panel B shows that the evaluations of the role of hard work do not change with government spending. On average, only within OECD countries, entrepreneurs appreciate hard work more than other workers.

5 Conclusion

We document how children with a parent working for the government are more likely to become entrepreneurs when government spending increases, compared with the children of commoners. This difference is largely driven by the fact that the probability of entrepreneurship decreases with government spending for the children of commoners. These patterns hold not only across provinces in China but also across countries, especially in non-OECD countries. We also provide evidence that the mechanism behind these empirical patterns is likely to be the enhanced advantage of running a business for those politically connected under big government.

Our findings show that the effect of parental background on children's entrepreneurship is contingent on macro institutions, which provides a new inter-generational perspective to understand what determines entrepreneurship. Moreover, this micro-level evidence suggests that the prevalent macro-phenomenon of crony capitalism is rooted in government expansion.

There is one important limitation of this project: we do not know the welfare implications of these empirical patterns. Are the entrepreneurs from a cadre family less efficient? Are they more likely to make money by diverting public resources generated by more government spending, instead of producing valuable goods and services? With more detailed data on entrepreneurs' businesses and firms, future research may be able to answer these important questions. After all, crony capitalism seems prevalent both in developed economies such as Italy and Hong Kong, and in fast-growing economies such as China and India.

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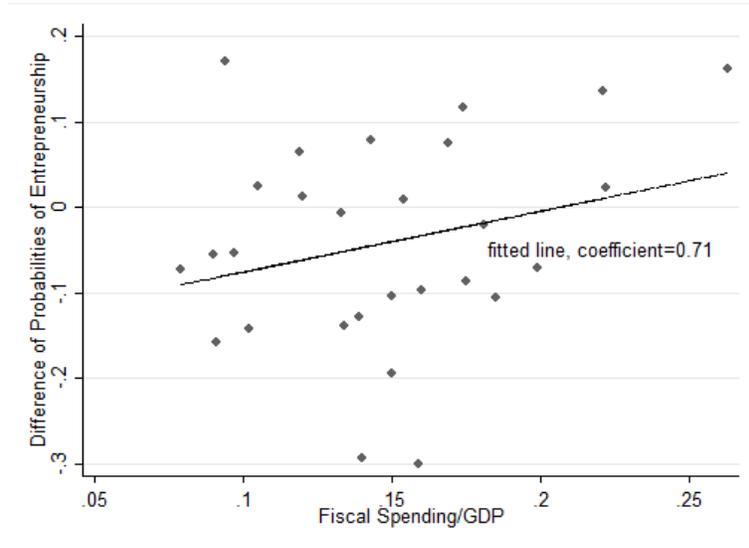
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Figure 1: The Spatial Distribution of Government Spending in 2005



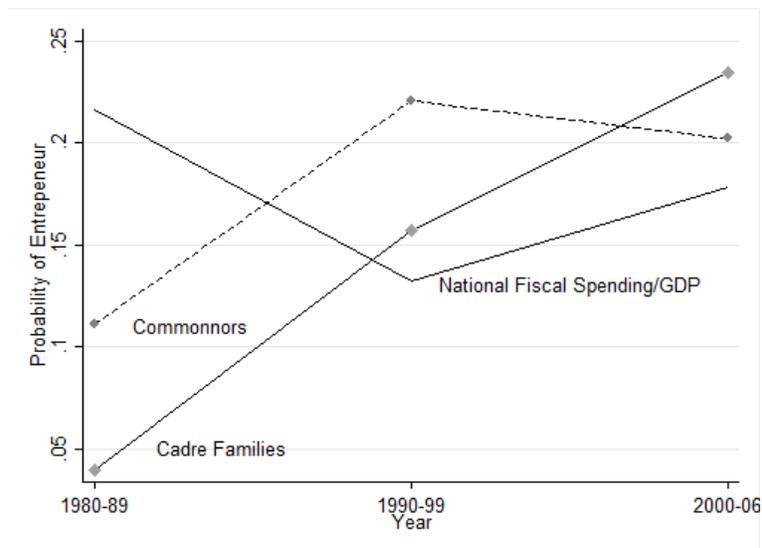
Notes: This map shows the distribution of government spending in 2005 across 28 provinces in the Chinese sample. As the east provinces are more developed than the west, it suggests a negative correlation between GDP per capita and government spending (with a correlation coefficient of -0.46).

Figure 2: Difference in the Probability of Entrepreneurship (Cadre Parent minus Non-cadre Parents) and Government Spending, across Provinces in China in 2005



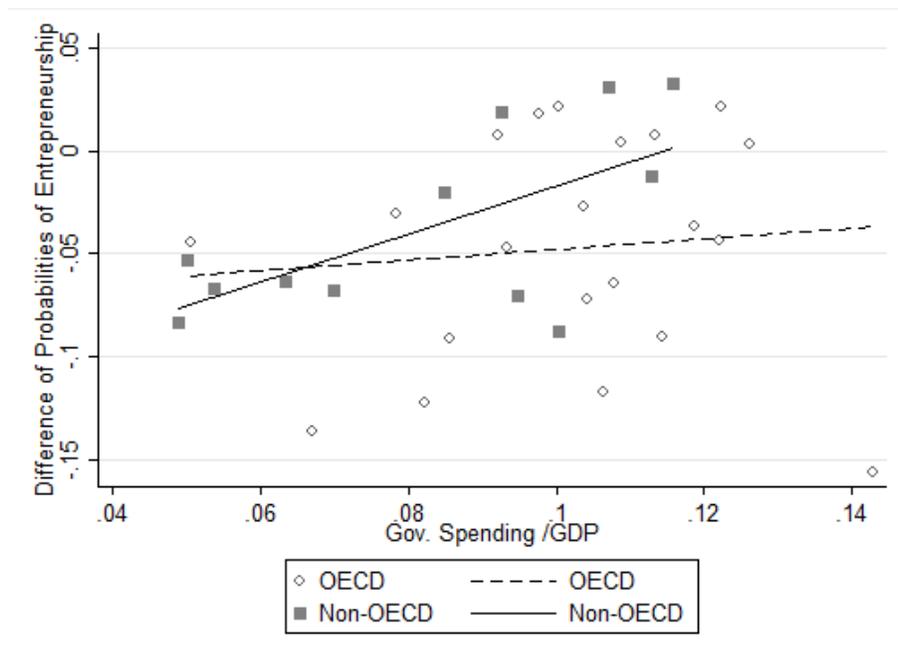
Notes: This figure shows that the effect of cadre parents on the probability of entrepreneurial children increases with government spending.

Figure 3: The Probability of Entrepreneurship and Government Spending in China, 1980-2005



Notes: This figure shows the national pattern of entrepreneurship and government spending from 1980 to 2005, divided into three decades and by the type of parents.

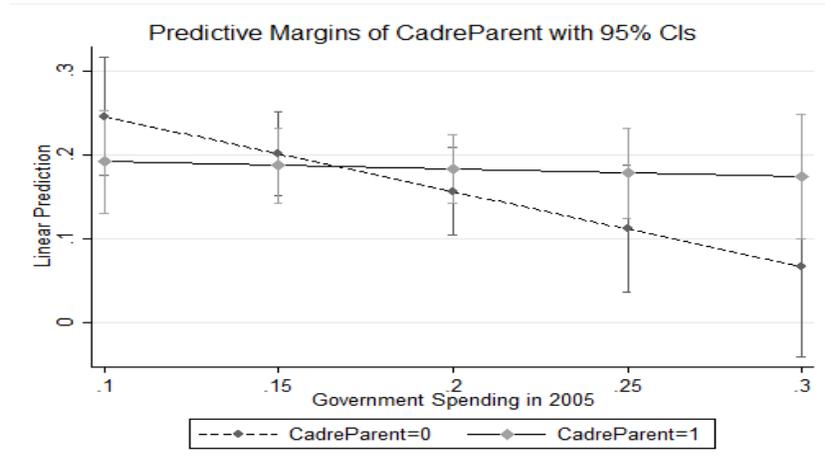
Figure 4: The Difference in the Probability of Entrepreneurship (Cadre Parent minus Non-cadre Parents) and Government Spending, across 33 Countries in 2009



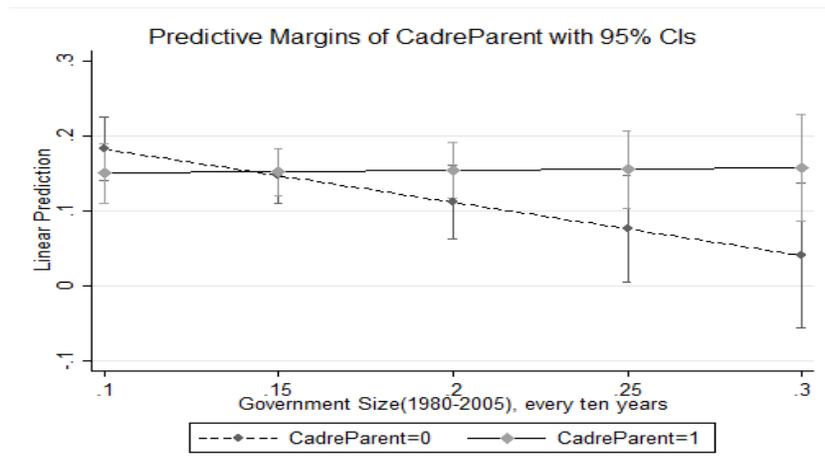
Notes: This figure shows that the effect of cadre parents on the probability of entrepreneurial children increases with government spending, particularly in non-OECD countries. The coefficient of a fitted line among 12 non-OECD countries is 1.17, compared to 0.26 among 21 OECD countries. The 12 non-OECD countries are Argentina, Bulgaria, Chile, Croatia, Cyprus, Estonia, Israel, Latvia, Philippines, Russia, Slovenia, and South Africa. The 21 OECD countries are Australia, Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Hungary, Italy, Japan, Korea, New Zealand, Norway, Poland, Slovak, Spain, Sweden, Switzerland, Turkey, and the U.S.

Figure 5: Marginal Effects of Government Spending on Entrepreneurship

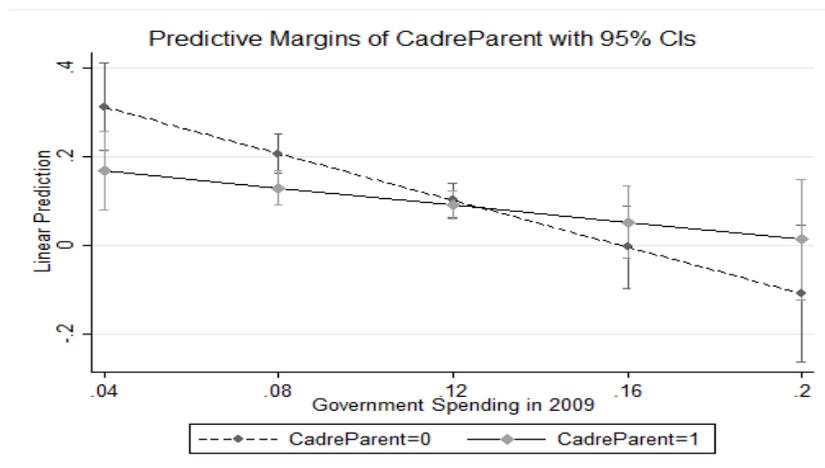
(a) Cross-province in China



(b) Cross-province and over-time in China



(c) Cross-Country



Notes: These figures visualize the impact of government spending on the probability of becoming an entrepreneur for the children of cadre families and of commoners respectively.

Table 1: Summary Statistics

	Mean	Std. Dev.	Min	Max
Panel A: Cross-Province Data in China, 2005, 28 Provinces. N=2,171				
Entrepreneurship	0.21	0.40	0	1
Cadre parent	0.24	0.43	0	1
Provincial fiscal spending/GDP	0.15	0.04	.08	.26
Log(provincial GDP per capita, in RMB)	9.72	0.60	6.81	10.02
Provincial Economic openness	0.54	0.57	0.06	1.63
College	0.31	0.46	0	1
Magnet school attendance	0.18	0.39	0	1
Female	0.46	0.50	0	1
Age	36.5	9.3	18	69
Minority	0.05	0.21	0	1
Married	0.82	0.38	0	1
Panel B: Retrospective Data in China, 1980-2005, 28 Provinces. N=3,427				
Entrepreneurship	0.16	0.37	0	1
Cadre parent	0.22	0.41	0	1
Provincial fiscal spending/GDP	0.12	0.04	.05	.27
Panel C: Cross-Country Data, 2009, 33 Countries, N=15,901				
Entrepreneurship	0.15	0.36	0	1
Cadre parent	0.42	0.49	0	1
Government consumption/GDP	0.09	0.02	.05	.14
Log(GDP per capita, U.S. dollar)	10.07	0.60	8.08	10.94
Economic openness	0.83	0.37	0.24	1.67
College	0.28	0.45	0	1
Female	0.49	0.50	0	1
Age	42.1	12.0	18	70
Married	0.72	0.45	0	1

Notes: In panel A, provincial fiscal spending includes government consumption and investment; economic openness is measured by the sum of imports and exports over the provincial GDP; college includes both 4-year and 2-year colleges; magnet school refers to having attended a magnet elementary school or a magnet middle school; ethnic minorities are non-Han Chinese. In panel C: GDP per capita is measured by the PPP converted dollars, in current price; economic openness is the sum of imports and exports over the GDP.

Table 2: OLS Estimates across Provinces in China in 2005

(D.V.: Entrepreneur = 0 / 1)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
						D.V.: Business owner	
Cadre par. * Gov spending			0.904**	0.812**	0.658*	1.758*	1.568**
			(0.364)	(0.336)	(0.334)	(1.002)	(0.641)
Cadre parents	-0.038*	-0.016	-0.039*	-0.017	-0.017	-0.078*	-0.045
	(0.021)	(0.019)	(0.020)	(0.019)	(0.019)	(0.043)	(0.030)
College		-0.150***		-0.149***	-0.150***	-0.150***	-0.107***
		(0.033)		(0.033)	(0.032)	(0.032)	(0.022)
Magnet school		0.017		0.016	0.018	0.017	0.015
		(0.019)		(0.018)	(0.019)	(0.020)	(0.024)
Age		0.001		0.001	0.001	0.001	-0.001
		(0.001)		(0.001)	(0.001)	(0.001)	(0.001)
Female		0.011		0.009	0.009	0.010	-0.009
		(0.016)		(0.016)	(0.015)	(0.016)	(0.014)
Married		0.091***		0.093***	0.093***	0.093***	0.055**
		(0.027)		(0.027)	(0.026)	(0.026)	(0.024)
Minority		0.046		0.039	0.030	0.030	0.012
		(0.055)		(0.053)	(0.071)	(0.071)	(0.069)
Province FE	Y	Y	Y	Y	Y	Y	Y
Demographics*Gov. spending					Y	Y	Y
Observations	2,171	2,171	2,171	2,171	2,171	2,171	2,171
R-squared	0.107	0.147	0.108	0.149	0.151	0.152	0.097

Notes: Cadre par. includes both the children whose parents work in the government and those whose parents work in public institutions controlled by the government in columns (1)-(5), while it only includes the former in columns (6)-(7). Standard errors are clustered at the province level. *** p<0.01, ** p<0.05, * p<0.1.

Table 3: OLS Estimates across Provinces in China from 1980 to 2005
(D.V.: Entrepreneur = 0 /1)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
						D.V.: Business Owner	
Cadre par. * Gov spending			0.770**	0.778**	0.673*	1.852**	1.553**
			(0.350)	(0.355)	(0.348)	(0.790)	(0.595)
Cadre parents	-0.023	-0.010	-0.025*	-0.012	-0.012	-0.032	-0.001
	(0.015)	(0.012)	(0.014)	(0.012)	(0.012)	(0.032)	(0.028)
College		-0.106***		-0.106***	-0.106***	-0.115***	-0.080***
		(0.024)		(0.024)	(0.023)	(0.024)	(0.016)
Magnet school		-0.004		-0.004	-0.003	-0.003	0.001
		(0.019)		(0.019)	(0.019)	(0.019)	(0.022)
Age		-0.005***		-0.005***	-0.005***	-0.003***	-0.002***
		(0.001)		(0.001)	(0.001)	(0.001)	(0.001)
Female		-0.034**		-0.034**	-0.035**	-0.029**	-0.025**
		(0.013)		(0.013)	(0.013)	(0.012)	(0.009)
Married		0.116***		0.117***	0.116***	0.135***	0.083***
		(0.022)		(0.022)	(0.021)	(0.024)	(0.017)
Minority		0.032		0.027	0.022	0.031	0.017
		(0.026)		(0.026)	(0.038)	(0.036)	(0.041)
Province FE *Decade FE	Y	Y	Y	Y	Y	Y	Y
Demographics*Gov. spending					Y	Y	Y
Observations	3,427	3,427	3,427	3,427	3,427	3,427	3,427
R-squared	0.103	0.132	0.104	0.133	0.134	0.133	0.097

Notes: Cadre par. includes both the children whose parents work in the government and those whose parents work in public institutions controlled by the government in columns (1)-(5), while it only includes the former in columns (6)-(7). Standard errors are clustered at the province level. *** p<0.01, ** p<0.05, * p<0.1.

Table 4: OLS Estimates across Countries in 2009
(D.V.: Entrepreneur = 0 / 1)

	Non-OECD			OECD			All Countries		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Cadre par. *Gov. spending	1.095*** (0.314)	0.998** (0.370)	0.932** (0.374)	0.638 (0.510)	0.585 (0.516)	0.414 (0.460)	0.856** (0.335)	0.786** (0.346)	0.660** (0.323)
Cadre parents	-0.028*** (0.009)	-0.028** (0.010)	-0.019 (0.012)	-0.040*** (0.010)	-0.033*** (0.009)	-0.002 (0.014)	-0.035*** (0.007)	-0.031*** (0.007)	-0.007 (0.010)
College		-0.015 (0.015)	0.004*** (0.001)		-0.004 (0.015)	0.004*** (0.001)		-0.007 (0.011)	0.004*** (0.001)
Age		0.004*** (0.001)	-0.019 (0.021)		0.004*** (0.001)	-0.061*** (0.006)		0.004*** (0.001)	-0.046*** (0.010)
Female		-0.019 (0.022)	-0.004 (0.016)		-0.061*** (0.007)	0.015 (0.014)		-0.046*** (0.010)	0.009 (0.010)
Married		-0.002 (0.018)	0.932** (0.374)		0.014 (0.014)	0.414 (0.460)		0.008 (0.011)	0.660** (0.323)
Country FE	Y	Y	Y	Y	Y	Y	Y	Y	Y
Demograph.*Gov. spending			Y			Y			Y
Observations	5,863	5,863	5,863	10,038	10,038	10,038	15,901	15,901	15,901
R-squared	0.104	0.122	0.129	0.039	0.064	0.066	0.067	0.088	0.092

Notes: Cadre par. refers to the children whose parents work in governments. This table shows that the main empirical pattern in Tables 2 and 3 also hold in the cross-country data, especially among the non-OECD countries. Standard errors are clustered at the country level.
*** p<0.01, ** p<0.05, * p<0.1

Table 5: The Interaction between Cadre Parents and Other Provincial Characteristics in China in 2005
(D.V.: Entrepreneur = 0 / 1)

	Cross Province, 2005						Province-Decade 1980-2005		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Cadre par.*Gov. spending						1.101** (0.488)			0.857** (0.358)
Cadre par.*log(GDP per capita)	0.012 (0.031)					0.130** (0.059)	0.026 (0.016)		0.057** (0.024)
Cadre par.*Openness		0.010 (0.031)				-0.114 (0.083)		-0.017 (0.041)	-0.073* (0.037)
Cadre par.*Gov. efficiency			-0.061 (0.104)			0.191 (0.157)			N/A
Cadre par.*Rule of law				0.001 (0.007)		-0.009 (0.020)			N/A
Cadre par.*Investment of private sector					-0.712** (0.309)	-0.877** (0.318)			N/A
Province FE	Y	Y	Y	Y	Y	Y	Y	Y	Y
Province FE * Decade FE							Y	Y	Y
Observations	2,171	2,171	2,171	2,171	2,171	2,171	3,427	3,427	3,427
R-squared	0.147	0.147	0.148	0.147	0.149	0.151	0.132	0.132	0.134

Notes: All regressions include demographic variables as in Table 2. The last three macro-variables are not available in the historical data of China. Standard errors are clustered at the province level. *** p<0.01, ** p<0.05, * p<0.1

Table 6: Cadre Parents and Other Macro-Characteristics across Countries in 2009
(D.V.: Entrepreneur = 0 / 1)

	12 non-OECD countries						21 OECD countries					
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Cadre par. *Gov. spending						1.413** (0.568)						0.706* (0.384)
Cadre par.*log(GDP per capita)	0.041* (0.021)					0.010 (0.025)	0.079*** (0.016)					0.035 (0.033)
Cadre par.*Openness		-0.001 (0.039)				-0.073* (0.034)		-0.010 (0.017)				-0.010 (0.021)
Cadre par.*Gov. efficiency			-0.030 (0.024)			-0.004 (0.016)			-0.005 (0.015)			0.014 (0.015)
Cadre par.*Rule of law				-0.001 (0.017)		0.014 (0.019)				0.052*** (0.015)		0.049 (0.031)
Cadre par.*Credit to private sector					0.001 (0.020)	-0.031* (0.015)					0.013 (0.019)	-0.027 (0.016)
Country FE	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Observations	5,863	5,863	5,863	5,863	5,863	5,863	10,038	10,038	10,038	10,038	10,038	10,038
R-squared	0.129	0.129	0.129	0.129	0.129	0.130	0.068	0.066	0.066	0.067	0.066	0.068

Notes: All regressions include demographic variables as in Table 4. Standard errors are clustered at the country level. *** p<0.01, ** p<0.05, * p<0.1

Table 7: The Interaction between Entrepreneurial Parents and Government Size
(D.V.: Entrepreneur = 0 / 1)

	Cross-province, China 2005		Province-Decade 1980-2005		Non-OECD Countries 2009		OECD Countries 2009	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Cadre par.*Gov. spending		0.826** (0.350)		0.789** (0.345)		0.613* (0.282)		0.326 (0.372)
Cadre parent		-0.012 (0.019)		-0.008 (0.012)		-0.011 (0.008)		-0.010 (0.007)
Entrep.Par.*Gov. spending	0.111 (0.947)	0.292 (0.970)	0.126 (1.044)	0.243 (1.022)	-2.037*** (0.466)	-1.916*** (0.425)	-0.145 (0.707)	-0.033 (0.703)
Entrepreneurial Parents	0.062* (0.036)	0.061 (0.036)	0.052 (0.033)	0.051 (0.033)	0.077*** (0.015)	0.075*** (0.015)	0.090*** (0.017)	0.087*** (0.017)
Province FE	Y	Y	Y	Y				
Province FE*Decade FE			Y	Y				
Country FE					Y	Y	Y	Y
Observations	2,171	2,171	3,427	3,427	5,863	5,863	10,038	10,038
R-squared	0.149	0.150	0.133	0.134	0.131	0.132	0.074	0.074

Notes: All regressions include demographic variables that are the same to Tables 2-4, respectively. Standard errors are clustered at the province level (columns 1-4) or the country level (columns 5-8). *** p<0.01, ** p<0.05, * p<0.1.

Table 8: Earnings in 2005 in China

	Log (after-tax earnings from the business), entrepreneurs									Log (Salary)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Cadre par.*Gov. Spending	10.554**						13.911**		10.616*	0.636
	(4.964)						(6.642)		(5.217)	(1.002)
Cadre parents	0.002	-0.031	-0.005	-0.092	-0.027	-0.067	0.116		0.029	0.123**
	(0.161)	(0.190)	(0.167)	(0.219)	(0.186)	(0.195)	(0.150)		(0.177)	(0.047)
Cadre par.*log(GDP per capita)		0.127					0.250			
		(0.349)					(0.551)			
Cadre par.*Openness			0.293				-0.268			
			(0.252)				(0.690)			
Cadre par.*Gov. efficiency				-0.825			-0.289			
				(1.080)			(1.512)			
Cadre par.*Rule of law					0.031		0.187			
					(0.076)		(0.209)			
Cadre par.*Private investment						-2.138	-0.426			
						(2.050)	(1.848)			
Entrepreneurial Parents								0.156	0.194	
								(0.144)	(0.180)	
Entrep.Parents*Gov. Spending								-3.007	0.176	
								(5.027)	(6.106)	
Province FE	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Sector FE	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Observations	329	329	329	329	329	329	329	329	329	1,614
R-squared	0.216	0.208	0.209	0.209	0.208	0.209	0.220	0.209	0.217	0.249

Notes: All regressions include the demographic variables as in Table 2. Columns 1-9 also control for the number of employees in the entrepreneur's firm. Standard errors are clustered at the province level. *** p<0.01, ** p<0.05, * p<0.1.

Table 9: Self-evaluated Importance of Political Connections and Hard Work in Success
(The dependent variable is categorical, from 1 (*not at all*) to 5 (*essential*))

	Provinces, China		Non-OECD Countries		OECD Countries	
<i>Political Connections</i>	Mean=3.74, SD=1.00		Mean=2.76, SD=1.27		Mean=2.45, SD=1.11	
	(1)	(2)	(3)	(4)	(5)	(6)
Entrepreneur.*Gov. spending	4.871***	6.561***	2.931*	3.805	5.695***	5.784**
	(1.368)	(1.651)	(1.519)	(2.368)	(1.753)	(2.093)
entrepreneur	0.035	0.055	0.109**	0.115**	-0.049	0.320
	(0.048)	(0.041)	(0.044)	(0.041)	(0.034)	(0.411)
Province FE	Y	Y				
Country FE			Y	Y	Y	Y
Entrepreneur*macro variables		Y		Y		Y
Observations	2,153	2,153	5,656	5,656	9,624	9,624
<i>Hard Work</i>	Mean=4.10, SD=0.79		Mean=4.04, SD=0.91		Mean=3.98, SD=0.86	
Entrepreneur.*Gov. spending	-0.545	0.352	-0.485	5.304	1.928	0.410
	(0.969)	(1.291)	(1.179)	(3.500)	(1.290)	(0.944)
entrepreneur	0.019	0.026	0.054	0.056	0.072***	0.535
	(0.052)	(0.046)	(0.038)	(0.038)	(0.025)	(0.314)
Province FE	Y	Y				
Country FE			Y	Y	Y	Y
Entrepreneur*macro variables		Y		Y		Y
Observations	2,167	2,167	5,821	5,821	9,955	9,955

Notes: All regressions include the demographic variables as in previous tables. Standard errors are clustered at the province level (columns 1-2) or the country level (columns 3-6). *** p<0.01, ** p<0.05, * p<0.1.

Appendix Table A1: OLS Estimates across Provinces in China from 1980 to 2005, by 5-year Intervals
(D.V.: Entrepreneur = 0 / 1)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
						D.V.: Business Owner	
Cadre par. * Gov spending			0.851**	0.869**	0.683*	1.788**	1.556**
			(0.326)	(0.332)	(0.347)	(0.787)	(0.565)
Cadre parents	-0.023	-0.010	-0.025*	-0.011	-0.012	-0.034	-0.002
	(0.015)	(0.012)	(0.015)	(0.012)	(0.012)	(0.032)	(0.028)
College		-0.106***		-0.106***	-0.106***	-0.115***	-0.080***
		(0.025)		(0.025)	(0.023)	(0.024)	(0.016)
Magnet school		-0.004		-0.004	-0.004	-0.004	0.001
		(0.019)		(0.019)	(0.018)	(0.019)	(0.021)
Age		-0.005***		-0.005***	-0.005***	-0.003***	-0.002***
		(0.001)		(0.001)	(0.001)	(0.001)	(0.001)
Female		-0.035**		-0.036**	-0.035**	-0.029**	-0.025**
		(0.013)		(0.014)	(0.013)	(0.013)	(0.009)
Married		0.112***		0.112***	0.117***	0.135***	0.083***
		(0.023)		(0.023)	(0.021)	(0.023)	(0.017)
Minority		0.037		0.032	0.011	0.022	0.018
		(0.026)		(0.026)	(0.038)	(0.036)	(0.038)
Province FE * Cohort FE	Y	Y	Y	Y	Y	Y	Y
Demographics*Gov. spending					Y	Y	Y
Observations	3,427	3,427	3,427	3,427	3,427	3,427	3,427
R-squared	0.118	0.145	0.119	0.146	0.134	0.133	0.097

Notes: Cadre par. includes both the children whose parents work in the government and those whose parents work in public institutions controlled by the government in columns (1)-(5), while it only includes the former in columns (6)-(7). The 5-year intervals are 1980-1984, 1985-1989, 1990-1994, 1995-1999, and 2000-2005. The last interval includes six years. Standard errors are clustered at the province level. *** p<0.01, ** p<0.05, * p<0.1.

Appendix Table A2: Correlation between Government Spending and the Probability of Entrepreneurship
(Dependent Variable: Entrepreneur=1/0)

	Cross-province China, 2005 (1)	Province-Decade China, 1980-2005 (2)	Non-OECD Countries 2009 (3)	OECD Countries 2009 (4)	All Countries 2009 (5)
Government Spending	-0.710** (0.313)	-0.556** (0.227)	-3.559*** (1.065)	-1.111 (0.946)	-2.246** (0.831)
Observations	2,171	3,427	5,863	10,038	15,901
R-squared	0.064	0.059	0.075	0.030	0.040

Notes: Standard errors are clustered at the province level (columns 1-2) or country level (columns 3-5). *** p<0.01, ** p<0.05.

Appendix Table A3: Summary Statistics of Macroeconomic and Institutional Variables

	Mean	Std. Dev.	Min	Max	Correlation Coefficient with Gov. Spending
Panel A: Cross-Province Data in China in 2005, 28 Provinces					
Log(GDP per capita, in RMB)	9.57	0.56	8.53	10.02	-0.46
Economic openness	0.39	0.49	0.06	1.63	-0.26
Investment of private sector to GDP	0.28	0.06	0.17	0.41	-0.31
Index of government efficiency	2.89	0.19	2.64	3.23	-0.63
Index of legal environment	5.73	2.43	3.12	12.84	-0.41
Panel B: Cross-Country Data in 2009, 33 Countries					
Log(GDP per capita, U.S. dollar)	10.07	0.60	8.08	10.94	0.44
Economic openness	0.83	0.37	0.24	1.67	0.32
Credit to private sector from banks, to GDP	0.92	0.50	0.12	2.21	0.25
Number of procedures of starting a firm	6.33	3.31	1	18	-0.40
Index of rule of law	0.97	0.80	-0.77	1.97	0.32

Notes: The table reports the summary statistics for the main macro variables and their correlations with government spending.

Appendix Table A4: The Impacts on the Alternative Employment

	Cross-province, China 2005		Province-Decade 1980-2005		Non-OECD Countries 2009		OECD Countries 2009	
	Public	Private	Public	Private	Public	Private	Public	Private
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Cadre par.*Gov. spending	0.255 (0.547)	-1.019* (0.548)	0.112 (0.430)	-1.030** (0.455)	-1.050 (0.665)	0.052 (0.546)	-0.833 (0.559)	0.248 (0.766)
Cadre parent	0.119*** (0.024)	-0.100*** (0.027)	0.119*** (0.018)	-0.105*** (0.020)	0.044** (0.017)	-0.016 (0.016)	0.065*** (0.012)	-0.032* (0.016)
Province FE	Y	Y	Y	Y				
Province FE * Decade Fe			Y	Y				
Country FE					Y	Y	Y	Y
Observations	2,171	2,171	3,427	3,427	5,863	5,863	10,038	10,038
R-squared	0.171	0.116	0.157	0.121	0.100	0.092	0.124	0.087

Notes: All regressions include the demographic variables as in previous tables. Standard errors are clustered at the province level (columns 1-4) or the country level (columns 5-8). *** p<0.01, ** p<0.05, * p<0.1.