



# Entrepreneurs' work experiences and the growth of Chinese private firms during the transition towards a market economy

Peng Zhou<sup>a,\*</sup>, Andrea Fracasso<sup>b</sup>, Kun Jiang<sup>c,\*</sup>

<sup>a</sup> School of Economics, Hefei University of Technology, China

<sup>b</sup> Department of Economics and Management, School of International Studies, University of Trento, Italy

<sup>c</sup> Business School, Sun Yat-sen University, Shenzhen, Guangdong, China

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## ABSTRACT

This work sheds some light on the influence that entrepreneurs' previous work experiences exerted on the growth performance of Chinese private firms after the privatization reform in the early 2000s. Focusing on a representative and large sample of private firms, the analysis finds evidence of an inferior performance of the companies run by entrepreneurs with past top management experience in state-owned companies, while the superior performance of the companies run by entrepreneurs with prior technical experience. The study investigates specific theory-driven mechanisms through which different experiences impact firm performance, including time allocation and R&D management strategy. Upper echelon theory and imprinting effects appear relevant, and local institutions, political and economic uncertainty, and entrepreneurs' self-perception act as moderating factors. We deal with potential endogeneity issues with propensity score matching and two-stage least squares regression. These findings provide novel evidence on underexplored aspects of the ongoing privatization process in China and other economies in transition.

## 1. Introduction

Examining the growth of private companies is of outmost importance to understand the transition of a country from a centrally planned to a market-oriented economy. A crucial role in this process is played by private entrepreneurs, whose characteristics impact the performance of their companies. According to the literature, age (Barba Navaretti, Castellani, & Pieri, 2014; Gielnik, Zacher, & Schmitt, 2017), managerial talent (Li, Meng, Wang, & Zhou, 2008), prior work experience (Cao & Im, 2018; Colombo & Grilli, 2005; Laguir & Den Besten, 2016; Ucbasaran, Westhead, & Wright, 2008), and political affiliation (Guo, Jiang, Kim, & Xu, 2014; Yang, Huang, Deng, & Bordignon, 2020) are some among the most relevant features of the entrepreneurs affecting the strategies and the growth of private firms.<sup>1</sup> In transition countries, individual attributes of the entrepreneurs exert a particularly strong effect on firms, as shown by Li, Loyalka, Rozelle, and Wu (2017), who stress the positive correlation between firm productivity and the human capital of entrepreneurs and managers. In this work, we focus on how the entrepreneurs' past work experiences impact the performance of their firms during the transition towards a market-oriented economy.

Entrepreneurship research has already revealed that organizations can have an impact on the forma mentis of their members and

\* Corresponding authors.

E-mail addresses: [pengzhou@hfut.edu.cn](mailto:pengzhou@hfut.edu.cn) (P. Zhou), [andrea.fracasso@unitn.it](mailto:andrea.fracasso@unitn.it) (A. Fracasso), [jiangk26@mail.sysu.edu.cn](mailto:jiangk26@mail.sysu.edu.cn) (K. Jiang).

<sup>1</sup> On start-ups and new companies, Unger, Rauch, Frese, and Rosenbusch (2011) and Delmar and Shane (2006) offer addition insights.

their subsequent career (Bamford, Dean, & McDougall, 2000; Briscoe & Kellogg, 2011; Dencker & Gruber, 2015; Mathias, Williams, & Smith, 2015; McEvily, Jaffee, & Tortoriello, 2012). This paper drew its arguments from upper echelon theory (Hambrick & Mason, 1984) and imprinting theory (Lado & Wilson, 1994). Upper echelon theory links entrepreneurs' background characteristics to firms' outcomes. The theory suggests that entrepreneurs' past experience influence firms' strategy choice and implementation, which in turn affects firms' growth (Alshorman & Shanahan, 2021). At the same time, imprinting effects influence the behaviour of the individuals because the habits and the beliefs developed during formative periods in relevant business activities tend to exert a very long-lasting influence.<sup>2</sup> Critical events and institutional reforms challenge the effectiveness of old habits, business practices and received wisdom (Cheng, Guo, Hayward, Smyth, & Wang, 2021; Dickel, Sienknecht, & Hörisch, 2021; Liu & Zhang, 2021; McEvily et al., 2012): in changing environments, thus, entrepreneurs with different backgrounds may perform in systematically different ways. We explore this possibility by focusing on China during the economic and cultural transformation that followed the privatization reform enacted in the early 2000s. More precisely, we assess empirically to what extent the previous work experiences of the Chinese entrepreneurs exerted an impact on the performance of their companies during the transformation, what are the mechanisms through which past work experiences influence entrepreneurs' decision-making in the newly founded private firms, and whether the external institution and uncertainty moderate the impacts of prior experience on firms' growth.<sup>3</sup>

China represents a perfect laboratory to explore the research questions inspiring our analysis. When the reform of the economic system started (in the late 1970s and early 1980s), setting up a private firm in China was not allowed (Guo et al., 2014). In 1988, the Provisional Regulations on Private Enterprises were enacted, providing a legal framework for private firms with more than eight employees. In 1997, the legal status of private enterprises was eventually recognized. This reform boosted the transition from a centrally planned to a market-oriented economy (Jian, Fan, Zhao, & Zhou, 2021; Lardy, 2014; Qian & Xu, 1993) and it opened great opportunities for business: a vibrant entrepreneurship played an important role in the fast transition process observed in China (McMillan & Woodruff, 2002; Zhou, 2011). The economic and cultural transformation was embraced by the authorities and, in 2002, the members of the Chinese Communist Party (CCP) were encouraged to become entrepreneurs, while private entrepreneurs were invited to join the Party. In particular, several people started their own ventures, bringing with them the culture and the operation routines learned while working in state-owned enterprises (SOEs)/ Town and Village enterprises (TVEs). Our work explores, for the first time, how, and through what channels, the entrepreneurs' previous work experiences impacted the performance of the Chinese private firms during the transition.

Our analysis is conducted on four waves (2002, 2004, 2006, 2010) of the Chinese Private Enterprises Survey (CPES), one of the longest-running large-scale (nationwide and stratified) surveys of private enterprises in China, covering a representative sample of 6520 privately-owned firms. Among all working activities performed by entrepreneurs in the past, we posit that managerial experiences and technical experiences are particularly important. We find that different types of work experiences did have heterogeneous effects on the performance of Chinese private firms. In particular, those run by individuals with previous top managerial experience in either SOEs or TVEs expanded relatively less, whereas firms led by entrepreneurs with technical experience (gained as members of the technical staff of a company) grew more. Testing specific hypotheses on the mechanisms at play, we also show that the entrepreneurs with top managerial experiences in SOEs/TVEs allocated less working time to managerial activities and more time to networking activities: networking brings government-controlled resources to the firm, but too much networking makes the companies more exposed to expropriation from the authorities, such bias in time allocation reduced the growth performance of their firms. We also show that entrepreneurs with a technical background invested relatively more in R&D and generated more innovation outputs, a channel through which their companies grew more than the others.

Additional empirical results indicate that the quality of the local institutional environment affects the relationship between entrepreneurs' past experiences and firms' growth. In regions where corruption is more intense, the positive effect of the entrepreneur's technical background on firm growth is significantly weakened. Similarly, local political and economic policy instability exacerbates the negative impact of previous top managerial experience in SOEs/TVEs on firm growth, probably because it reduces the benefits from networking activities. Finally, our analysis offers new evidence of the fact that, among the entrepreneurs with a technical background, those who have higher self-esteem and social status tend to exploit more intensively their advantages, making their firms grow relatively more. These results confirm Koellinger (2008)'s conclusion that entrepreneurial outcomes depend both on individual factors and on the environment in which the individuals act.

This work relates and contributes to different strands of the literature connected with entrepreneurial research and with industry dynamics and firm growth in China during the transition. First, this work contributes to the literature on how entrepreneurs' previous work experiences affect firm growth in transition countries.<sup>4</sup> It improves upon previous inconclusive analyses by showing that, as suggested by Lazear (2005) and Dencker and Gruber (2015), distinguishing the types of experience is necessary to identify their impact

<sup>2</sup> The congruence between the formative environment and the subsequent working conditions appears as a relevant aspect as well (Bai, Tsang, & Xia, 2020; Bercovitz & Feldman, 2008; Fern, Cardinal, & O'Neill, 2012; Marquis & Tilcsik, 2013; McEvily et al., 2012; Simsek, Fox, & Heavey, 2015).

<sup>3</sup> For previous findings about this, see Kriauciunas and Kale (2006), Liu et al. (2014), Fritsch et al. (2014), Ahmed and Brennan (2019) and Marquis and Qiao (2020).

<sup>4</sup> While Evans and Leighton (1989) and Colombo and Grilli (2005) find a positive impact of managerial experience on firm performance, other studies find insignificant effects (Bates, 1990; Bruderl & Preisendorfer, 2000; Gimeno, Folta, Cooper, & Woo, 1997; Kalleberg & Leicht, 1991; Stuart & Abetti, 1990). Spanjer and van Witteloostuijn (2017) find that entrepreneurial and industry experiences are positively, but not linearly, associated with firm performance.

on firm performance.<sup>5</sup> Moreover, our analysis focuses on a country in transition where cultural imprinting effects were strong and it covers firms at any stage of development, thereby complementing those studies looking exclusively at start-ups. Finally, this work explores specific theory-driven mechanisms to explain how prior work experiences have influenced firm growth.

Second, due to its focus on China during the post-reform transition, this work contributes to the broader strand of the literature discussing the determinants of firm growth in China. Yu, Dosi, Grazzi, and Lei (2017), Moschella, Tamagni, and Yu (2019) and Bin, Chen, Fracasso, and Tomasi (2020) and other studies analyse firm performances using balance sheet data concerning large private companies and SOEs. Besides the underrepresentation of small private firms in their samples, these works do not address the role of the entrepreneurs' traits and previous experiences for the lack of available information. Our study, instead, manages to show that, in the post-reform period, firm growth in China did depend on the long-lasting impact of the entrepreneurs' previous work experiences.<sup>6</sup>

Third, this work contributes to the literature on development and transition economies as we focus on a period of a profound reform of the economic system in China. As suggested by Dai, Liu, and Liao (2018), investigating the effects of the entrepreneurs' socialist imprinting during the transition to a market-oriented economy is of utmost importance to improve our understanding of the overall process of economic and cultural change in transition countries. Other scholars have addressed imprinting effects in China. Marquis and Qiao (2020) show that the communist ideological imprint has negatively affected the internationalization strategies of Chinese private firms, whereas Dai et al. (2018) find that, because of this ideological legacy, Chinese entrepreneurs have selected more often than others the lucrative politically-driven business opportunities. Liu, Lu, and Zhang (2014) conclude that the entrepreneurs' past managerial experience in multinational companies operating in China is typically associated with better performances in their private firms, whereas Wang, Feng, Liu, and Zhang (2011) show that the top managers with previous governmental experience tend to give excessive emphasis to networking activities. Gao, Hsu, and Li (2018) observe that the CEOs' supply chain experience in Chinese listed companies has an impact on corporate innovation. To the best of our knowledge, no previous work addresses the two types of experiences that we look at, namely previous top managerial experience in SOEs/TVEs and technical experience. Our findings, thus, add novel evidence to the limited research on how the entrepreneurs' work experiences in a central planned economy affect the performance of the private firms operating in a market-oriented economy (Fritsch, Bublitz, Sorgner, & Wyrwich, 2014; Kriauciunas & Kale, 2006).<sup>7</sup>

The remaining of the paper proceeds as follows. Section 2 discusses the theoretical underpinnings of the main and auxiliary hypotheses to test. Section 3 presents the data, the empirical specification and the variables of interest. Section 4 illustrates and discusses our empirical findings. Section 5 deals with potential endogeneity issues due to self-selection into treatment and omitted variables, and shows the robustness of the main results. Section 6 concludes the study. Appendix A contains information about the data. Appendix B shows that our findings are robust to the simultaneous inclusion of both work experiences in the estimation. Appendix C provides the detailed survey questions we use to construct variables for the empirical analysis.

## 2. Theoretical framework and related literature

### 2.1. Entrepreneur's past experiences and firm growth

As suggested by upper echelon theory, the entrepreneurs' personal traits matter for the performance of their firms (Hambrick & Mason, 1984). Several works explore the role of age, managerial talent, gender, degree of optimism, political affiliation, and the like. Still limited, however, is the literature regarding the impact of previous work experiences on firms' performance, in particular in transition economies. Prior work experiences shape the entrepreneurs' perception of growth opportunities and challenges (Kor, 2003; Liu & Zhang, 2021) and they influence the investment and business models adopted by the firms (Ahmed & Brennan, 2019; Child et al., 2017; Ganotakis & Love, 2012; Nielsen & Nielsen, 2011). Moreover, inherited managerial biases tend to impact absorptive capacity and firm innovation (Cuervo-Cazurra & Rui, 2017). As predicted by the upper echelons theory and imprinting theory, the background and the experiences of top executives tend to influence all areas of strategic decision-making and *forma mentis* (Dencker & Gruber, 2015; Dickel et al., 2021; Hambrick & Mason, 1984; Marquis & Qiao, 2020; McEvily et al., 2012).

A general consensus has indeed emerged on the importance of imprinting effects at the individual level in management literature that the characteristics and the beliefs of entrepreneurs developed during formative periods due to the participation in relevant business activities affecting their firms' outcomes.<sup>8</sup> Notably, the literature on imprinting effects has shown that critical events have

<sup>5</sup> The advantages of focusing on specific types of experiences have already been shown by a few scholars. Whitler, Krause, and Lehmann (2018) conclude that only the past commercial experiences of the board members help the firm to grow, and Dencker and Gruber (2015) show a differential impact of managerial experience and of industry experience on the performance of the start-ups.

<sup>6</sup> While also Elston et al. (2016) consider the relationship between firm growth and some characteristics of the Chinese entrepreneurs, our work offers novel insights on the entrepreneurs' work experiences and it investigates a larger and more representative sample of companies. Indeed, Elston et al. (2016) consider only micro-firms (up to 30 employees) located in five cities and interview their 260 private entrepreneurs via an ad hoc survey, whereas we consider a large, representative and repeated survey asking questions on both the entrepreneur and the company.

<sup>7</sup> The literature investigating entrepreneurship in China is vast (see, for instance, Djankov et al. 2006, Yueh 2009, Ahlstrom and Ding 2014), but only few contributions (Liu et al., 2014; Marquis & Qiao, 2020) explore the effects of previous work experiences. On other aspects of entrepreneurship in China, we refer to the recent special issues run by Small Business Economics Journal (He et al., 2019) and of the Business History journal (Cumming et al. 2016).

<sup>8</sup> The congruence between the formative environment and the subsequent working conditions appears (Bai et al., 2020; Bercovitz & Feldman, 2008; Fern et al., 2012; Marquis & Tilcsik, 2013; McEvily et al., 2012; Simsek et al., 2015).

very long-lasting effects on business practices and decision-making (Dickel et al., 2021; McEvily et al., 2012) and that individuals in their early career experiences tend to be affected the most (Mathias et al., 2015; Kosse et al., 2020)).<sup>9</sup> This is probably the reason why the impact of ideological imprints on entrepreneurship appears particularly relevant in transition countries experiencing a paradigmatic shift in the economic structure: knowledge, habits and beliefs developed in previous working positions exercise a strong influence on the entrepreneurs' reactions to the challenges of the transition process (Fritsch et al., 2014; Kriauciunas & Kale, 2006; Liu et al., 2014; Marquis & Qiao, 2020). However, the study on the impact of an entrepreneur's experience gained in the old system on their ventures' performance during the transition process is inconclusive. On the one hand, entrepreneurs with previous top managerial experiences may, for instance, have an advantage over other types of entrepreneurs in normal times, as they possess consolidated cognitive frames and the capacity to absorb new knowledge (Dencker & Gruber, 2015); on the other hand, some of the imprinted traits may be detrimental during the transition process for the companies facing dramatic changes as the entrepreneurs' attachment to past experiences may reduce flexibility and prevents a swift adjustment (Dai et al., 2018).

In transition economies, as suggested by Mathias et al. (2015), different types of work experiences exert very dissimilar effects on the entrepreneurs and their firms through a number of channels. The experience gained by entrepreneurs as top managers in SOEs, for instance, is different from that acquired in foreign-owned enterprises; similarly, entrepreneurs who were previously part of the technical staff of a company may perform differently from those who held managerial or commercial positions. Due to the lack of limited empirical evidence on the relationship between the entrepreneurs' past experiences and the growth of their private firms in transition economies, this work aims at filling a gap in the literature and at providing insights into the impact of the experience gained by the Chinese entrepreneurs during the centrally planned economy period on the performance of their subsequent private ventures.

The first and more general hypothesis we test is whether Chinese private firms run by entrepreneurs with top managerial experience in SOEs/TVEs grow at different rates with respect to the others. Our prior is that past managerial experience gained in a centrally planned environment is dysfunctional during the transition period, and negatively correlated with firm growth. Therefore, we posit the following hypothesis:

**Hypothesis 1.** In the post-reform period, Chinese private firms run by entrepreneurs with previous top managerial experience in SOEs/TVEs grow less than the other firms.

The second general hypothesis to test is whether Chinese private firms run by entrepreneurs who had been members of the technical staff of a company grow more or less than the other firms. We posit that entrepreneurs with a technical background tend to undertake strategies (such as investment in R&D and innovation) that are conducive to higher growth rates. Therefore, we posit the following:

**Hypothesis 2.** In the post-reform period, Chinese private firms run by entrepreneurs with past technical experience tend to grow more than the other firms.

On the basis of the results obtained with respect to these two main hypotheses, we proceed by exploring various plausible mechanisms through which past experiences may influence firm performances and, accordingly, we estimate a few auxiliary regressions to test specific hypotheses on potential channels.<sup>10</sup> These auxiliary hypotheses are illustrated in the following subsections.

### 2.1.1. *Entrepreneur's managerial experience in SOEs/TVEs: the mechanisms*

The literature suggests that favourable access to scarce resources (in particular, favourable credit conditions and low-price inputs) and the possibility to participate in large public tenders may facilitate firm growth in developing countries. In China, access to credit is known to be a fundamental advantage that SOEs enjoy over other firms in the country (Poncet, Steingress, & Vandenbussche, 2010). The top managers in SOEs/TVEs directly experience the importance of receiving privileged treatment by the authorities and, accordingly, they tend to devote time and efforts to networking activities (Guo, Jiang, & Xu, 2017; Murphy, Shleifer, & Vishny, 1993). A possible mechanism behind the relationship between past managerial experience in SOEs/TVEs and firm growth is that private entrepreneurs who were top managers in SOEs/TVEs continue to allocate their time and efforts as they did before, even after having started their own private businesses.

Dai et al. (2018) have already shown that the socialist imprint drives the attention of private entrepreneurs towards politically-driven business opportunities and away from innovation-related efforts. On this basis, we investigate a more precise mechanism, that is whether past top management experiences in SOEs (not the socialist culture) impact the private entrepreneurs' course of action. According to Guo et al. (2017), Chinese entrepreneurs respond to weak protection of property rights by altering the proportion of working time across alternative activities (e.g., management, networking, studying), but they do not change the balance between work and leisure. The first auxiliary hypothesis that we test, thus, is twofold: whether private entrepreneurs with a past managerial experience in SOEs/TVEs work as much as their peers, and whether they allocate their time away from managerial activities and towards networking activities. Thus, we posit the following:

**Hypothesis 3a.** Entrepreneurs with previous top managerial experience in SOEs/TVEs devote an amount of time to working

<sup>9</sup> Dickel et al. (2021) focus on how childhood experiences and parental exposure to social entrepreneurship impact on affect social entrepreneurial activity in adulthood.

<sup>10</sup> We acknowledge that besides the channels we explore there may exist other potential channels. But due to the lack of data, more research is needed in the future when relevant data becomes available.

activities that are in line with what is done by other entrepreneurs, but they allocate a greater proportion of their time to networking activities.

The subsequent hypothesis we test is whether the firms run by entrepreneurs with previous managerial experience in SOEs/TVEs benefit or rather suffer, from such intense networking activities. Two opposite mechanisms could be at work. On the one hand, given that privately owned firms have been discriminated against severely in financial markets in China, those putting efforts into networking could have favourable access to credit and resources. On the other hand, the entrepreneurs' overinvestment in social connections could have various unintended effects that are detrimental to firm growth. Previous studies on China, for instance, suggest that firms' connections tend to increase the risks of expropriation by the local authorities in the form of implicit levies or as payments directed to please the officials. [Chen, Liu, and Su \(2013\)](#), for instance, show that access to bank loans and expropriation risks are positively correlated in China. To shed light on this indeterminacy, we test empirically whether the firms run by entrepreneurs with important experiences in the top management of SOEs/TVEs have an advantage in terms of access to credit and are subject to higher expropriation because of the entrepreneurs' over-nurturing of social connections. We posit the following auxiliary hypothesis, as follows:

**Hypothesis 3b.** Chinese private firms run by entrepreneurs with previous top managerial experience in SOEs/TVEs have an advantage in terms of access to credit, but are subject to higher expropriation.

### 2.1.2. *Entrepreneur's technical experience: the mechanisms*

Investment in R&D is a firm's strategic decision as it represents an allocation of operating profits towards risky activities. The literature has shown that entrepreneurs with a technical background tend to engage relatively more than others in the process and product innovation ([Arvanitis & Stucki, 2012](#); [Barker & Mueller, 2002](#); [Kato, Okamuro, & Honjo, 2015](#); [Klette & Kortum, 2004](#); [Protogerou, Caloghirou, & Vonortas, 2017](#); [Wang, Lo, & Yang, 2004](#)).<sup>11</sup> Moreover, entrepreneurs with technical knowledge may be more prone than others to address the challenges associated with innovation, as well as more responsive to new ideas and investment opportunities.

Whether this mechanism exerts a positive influence on the growth of firms run by entrepreneurs with technical experience, however, is far from settled in the literature. [Stuart and Abetti \(1990\)](#) conclude that previous technological and commercial experiences have no statistically significant effects on the growth of new technology-based firms, although they do find a positive correlation with the managerial experiences of the founders. [Ganotakis \(2012\)](#) reaches similar conclusions by showing that entrepreneurs' technical education has an adverse effect on the performance of new technology-based firms. [Nuscheler, Engelen, and Zahra \(2019\)](#) examine the impact of top management teams' skills stemming from previous education and work experiences on the success of product innovation and conclude that start-up experience is more important than technical education.

These controversial results suggest that whether the entrepreneurs' technical experience is associated with a stronger engagement in R&D and innovation remains an empirical question. Although private enterprises have historically played a key role in spurring innovation in China (in 2012, 65% of all the newly granted patents and 80% of all the new products were accounted for by private firms), there is still little evidence on what type of entrepreneurs' work experiences is conducive to higher investment in R&D and innovation outputs. Our prior is that managing R&D and innovation, as well as developing/marketing new products, requires specific knowledge that entrepreneurs without technical experience might not possess, especially in a country in transition such as China. Thus, we posit the following hypothesis.

**Hypothesis 4.** Chinese private firms run by entrepreneurs with previous technical experience undertake higher investments in R&D and generate more innovation outputs.

These auxiliary hypotheses help us to test only some of the various possible channels at work, but data availability constraints the possibility to address all the potential mechanisms.

### 2.1.3. *Entrepreneur's work experiences: local and individual mediating factors*

Entrepreneurs' previous work experiences interplay with the local institutional environment, interpreted as decision context. A rich literature has shown that property rights protection and law enforcement affect the orientation of the entrepreneurs' efforts towards innovative or rent-seeking activities ([Baumol, 1990](#)) as well as the performance of their firms (see [Acemoglu, Akcigit, Alp, Bloom, & Kerr, 2018](#); [Aghion & Howitt, 1992](#); [Aidt, 2003](#), among others). A bad system to protect property rights and an overbearing government tend to hurt firms' incentives to innovate ([North, 1991](#)) and a weak enforcement of the rule of law increases the entrepreneurs' concerns for government expropriation ([La Porta et al., 2002](#)): underinvestment, thus, is the most likely outcome of these circumstances. Moreover, several studies (such as [Ellis, Smith, & White, 2020](#), [Freund, Hallward-Driemeier, & Rijkers, 2016](#), [Pirtea, Sipos, & Ionescu, 2019](#), among the latest ones) show that bribery tends to reduce innovation efforts and innovation outputs, and that this effect is stronger when and where the quality of the institutions is lower.

But some other studies argue that corruption can actually enhance growth in developing countries ([Aidt, 2003](#)). The term 'efficiency-enhancing corruption' means that corruption provides firms the opportunity to bypass regulations that are extremely rigid and anti-business, so corruption provides an instrument for the firms to circumvent restrictions in a bad institutional environment,

<sup>11</sup> For instance, investigating a sample of publicly traded firms from 1989 to 1990, [Barker and Mueller \(2002\)](#) show that those companies run by CEOs with either career experience in engineering and R&D or advanced science-related education tend to invest more in R&D.

therefore facilitating economic growth, especially for firms with intensive networking activities.

Focusing on China, several studies confirm the negative impact of poor institutional quality on firm performances (Bin et al., 2020; Cull & Xu, 2005) and entrepreneurs' decision-making (Fan, Huang, Morck, & Yeung, 2017; Guo et al., 2014, 2017). However, as the top management in SOEs/TVEs tends to tackle institutional problems by engaging in rent-seeking activities and reducing the time devoted to management (Guo et al., 2014), it is possible that the private firms run by entrepreneurs with this kind of work experience get more government-controlled resources but are more penalized at the same time if located in areas with lower institutional quality.<sup>12</sup> So, the detrimental effects of government-related distortions may affect different firms heterogeneously. Hao and Lu (2018) find that stronger government intervention is associated with lower investment in R&D. Ayyagari, Demirgüç-Kunt, and Maksimovic (2014), for instance, provide evidence that innovative firms are more easily a victim of corruption and expropriation in adverse environments, and this reduces the incentives to innovate. Hence, the low quality of local institutions may negatively moderate the effect of the entrepreneur's technical experience on the growth of their firms. But how it moderates the effect of the entrepreneur's managerial experience in SOEs/TVEs on firms' growth is not clearly. In the presence of low-quality government institutions, expropriation by government officials can enhance firms' growth if it speeds-up access to valuable resources for firms with active networking activities (Lui, 1985; Méon & Weill, 2010; Du, Jian, Lai, Du, & Pei, 2015). Thus, we posit and test the following auxiliary hypotheses:

**Hypothesis 5a.** the growth of firms run by entrepreneurs with technology experience is reduced where the institutions are of lower quality, whereas this moderating effect on the growth of firms run by entrepreneurs with previous managerial experience in SOEs/TVEs is theoretically ambiguous.

As institution quality is not the only institutional dimension to control for, we also consider the moderating role of political and economic policy uncertainty. If networking activities provide privileged access to scarce resources in normal times, the expected value of personal connections is lower where the unexpected turnover of local officials is higher (Fisman & Gatti, 2002) and unexpected economic policy change is higher (Xu, 2011). Accordingly, local political and economic policy uncertainty may undermine the effectiveness of the entrepreneurs' networking activities and exert a stronger moderating impact on the entrepreneurs who previously worked as top managers in SOEs/TVEs. Thus, we posit and test the following auxiliary hypotheses:

**Hypothesis 5b.** the growth of firms run by entrepreneurs with previous managerial experience in SOEs/TVEs is reduced where regional political or economic policy uncertainty is higher.

It has been shown that self-perception impacts decision-making both directly (Kontogiannis, Litina, & Varvarigos, 2019) and indirectly, as a moderator of other cognitive biases.<sup>13</sup> Hence, the perceptions that the entrepreneurs have about their social and economic status may affect their actions and, ultimately, the performance of their firms.

A few studies have shown that the relative (economic, social and political) status of entrepreneurs is likely to have both direct and indirect effects on firm growth. Judge et al. (2001) shows that self-esteem is an important driver of job performance and, as pointed out by Koryak et al. (2015), it can interact with entrepreneurial cognition and motivation.<sup>14</sup> The relevant role of individual traits of the entrepreneur as mediators of other effects has already been established in China. Lu and Wu (2020), for instance, show that religiosity impacts the firm's performance as Chinese firms are more likely to obtain bank credit if the entrepreneurs have religious beliefs that stimulate networking activities; moreover, religiosity complements the social status of the entrepreneur for individuals with higher status exploit better their religious networks. Chen and Zhang (2017) find that the socio-economic status perceived by the entrepreneurs has a significant impact on private firms' charitable contributions in China, and Liu, Dai, Liao, & Wei, 2021 show that Chinese entrepreneurs with high social status are more prone to engage in social responsibility efforts.

Notwithstanding these empirical results, little is still known about how the entrepreneurs' perceived relative (economic, social and political) status interacts with the effects of past work experiences on firm growth. To the extent that entrepreneurs with higher self-perception tend to be more confident and take more risks, as suggested by the literature, we posit the following:

**Hypothesis 5c.** Among the entrepreneurs with technical experience, those with higher self-perception are associated with higher firm growth rates.

### 3. Data and the empirical model

#### 3.1. The dataset

The CPES is a nationally representative and repeated survey containing direct questions both on the entrepreneurs' experiences and on firms' performances. Our use of the CPES distinguishes this work from those studies on firm growth that explore balance sheet data

<sup>12</sup> Fan et al. (2017) show that Chinese firms tend to integrate vertically when they are located in places where the legal institutions are weak, as integration corrects for the presence of institutional shortcomings. As mentioned above, Guo et al. (2017) find that Chinese entrepreneurs, facing the risk of being subject to violations of their property rights, tend to spend large proportions of their working time on lobbying activities.

<sup>13</sup> Cossette (2015), Shepherd et al. (2015) and Zhang and Cueto (2017), among others, discuss the literature on the biases in the entrepreneurial decision-making.

<sup>14</sup> Self-perception and self-esteem differ from overconfidence (Busenitz & Barney, 1997; Camerer & Lovallo, 1999; Cieslik, Kaciak, & Stel, 2018; Zhang & Cueto, 2017), as well as self-efficacy (Bandura, 1977; Bandura, 1997; Miao, Qian, & Ma, 2017), and relate better with previous experience and educational background.

for the Above-scale Industrial Firms Panel, covering all State-owned industrial companies and large non-State-owned firms with sales above 5 million RMB (see, among others, Bin et al., 2020, Moschella et al., 2019, Yu et al., 2017). The CPES is particularly useful for two reasons. First, it corrects for the underrepresentation of small and medium private companies, and this is important given that, in 2010, small and medium-sized firms accounted for >50% of output in China. Second, the CPES is carried out nationwide through face-to-face interviews every two years, and the presence of recurrent questions makes it possible to derive comparable information both on the entrepreneur's characteristics (such as age, former work experience, education, religion, and political affiliation) and the firms' characteristics (age, size, sector, ownership structure, and legal status) and performances (growth, innovation, and the like) over time. It allows us to study the relationship between firm performance and the personal traits of entrepreneurs, an aspect that cannot be assessed using datasets that have exclusively balance sheet information. The four waves we consider, moreover, refer specifically to the period when the Chinese economy was deeply reformed and the authorities initiated the fully-fledged development of the private sector.

To ensure that the sample is representative in each wave of the survey, the great majority of the entrepreneurs are interviewed only once. Accordingly, the CPES is not suitable to build panel datasets and to carry out longitudinal analyses. The percentage of firms and entrepreneurs who take part in two consecutive waves is, in fact, very low, and the subsample of entrepreneurs interviewed twice is not representative of the entire population.<sup>15</sup> Notwithstanding the limitations associated with working with either a single CPES wave or pooled cross-sectional waves, the CPES is the best dataset for studying entrepreneurs and privately-owned firms in China. The large number of influential articles using this Survey is a sign of its popularity, which can be explained by several factors: its comprehensiveness and representativeness, the inclusion of information about both firms' characteristics and entrepreneurs' traits, and the repetition of some questions over time.<sup>16</sup>

Pooling several years is a well-known approach to studying the CPES data. Zhou (2011), Guo et al. (2014), and Li et al. (2008) consider several waves to assess the multifaceted implications of entrepreneurs' political connections. Liu et al. (2014) put together the 2000, 2002, and 2004 waves and analyse the impact of entrepreneurs' work experience in multinational companies on the return-on-equity of the private firms they run. Chen and Zhang (2017) scrutinize several waves after 1996 and show that the improvement in the social and economic status of private entrepreneurs after the reform in 2002 increases corporate giving. Liu et al. (2021) use seven surveys from 2000 to 2012 to show that Chinese entrepreneurs' social status is associated with different degrees of engagement in social responsibility efforts.

As in these studies, we pool the waves conducted in 2002, 2004, 2006, and 2010, after the reform period. After removing the firms with missing information, we construct a pooled non-overlapping cross-sections dataset containing 6520 entrepreneur-year observations across 14 industrial sectors for 31 provinces. The detailed distribution of our sample by province and by sector can be found in Table 1. The distribution by province is similar to that of the privately-owned firms reported in the Chinese Economic Census data in 2008, showing that our sample is indeed representative of the Chinese economy in the period under scrutiny. The variables that we derive from the CPES will be presented and discussed in Section 3.2, where we explain how we test the main and auxiliary hypotheses.

### 3.2. The empirical model and the variables of interest

The empirical specification adopted to study the relationship between firms' growth and the entrepreneurs' previous work experiences is as follows:

$$g_{i,t} = \alpha + \beta \text{Exp}_{i,t} + \delta \mathbf{Z}_{i,t} + \theta_j + \theta_t + \theta_p + \varepsilon_{i,t} \quad (1)$$

where  $g_{i,t}$  is a firm's annual rate of growth in sales (calculated as log differences) between the year  $t-1$  and  $t$ ,  $\text{Exp}_{i,t}$  is a vector of variables for the entrepreneurs' work experiences (either technical experience or top managerial experience in SOEs/TVEs) before establishing a private firm.  $\mathbf{Z}_{i,t}$  is a vector of entrepreneur-level and firm-level controls to account for possible confounding factors. To reduce problems of omitted variables, we include a set of industry ( $\theta_j$ ), province ( $\theta_p$ ) and year ( $\theta_t$ ) fixed effects, as usually done in the literature. Finally, considering that companies and entrepreneurs located in the same municipality may be affected by similar factors, and thus may be correlated, we cluster the standard errors at the municipal level following Petersen (2009) and Wang and Jing (2012).

As we are interested in entrepreneurial firms' growth, the main dependent variable is the annual growth rate of firm sales measured as the difference between the natural log of sales in the survey year and of sales in the year before. Table 2 shows that, in our sample, the average annual growth rate is around 20%, with large variation across firms.

As to the main explanatory variables, we introduce the two types of work experiences discussed above. As the strength of the effects of past experiences on future behaviour depends on their importance (Miller & Toulouse, 1998), we identify the most relevant experiences based on a specific question in the Survey, asking the entrepreneurs to identify the most important among their previous

<sup>15</sup> Marquis and Qiao (2020) manage to isolate only those respondents who appear in two consecutive waves. By doing so, for each of their firms, they calculate the lagged values of the covariates of interest. Although calculating lagged values is a valuable tool to address endogeneity concerns, it comes at the price of using a non-representative subsample of companies in the Survey (raising important selection issues). Moreover, the use of lagged covariates makes Marquis' and Qiao's analysis be based on pooled cross-sections. Hence, we preserve the representativeness of the sample and use simultaneous covariates on pooled cross-sections.

<sup>16</sup> In the literature, one can find several works using the CPES. Some studies use single waves (Degryse, Lu, & Ongena, 2016; Du, Jian, et al., 2015; Gao & Hafsi, 2015; Lu & Wu, 2020; Zhao & Lu, 2016), while others adopt multiple waves (Chen & Zhang, 2017; Guo et al., 2014; Li et al., 2008; Liu et al., 2014; Liu et al., 2021; Yang et al., 2020; Zhou, 2011).

**Table 1**  
Sample distribution.

Panel A: Composition by province								
Province	Sample	Percent	Province	Sample	Percent	Province	Sample	Percent
Anhui	176	2.7%	Hubei	261	4.0%	Shaanxi	217	3.3%
Beijing	209	3.2%	Hunan	152	2.3%	Shanghai	514	7.9%
Fujian	119	1.8%	Jilin	143	2.2%	Sicuan	184	2.8%
Gansu	120	1.8%	Jiangsu	912	14.0%	Tianjin	155	2.4%
Guangdong	484	7.4%	Jiangxi	159	2.4%	Tibet	12	0.2%
Guangxi	115	1.8%	Liaoning	221	3.4%	Xinjiang	75	1.2%
Guizhou	131	2.0%	Inner Mongolia	129	2.0%	Yunnan	74	1.1%
Hainan	137	2.1%	Ningxia	31	0.5%	Zhejiang	511	7.8%
Hebei	214	3.3%	Qinghai	77	1.2%	Chongqing	191	2.9%
Henan	175	2.7%	Shandong	396	6.1%			
Heilongjiang	103	1.6%	Shanxi	123	1.9%			

  

Panel B: Composition by industry					
Industry	2002	2004	2006	2010	Total
Agriculture, forestry, animal husbandry and fishing	93	133	88	203	517
Mining	15	19	22	60	116
Manufacturing	568	543	628	862	2601
Electric power, heat, gas and water production	12	18	16	25	71
Construction	79	78	65	123	345
Transportation and storage	39	32	26	68	165
Information technology	0	0	43	133	176
Wholesale and retail	363	0	285	423	1071
Hotels and catering services	0	307	68	102	477
Real estate	50	35	26	54	165
Rental and commercial service	0	0	13	30	43
Personal care & services	97	92	32	62	283
Science, education, culture and public health	58	59	47	62	226
Others	146	109	3	6	264
Total	1520	1425	1362	2213	6520

work experiences.<sup>17</sup> The alternatives that the respondents may choose from are: top managerial experience in SOEs/TVEs; top management in private, foreign and other kinds of firms; participation in a firm's technical staff; other non-managerial positions in a firm; former role as a bureaucrat; self-employment; veterans; farmers.<sup>18</sup>

Our attention falls on the entrepreneurs with past managerial experience in SOEs/TVEs because they are likely to have acquired a *forma mentis* and business practices able to influence their conduct in their private enterprises. We generate a dummy variable, *Exp\_M*, taking value one if the entrepreneur has been a member of the top management team in an SOE/TVE before setting up the private business, and zero otherwise. The other work experience that we consider, instead, refers to the entrepreneurs' familiarity with technology, as this is potentially associated with greater innovation efforts and outputs. We generate a dummy variable, called *Exp\_T*, that is equal to one if, before setting up the private business, the entrepreneur was part of the technical staff in any kind of firm. As can be seen from the summary statistics reported in Table 2, about 14% of entrepreneurs in our pooled sample state have relevant technical experience, whereas 21% were top managers in an SOE/TVE before setting up their private enterprises.

In the auxiliary regressions, we are interested in analysing the alleged mechanisms underpinning the growth results. In particular, we examine the entrepreneurs' allocation of time across alternative activities, the firms' relative exposure to access to credit and expropriation, and the companies' investment in R&D and innovation outputs. The functional form is as before, but for the adoption of different auxiliary dependent variables ( $adv_{i,t}$ ):

$$adv_{i,t} = \alpha + \beta Exp_{i,t} + \delta Z_{i,t} + \theta_j + \theta_i + \theta_p + \epsilon_{i,t} \quad (2)$$

The first of these auxiliary dependent variables is the total allocation of time, and the relative share devoted to managerial and to networking activities. Following Guo et al. (2017), the variable *WorkTime* is the total number of hours that the entrepreneur devotes on average every day to management, networking, and studying/learning activities. The variable *MngRatio* is the share of hours dedicated to management over the total working time, and it captures the relative importance attributed to it over alternative uses of the time. On

<sup>17</sup> The original question in the survey that is used to construct the past managerial experience in SOEs/TVEs and technical experience are presented in Appendix C.

<sup>18</sup> In 2006, 26% of our sample of entrepreneurs indicated to have had a top managerial position in SOEs/TVEs, 15% to have gained technical experience in a firm, 11% to have been a farmer, 2% to have been a cadre. The remaining share of respondents held one of the other positions not mentioned before.

**Table 2**  
Summary statistics.

Variable	N	Mean	S.D.	Min	P25	Median	P75	Max
Growth	6520	0.200	0.480	-1.390	0	0.170	0.340	2.150
Exp_T	6520	0.140	0.350	0	0	0	0	1
Exp_M	6520	0.210	0.410	0	0	0	0	1
CPC	6520	0.300	0.460	0	0	0	1	1
FormerCadre	6520	0.0500	0.210	0	0	0	0	1
PC	6520	0.410	0.950	0	0	0	0	5
PPCC	6520	0.800	1.190	0	0	0	2	5
CEOAge	6520	44.49	8.020	27	39	44	50	66
Gender	6520	0.130	0.330	0	0	0	0	1
Edu_dummy	6520	0.480	0.500	0	0	0	1	1
CEOShare	6520	0.710	0.270	0	0.500	0.750	1	1
FirmSize	6520	15.510	2.000	9.210	14.17	15.56	16.91	20.12
FirmAge	6520	8.130	4.390	1	5	7	11	20
ROS	6520	0.090	0.140	-0.160	0.020	0.050	0.110	0.720
Share_firm	6520	0.72	0.45	0	0	1	1	1
Board	6520	0.500	0.500	0	0	1	1	1
PR_d	5446	0.870	0.340	0	1	1	1	1
PR (ten thousand)	5446	10.15	21.29	0	1	3	10	150
Levy_d	4359	0.540	0.500	0	0	1	1	1
Levy (ten thousand)	4359	3.170	8.530	0	0	0.500	2	60
Fee_d	5050	0.800	0.400	0	1	1	1	1
Fee (ten thousand)	5050	17.06	58.24	0	0.400	2	8	463
WorkTime	6468	12.60	2.940	1	11	13	15	24
MngRatio	6468	0.580	0.170	0	0.500	0.600	0.700	1
BankLoan_d	6520	0.460	0.500	0	0	0	1	1
Bankloan (ten thousand)	6520	389.4	1199	0	0	0	180	8430
R&D_d	6520	0.400	0.490	0	0	0	1	1
R&D (ten thousand)	6520	43.16	152.5	0	0	0	10	1100
Patent	4139	0.780	2.860	0	0	0	0	20
Self design	4150	2.500	8.050	0	0	0	1	60
Corruption (*100)	5210	0.042	0.033	0.008	0.024	0.037	0.053	0.726
Cases (*100)	5000	0.34	0.118	0.056	0.252	0.3	0.427	0.674
Turnover	6520	0.190	0.390	0	0	0	0	1
EPU	6520	0.961	0.182	0.733	0.836	0.989	0.989	1.244
Self_Perception	6520	0.080	0.270	0	0	0	0	1

average, the entrepreneurs in the sample declare to spend, every day, 12.6 h on working activities, and 58% of these are devoted to management activities.

To measure preferential access to bank credit, we create a dummy variable, *BankLoan\_d*, that takes value one if the firm receives bank credit at the time of the survey and zero otherwise; we also define a quantitative measure of the loans, *LnBankLoan*, that is the natural logarithm of the value of bank loans received by the company. To measure firm expropriation in China, we follow other scholars and use firm-level data, namely informal levies, extra-legal payments and similar expenses paid by the companies to please local officials (Du, Lu, & Tao, 2015; Guo et al., 2017). These payments represent de facto non-tax levies imposed on firms and are considered as forms of expropriation. Accordingly, we generate two dummy variables: the first one, called *Levy\_d*, takes value one if the firm is paying informal levies, and the second one (*Fee\_d*) identifies the firm's spending for extra-legal payments. We also employ the natural logarithm of the levies (*LnLevy*) and the natural logarithm of the extra-legal payments (*LnFee*) to appreciate their monetary value. Interestingly, the literature has shown that entertainment expenses (e.g. eating, drinking, gifts, karaoke, and sports club membership) are not only used to reimburse legitimate business-related expenditures, but also to appease public officials (Cai, Fang, & Xu, 2011). Accordingly, we interpret entertainment expenses as a form of government expropriation, and adopt the dummy *PR\_d* to indicate those firms that pay such expenses, and the variable *LnPR* for the natural logarithm of their monetary value.

For another auxiliary regression, we explore the relationship between the entrepreneurs' past experience and the firm's investment in R&D and innovation outputs. We use two measures to capture firms' R&D input: *R&D\_d* is a dummy variable equal to one if the firm invests in R&D at the time of the survey, and zero otherwise; *LnR&D* is the logarithm of the total R&D investments. In terms of innovation outputs, instead, we use two variables as well: the first one, *Patent*, stays for the total number of patents owned by the firm in the year of the survey; the second one, *Self-Design*, is the total number of products designed by the firm.

As explained in Section 2, the impact of work experiences on firm performances is most likely moderated by local factors and personal characteristics. The quality of local institutions stands out among the usual suspects, and corruption seems very relevant because it affects the perceived risks and opportunities associated with networking activities, investment, and other strategic decisions. Following Fisman and Gatti (2002) and Glaeser and Saks (2006), we generate two variables to measure corruption. The variable, *Corruption*, is the ratio of the monetary value of corruption cases under direct investigation by procuratorates over GDP at the provincial level. Similarly, the variable, *Case*, is defined as the ratio of the number of corruption cases under direct investigation by procuratorates over the total number of the public employee. We also build measures of local political and economic policy uncertainty, as they can alter the entrepreneurs' incentives to allocate time and efforts across alternative activities. In fact, the net benefits

from networking, as well as the expropriation costs, may depend on the time and probability that an official remains in office and the stability of the economic policy. Accordingly, the variable *Turnover* captures the turnover of the party secretaries at the city level and the variable *EPU* is the economic policy uncertainty index for China developed by Baker, Bloom, and Davis (2016). Finally, among the entrepreneur-specific moderators, we look at the subjective perception of status in society. The CPES questionnaire asks the interviewees to indicate a value for the perceived social, political, and economic status, each in comparison to the other members of the community, on a Likert scale going from 1 (highest relative position) to 10 (lowest relative position). With this information, we build a dummy variable, *Self\_Perception*, that takes value 1 if at least one of the three variables has a value no larger than 2, and zero otherwise. This dummy identifies those entrepreneurs who have a high consideration of their own status, possibly due to elevated self-esteem.<sup>19</sup>

Although they are not variables of interest, we control for a number of entrepreneur-specific and firm-specific characteristics that may confound the estimations. As we cannot exploit the longitudinal dimension, the introduction of these variables, as well as of various fixed effects, contributes to reducing the risk of omitted variable bias.

As to what concerns the firm-specific characteristics, we control for the size and the age of the firm (*FirmSize*, *FirmAge*) as suggested by the literature (Coad & Holzl, 2012; Coad, Segarra, & Teruel, 2016), as well as the registration type (*Share\_firm*). *Share\_firm* is a dummy, and it is equal to 1 for a sole proprietorship, and zero, otherwise. The returns on sales (ROS) in the year of the survey are included to account for the effect of firm efficiency. To consider the fact that the quality of corporate governance may have effects on the firm, the presence (or lack thereof) of a board of directors is controlled for by a dummy variable (*Board*) taking value 1 if the firm has a board, and zero otherwise.

With regard to entrepreneur-specific variables, we include the entrepreneur's basic personal traits, namely gender, age, and education (Elston, Chen, & Weidinger, 2016). These variables are those identified in the literature as most relevant among the individual attributes and can be built using the information in the CPES. The dummy variable *Gender* takes value one when the entrepreneur is female and 0 otherwise. *FounderAge* is the logarithm transformation of the age of the entrepreneur at the time of the survey. *Edu* is a dummy equal to 1 when the entrepreneur has a bachelor's degree or higher, and zero otherwise. We include the variable *FounderShare*, calculated as the ratio of equity owned by the entrepreneur over total equity, as this allows us to distinguish those companies that rely more heavily on external financing from those in the hand of the entrepreneur. As firms that are established by wealthy individuals may face lower financial constraints in their subsequent growth (Colombo & Grilli, 2005) and given that firm wealth is often correlated with the human capital of the founder, controlling for this wealth effect is important to limit entrepreneur-specific confounding factors.

We then introduce measures of the political connections entertained by the entrepreneurs, as these might affect decision-making (Fan, Wong, & Zhang, 2007; Zhang, Marquis, & Qiao, 2016) and access to government-controlled resources, and ultimately impact firm performance (Faccio & Parsley, 2009; Li et al., 2008). It is important to notice that the effect of political connections and previous work experiences are distinct explanatory variables in our estimations; it follows that the implications of past managerial experience in SOEs/TVEs on the firm can be disentangled from the active participation of the entrepreneurs in the political life in a socialist environment. More precisely, we capture three dimensions: the membership to the CCP, previous work experience in the government, and participation in political activities.<sup>20</sup> The variable *CCP* is a dummy taking value one if the entrepreneur is a CCP member. *FormerCadre* is a dummy variable, whose value is equal to one if the entrepreneur was a bureaucrat at the county level or above, before starting the private business. As obtaining the membership in either the People's Congress (PC) or in the People's Political Consultative Conference (PPCC) is one of the main channels for participating in the political arena (Ma & Parish, 2006; Wang, Du, & Marquis, 2019), we build two categorical variables. *PC* is a categorical variable that identifies the entrepreneurs who are or were members of the People's Congress: it takes value 1 at the township level, 2 at the county level, 3 at the prefecture level, 4 at the province level and 5 at the national level (and it is equal to 0 if the entrepreneur has never been a member of the PC). The categorical variable *PPCC* is used to identify entrepreneurs who are current or former members of this body: it takes value 1 if the entrepreneur is/was a PPCC member at the township level, 2 at the county level, 3 at the prefecture level, 4 at the province level and 5 at the national level.<sup>21</sup>

Summary statistics of the main dependent variables, auxiliary dependent variables, independent variables, moderators and controls can be found in Table 2, including mean, median, standard deviation, minimum and maximums, and the number of observations. Detailed definitions for all the variables can be found in Appendix A.

#### 4. The empirical results

The main estimates of interest regard our two principal hypotheses (H1 and H2), and refer to the coefficients for the conditional correlation between the entrepreneurs' work experiences and the firms' growth rates. These coefficients are presented in Table 3.

<sup>19</sup> As often happens in surveys, the majority of the interviewees perceives to have a status that exceeds the median value in the community. This is, however, impossible by construction. Accordingly, to identify those entrepreneurs who are extremely more self-confident than the average, we focus on the top range of values (i.e., values 1 and 2).

<sup>20</sup> Political connections regard the relationships entertained by the entrepreneurs with politicians and bureaucrats because of their political position and institutional role. Only 7% and 2% of the entrepreneurs in our sample are, respectively, current and former members of the PC or of the PPCC at the prefecture level or above. Only 5% of the entrepreneurs have an experience as former government official. These figures confirm that most of the privately-owned firms in China are run by entrepreneurs and not by former politicians that were administratively appointed to run private companies.

<sup>21</sup> We use an ordinal number to consider that the membership at different levels may have different effects; our results remain valid if we use a dummy variable to indicate whether the entrepreneur is a current/former member at any level.

The specification reported in Column (1) includes only the dummy *Exp\_M* for the entrepreneur's managerial experience in SOEs/TVEs: the estimated coefficient is negative and statistically significant at the level of 0.05. This suggests that firms run by entrepreneurs with previous managerial experience in SOEs/TVEs exhibit, on average, lower growth rates than others. The results accord well with our prior regarding the [Hypothesis 1](#). In Column (2), we look at the entrepreneur's technical experience. The coefficient of *Exp\_T* turns out to be positive and statistically significant at the level of 0.01, thereby indicating that firms run by entrepreneurs with this experience enjoy a higher growth compared with the other firms, supporting [Hypothesis 2](#). In Column (3), we introduce both measures of work experience at the same time, and the results remain valid, even though the significance of *Exp\_T* is lower. The firms run by entrepreneurs with technical experience show a growth rate that is 4.8% higher than that of the firms run by entrepreneurs having neither technology experience nor managerial experiences in SOEs/TVEs; the growth rate of firms run by the latter type of entrepreneurs is 3% lower than those run by entrepreneurs without other experiences.

These results reveal that different types of past work experience exert heterogeneous effects on firms' performances. In particular, entrepreneurs' technical experience favours the growth of private firms, whereas managerial experience in SOEs/TVEs seems to lower it, *ceteris paribus*.

To uncover the channels potentially leading to these results, we test the auxiliary hypotheses connected with the mechanisms through which the entrepreneur's work experiences influence the current growth of their firms. [Table 4](#) reports the estimates for the overall time devoted to management, networking, and studying/learning activities (*WorkTime*) and the relative share of time allocated to management (*MngRatio*). The results support our prior and [Hypothesis 3a](#). Neither of the experiences is correlated with the total amount of time devoted to work, but previous managerial experience in SOEs/TVEs is negatively associated with the share of time dedicated to managerial activities. The significance of the coefficient is, however, tenuous.

[Table 5](#) reports the estimation for the [Hypothesis 3b](#) that regards whether firms run by entrepreneurs with past managerial experiences in SOEs/TVEs have preferential access to bank credit, but are subject to higher expropriation by the authorities.

As to bank credit, the results using each of the variables proxying for bank access concur: firms run by an entrepreneur with work experience in an SOE/TVE tend to have preferential access to bank loans, as suggested by the literature. The data provide evidence in support of the second part of [Hypothesis 3b](#) as well: firms run by entrepreneurs who were in the top management of SOEs/TVEs tend to be subject to higher expropriation. These results are robust across the variables used to proxy for expropriation (entertainment expenses, informal levies, extra-legal payments). These findings are in line with [Chen et al. \(2013\)](#), who show that access to bank loans and expropriation risks are positively correlated.

By reading the results in [Tables 3, 4 and 5](#) altogether, we conclude that the negative effects of expropriation risks and work time misallocation associated with excessive networking activities tend to overwhelm the positive effects deriving from gaining favourable access to bank credit. Our analysis, thus, provides some evidence that the continuation of this kind of managerial practices developed in SOEs during the centrally planned period makes the Chinese private firms run by entrepreneurs with previous work experience as top managers in SOEs/TVEs grow less than the other private firms.

Hypotheses 4 refers to the firms' investment in R&D and innovation outputs. Precisely, we test whether the companies run by entrepreneurs with a technical background exhibit higher investment in R&D and generate higher innovation outputs than the other private firms. The results in [Table 6](#) indicate that this is the case both in terms of input and output (i.e., patents and self-designed products). Our findings support the idea that entrepreneurs with previous technical experience tend to invest more in innovation-related strategies and obtain greater results, as suggested by [Kornai \(2013\)](#).<sup>22</sup> Our findings are robust to the simultaneous inclusion of both work experiences in the estimation, and the results are presented in Appendix B.

The last set of hypotheses to test regards the moderating factors. Hypotheses 5a and 5b regarding whether the relationship between the entrepreneurs' past experiences and firms' growth is influenced by the quality of local institutions and by political and economic policy instability. In [Table 7a](#) we report the estimates of the specifications with the interaction between previous work experiences and our measures of local institutional quality (*Corruption and Case*), and in [Table 7b](#), we report results with the interaction with political instability (*Turnover*) and economic policy instability (*EPU*).

The estimations provide evidence in favour of [Hypothesis 5a](#). The positive effect of an entrepreneur's technical experience on firm growth is weakened in those regions where the institutional quality is poorer and corruption is more widespread. This is because these external conditions limit the incentives to invest and to innovate, thereby reducing the relative growth advantage of firms run by entrepreneurs who would naturally be inclined to undertake investment in this direction. The negative impact of previous managerial experiences in SOEs/TVEs on firm growth, on the contrary, is not sensitive to local institution's quality, indicating that the cost and benefit associated with low institutional quality for firms with intensive rent-seeking or networking activities are cancelled out. And these results are robust to different measures of local institutional quality.

[Table 7b](#) shows that coefficients of the interaction terms between political and economic policy uncertainty and managerial experience in SOEs/TVEs are significant and negative, indicating that high political and economic policy uncertainty is detrimental to firms whose entrepreneurs have previous managerial experiences in SOEs/TVEs. As they are used to focusing on rent-seeking and

<sup>22</sup> Additional results (produced in [Table B.2](#) in Appendix B) show that the firms run by entrepreneurs formerly involved in the top management of SOEs/TVEs are less prone to innovate. This is in line with their being imprinted by the culture and strategies acquired in the SOEs/TVEs. These findings, together with those in the [Tables 4 and 5](#) suggest that these entrepreneurs do not use favourable access to credit to boost R&D investment, possibly because of the greater expropriation risks we documented before. This conclusion is different from what found in studies focusing on advanced economies; [Faleyev, Kovacs, and Venkateswaran \(2014\)](#), [Ferris, Javakhadze, and Rajkovic \(2017\)](#) and [Ferris, Javakhadze, and Rajkovic \(2019\)](#) find a positive relationship between the CEO's social capital and risky investment.

**Table 3**  
Entrepreneur's work experiences and firm growth.

	(1)	(2)	(3)
	Growth	Growth	Growth
Exp_M	-0.034* (-2.194)		-0.031* (-1.992)
Exp_T		0.051** (2.764)	0.048** (2.623)
CPC	0.007 (0.525)	0.007 (0.531)	0.009 (0.691)
FormerCadre	0.033 (1.008)	0.012 (0.370)	0.031 (0.931)
PC	-0.018** (-2.839)	-0.018** (-2.738)	-0.018** (-2.763)
PPCC	-0.026*** (-4.998)	-0.026*** (-4.987)	-0.026*** (-4.974)
FounderAge	-0.137*** (-3.905)	-0.149*** (-4.294)	-0.141*** (-4.006)
Gender	0.029 (1.606)	0.031 <sup>+</sup> (1.685)	0.030 (1.631)
Edu	-0.017 (-1.386)	-0.024 <sup>+</sup> (-1.883)	-0.022 <sup>+</sup> (-1.722)
FounderShare	0.097*** (3.923)	0.101*** (4.063)	0.099*** (4.002)
FirmSize	0.075*** (16.571)	0.075*** (16.585)	0.075*** (16.624)
FirmAge	-0.133*** (-11.402)	-0.133*** (-11.396)	-0.134*** (-11.438)
ROS	0.187** (3.198)	0.195*** (3.341)	0.192** (3.276)
Board	-0.014 (-1.029)	-0.015 (-1.045)	-0.014 (-0.987)
Share_firm	0.006 (0.461)	0.005 (0.378)	0.005 (0.373)
Industry FE	Yes	Yes	Yes
Year FE	Yes	Yes	Yes
Province FE	Yes	Yes	Yes
N	6520	6520	6520
adj. R <sup>2</sup>	0.105	0.106	0.106

*t* statistics in parentheses. Standard errors are clustered at the municipality level.

<sup>+</sup>  $p < 0.1$ .

\*  $p < 0.05$ .

\*\*  $p < 0.01$ .

\*\*\*  $p < 0.001$ .

networking, their firms are penalized by a higher turnover of local authorities or instability of the economic policy; this reinforces the overall negative impact of this type of previous work experience on firm growth. Our estimates support [Hypothesis 5b](#).<sup>23</sup>

To conclude, we test auxiliary [Hypothesis 5c](#), that is whether the firms run by entrepreneurs with a technical background and a high subjective evaluation of their status tend to grow more. [Table 7c](#) shows that this is the case. This suggests that, in line with [Koellinger \(2008\)](#), self-confident entrepreneurs might put more effort on R&D and innovation to enhance firm growth, thereby creating a self-enforcing cycle whereby entrepreneurs who believe to be recognized as successful undertake more innovative projects. The entrepreneur's perceived social status, instead, is not relevant for the firms run by entrepreneurs with managerial experience in SOEs/TVEs, as expected.<sup>24</sup>

## 5. Robustness checks: self-selection and omitted variables problems

The results discussed in [Section 4](#) suggest that private companies founded by entrepreneurs with technical experience enjoy higher growth rates, while firms whose entrepreneurs were top managers in SOEs/TVEs exhibit inferior growth rates. Notwithstanding the robustness of the results across the specifications, in this Section we tackle the possible presence of sample selection problems and

<sup>23</sup> The impact of the entrepreneurs' technical experience on firm growth is not affected by the local officials' turnover; this is in line with expectations, as these firms tend to work more on the basis of market-related mechanisms.

<sup>24</sup> In [Appendix B](#), we report empirical specifications in which we introduce simultaneously the variables associated with both entrepreneurs' previous experiences. All the results are robust, but we report these estimations in the appendix because our auxiliary hypotheses on the mechanisms through which work experiences affect firm growth are specific to the types of experiences considered.

**Table 4**  
Entrepreneur's work experiences and working time allocation.

	(1)	(2)	(3)	(4)	(5)	(6)
	WorkTime	WorkTime	WorkTime	MngRatio	MngRatio	MngRatio
Exp_M	-0.004 (-0.042)		0.005 (0.051)	-0.009 <sup>+</sup> (-1.763)		-0.010 <sup>+</sup> (-1.842)
Exp_T		0.151 (1.432)	0.151 (1.431)		-0.006 (-1.046)	-0.007 (-1.169)
CPC	0.017 (0.202)	0.024 (0.292)	0.024 (0.286)	-0.002 (-0.527)	-0.003 (-0.750)	-0.003 (-0.596)
FormerCadre	-0.021 (-0.110)	-0.027 (-0.149)	-0.030 (-0.157)	-0.010 (-0.928)	-0.016 (-1.480)	-0.010 (-0.890)
PC	0.085* (1.963)	0.087* (2.001)	0.087* (2.001)	-0.008*** (-3.509)	-0.008*** (-3.520)	-0.008*** (-3.542)
PPCC	0.091** (2.668)	0.091** (2.683)	0.091** (2.682)	-0.007*** (-4.157)	-0.008*** (-4.187)	-0.007*** (-4.169)
FounderAge	-0.050 (-0.224)	-0.060 (-0.273)	-0.062 (-0.277)	0.067*** (5.340)	0.064*** (5.205)	0.067*** (5.382)
Gender	-0.240* (-2.172)	-0.238* (-2.160)	-0.238* (-2.158)	0.019** (3.001)	0.019** (3.042)	0.019** (2.990)
Edu	-0.032 (-0.403)	-0.046 (-0.567)	-0.046 (-0.569)	-0.029*** (-6.504)	-0.029*** (-6.486)	-0.028*** (-6.337)
FounderShare	0.484** (3.253)	0.490** (3.296)	0.490** (3.294)	-0.021* (-2.467)	-0.020* (-2.434)	-0.021* (-2.500)
FirmSize	0.136*** (5.775)	0.137*** (5.807)	0.137*** (5.798)	-0.008*** (-6.321)	-0.008*** (-6.405)	-0.008*** (-6.337)
FirmAge	0.146* (2.182)	0.145* (2.164)	0.145* (2.164)	0.003 (0.752)	0.003 (0.810)	0.003 (0.769)
ROS	0.334 (1.126)	0.346 (1.168)	0.347 (1.169)	-0.035* (-2.214)	-0.035* (-2.177)	-0.036* (-2.252)
Board	0.132 (1.547)	0.134 (1.574)	0.134 (1.570)	0.001 (0.227)	0.001 (0.154)	0.001 (0.208)
Share_firm	0.001 (0.013)	-0.003 (-0.030)	-0.003 (-0.030)	-0.022*** (-4.316)	-0.022*** (-4.269)	-0.022*** (-4.277)
Industry	Yes	Yes	Yes	Yes	Yes	Yes
Year	Yes	Yes	Yes	Yes	Yes	Yes
Province	Yes	Yes	Yes	Yes	Yes	Yes
N	6468	6468	6468	6468	6468	6468
adj. R <sup>2</sup>	0.041	0.041	0.041	0.087	0.087	0.087

t statistics in parentheses. Standard errors are clustered at the municipality level.

<sup>+</sup>  $p < 0.1$ .

\*  $p < 0.05$ .

\*\*  $p < 0.01$ .

\*\*\*  $p < 0.001$ .

omitted variables that affect the estimations.<sup>25</sup>

Entrepreneurs do not decide to establish a new firm randomly, in particular when they hold a top managerial position in an SOE/TVE, or when they excel in certain technical activities. Entrepreneurs' previous work experience, thus, may be associated with other individual traits that possibly affect the growth of the private firm. For instance, younger entrepreneurs could both have higher technical expertise and establish companies in fast-growing market niches. In general, one cannot rule out the possibility of assortative matching between high- and low-growth companies and certain types of work experience. Moreover, it is possible that firms founded by entrepreneurs with different previous experiences are systematically different in certain aspects that, in turn, determine the growth differentials of their firms. For example, firms run by entrepreneurs with technical experience may perform better simply because they are larger than the others, and firm size is positively associated with firm growth. While we control for firm size in the estimations, we do not allow for a differentiated effect of size across types of experiences and of different experiences across the firm dimension.

To alleviate these issues, we follow the approach adopted by Liu et al. (2014) to assess whether entrepreneurs with previous work experience in multinational companies outperform their counterparts run by entrepreneurs without such experience. As they are concerned that more capable entrepreneurs may self-select into multinational enterprises before launching their private companies, they use a nonparametric way to identify the actual effect of work experience in multinational companies (i.e., the "treatment" effect)

<sup>25</sup> Other usual concerns affecting estimations are reversed causality and omitted variables. While possibly present, we believe that they are not very relevant here. As we regress entrepreneurial firm's current growth on the entrepreneur's prior working experience, the specification cannot suffer from reverse causality problems due to the time lag. Moreover, to reduce problems from omitted variables, we include a large set of entrepreneur's characteristics, firm's characteristics, as well as a set of industry ( $\theta_j$ ), province ( $\theta_p$ ) and year ( $\theta_t$ ) fixed effects. For this reason, we focus on sample selection issues connected with assortative matching between high/low growth firms and types of work experiences.

**Table 5**  
Entrepreneur's work experiences: access to bank credit and expropriation.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	BankLoan_d	lnBankLoan	PR_d	lnPR	Levy_d	lnLevy	Fee_d	lnFee
Exp_M	0.165 <sup>+</sup> (2.193)	0.420 <sup>+</sup> (1.881)	0.278 <sup>*</sup> (2.217)	0.305 <sup>*</sup> (2.517)	0.283 <sup>**</sup> (3.259)	0.687 <sup>***</sup> (3.539)	0.216 <sup>+</sup> (1.951)	0.295 <sup>+</sup> (1.883)
CPC	0.118 <sup>+</sup> (1.846)	0.276 (1.482)	-0.029 (-0.297)	-0.029 (-0.270)	0.176 <sup>*</sup> (2.348)	0.397 <sup>*</sup> (2.374)	0.104 (1.149)	0.173 (1.329)
FormerCadre	0.175 (1.130)	0.576 (1.271)	0.031 (0.091)	-0.054 (-0.269)	0.365 <sup>+</sup> (1.715)	0.543 (1.429)	-0.122 (-0.391)	-0.101 (-0.361)
PC	0.120 <sup>***</sup> (3.775)	0.473 <sup>***</sup> (4.978)	0.042 (0.739)	0.065 (1.314)	0.071 <sup>+</sup> (1.912)	0.183 <sup>*</sup> (2.202)	0.045 (0.949)	0.138 <sup>*</sup> (2.085)
PPCC	0.133 <sup>***</sup> (5.072)	0.420 <sup>***</sup> (5.345)	0.016 (0.368)	0.032 (0.762)	0.025 (0.826)	0.085 (1.241)	0.057 (1.530)	0.082 (1.558)
FounderAge	-0.524 <sup>**</sup> (-3.042)	-1.279 <sup>**</sup> (-2.652)	-0.055 (-0.208)	-0.156 (-0.528)	-0.502 <sup>*</sup> (-2.499)	-1.188 <sup>**</sup> (-2.662)	-0.463 <sup>*</sup> (-1.980)	-0.662 <sup>+</sup> (-1.955)
Gender	-0.195 <sup>*</sup> (-2.200)	-0.499 <sup>*</sup> (-2.127)	-0.090 (-0.739)	-0.182 (-1.202)	0.034 (0.339)	0.092 (0.412)	-0.034 (-0.289)	-0.049 (-0.265)
Edu	-0.160 <sup>*</sup> (-2.550)	-0.201 (-1.126)	0.070 (0.734)	0.207 <sup>*</sup> (1.967)	-0.023 (-0.316)	-0.029 (-0.178)	-0.157 <sup>+</sup> (-1.801)	-0.128 (-1.026)
FounderShare	0.076 (0.656)	0.103 (0.303)	0.006 (0.032)	0.026 (0.126)	0.380 <sup>**</sup> (2.770)	0.755 <sup>*</sup> (2.434)	0.062 (0.373)	0.064 (0.251)
FirmSize	0.353 <sup>***</sup> (17.878)	1.253 <sup>***</sup> (23.871)	0.291 <sup>***</sup> (9.647)	0.685 <sup>***</sup> (19.746)	0.155 <sup>***</sup> (7.150)	0.494 <sup>***</sup> (10.580)	0.217 <sup>***</sup> (8.068)	0.693 <sup>***</sup> (17.399)
FirmAge	0.180 <sup>***</sup> (3.461)	0.523 <sup>***</sup> (3.582)	0.088 (1.170)	0.210 <sup>*</sup> (2.424)	0.125 <sup>*</sup> (2.077)	0.318 <sup>*</sup> (2.393)	0.221 <sup>**</sup> (3.158)	0.400 <sup>***</sup> (3.800)
ROS	1.316 <sup>***</sup> (5.548)	3.633 <sup>***</sup> (6.009)	1.855 <sup>***</sup> (5.234)	3.678 <sup>***</sup> (9.062)	2.195 <sup>***</sup> (7.895)	5.748 <sup>***</sup> (10.104)	2.129 <sup>***</sup> (6.278)	4.885 <sup>***</sup> (10.041)
Board	0.154 <sup>*</sup> (2.382)	0.544 <sup>**</sup> (2.854)	0.107 (1.071)	0.175 (1.574)	0.247 <sup>**</sup> (3.252)	0.649 <sup>***</sup> (3.785)	0.040 (0.439)	0.140 (1.021)
Share_firm	-0.034 (-0.470)	0.015 (0.071)	0.031 (0.287)	0.092 (0.737)	-0.149 <sup>+</sup> (-1.790)	-0.316 <sup>+</sup> (-1.711)	0.033 (0.336)	0.086 (0.585)
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Province FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	6520	6520	5440	5446	4359	4359	5050	5050
Pseudo/ adj. R <sup>2</sup>	0.157	0.240	0.119	0.178	0.091	0.127	0.168	0.225

t statistics in parentheses. Standard errors are clustered at the municipality level.

<sup>+</sup>  $p < 0.1$ .

<sup>\*</sup>  $p < 0.05$ .

<sup>\*\*</sup>  $p < 0.01$ .

<sup>\*\*\*</sup>  $p < 0.001$ .

on firm performance. In a similar fashion, we adopt the propensity score matching (PSM) method proposed by Rosenbaum and Rubin (1985) to calculate the average treatment effects (ATT) of different types of prior work experiences, so as to disentangle the effects due to self-selection from the impact of interest.

First, to identify the treatment effect of technical experience on firm growth, we use the PSM approach to match firms founded by entrepreneurs with technical experience with other firms. This match is based on various criteria that help to predict the probability that the firm's founder has previous technical experience. Following Liu et al. (2014), we use a logit model in which we include the entrepreneur's age when she/he founded the venture, the gender and the education background, together with the industrialization level for the exclusive restriction. This model provides an estimate of the probability that a given firm is founded by entrepreneurs with technical experience, given his/her attributes. Industry, province and year-fixed effects are also included in the estimations. Thanks to this auxiliary logit regression, we build a control group of firms run by entrepreneurs with no previous technical experience that are not statistically different from those runs by entrepreneurs.

Panels A and B of Table 8 show the balancing property of our matching exercise. In Panel A we compare firms run by entrepreneurs with technical experience with the unmatched sample, and find that there are significant differences between the two groups in terms of almost all the criteria (with the exception of gender). On the contrary, after the matching, the firms run by entrepreneurs with technical experience do not differ systematically from the matched sample, thereby suggesting that the matching specification is able to identify a comparable control group for the treated group. The estimated ATT is reported in Panel C of Table 8. Firms run by entrepreneurs with technical experience exhibit significantly higher growth rates than the firms in the matched control group: this finding strengthens the validity of the main results presented in Section 4, as it ensures that they are not driven by self-selection processes.

To identify the treatment effect of past managerial experience in SOEs/TVEs, we use again the PSM approach to create a control group. The entrepreneur's age when the venture was founded, his/her gender, education background, CCP membership, and privatization degree (as well as industry, province and year fixed effects) are used for the matching. It is worth noticing that the CCP

**Table 6**  
Entrepreneurs' work experiences and firm investment in R&D and innovation outputs.

	(1)	(2)	(3)	(4)
	R&D_d	lnR&D	Patent	Self design
Exp_T	0.223*** (4.415)	0.828*** (4.202)	0.060* (2.224)	0.099** (2.619)
CPC	0.058 (1.479)	0.215 (1.418)	-0.038+ (-1.862)	-0.050+ (-1.663)
FormerCadre	-0.039 (-0.430)	-0.243 (-0.667)	0.039 (0.976)	0.099+ (1.665)
PC	0.033+ (1.703)	0.185* (2.337)	0.033* (2.573)	0.051** (2.882)
PPCC	0.090*** (5.627)	0.364*** (5.672)	0.026** (2.922)	0.043*** (3.527)
FounderAge	-0.067 (-0.638)	-0.344 (-0.889)	0.106* (2.023)	0.030 (0.406)
Gender	-0.072 (-1.282)	-0.286 (-1.482)	-0.059** (-2.601)	-0.006 (-0.159)
Edu	0.224*** (5.761)	0.995*** (6.828)	0.116*** (5.761)	0.172*** (5.810)
FounderShare	0.085 (1.162)	0.324 (1.162)	-0.041 (-0.964)	0.059 (0.988)
FirmSize	0.159*** (13.514)	0.740*** (17.237)	0.037*** (6.087)	0.048*** (5.500)
FirmAge	0.121*** (3.693)	0.486*** (4.048)	0.018 (1.208)	0.043+ (1.886)
ROS	0.717*** (4.988)	3.017*** (6.136)	0.180** (2.828)	0.212* (2.305)
Board	0.199*** (4.907)	0.875*** (5.623)	0.076*** (3.712)	0.120*** (3.968)
Share_firm	0.023 (0.506)	0.199 (1.189)	0.012 (0.573)	0.068* (2.012)
Industry FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
Province FE	Yes	Yes	Yes	Yes
N	6520	6520	4307	4307
adj. R <sup>2</sup>		0.279	0.123	0.168
pseudo R <sup>2</sup>	0.212			

t statistics in parentheses. Standard errors are clustered at the municipality level.

+  $p < 0.1$ .

\*  $p < 0.05$ .

\*\*  $p < 0.01$ .

\*\*\*  $p < 0.001$ .

membership and privatization degree are present only in this matching exercise, as these characteristics are not relevant to predict past technical experience. This exclusion restriction allows us to identify the two groups. Panel B of Table 8 shows that a comparable control group can be identified also in this case. There are no systematic differences between the treated and the control groups after the matching, whereas the differences are significant with respect to the unmatched sample. The estimated ATT, reported in Panel C, indicates that past managerial experience in SOEs/TVEs has a negative and significant impact on growth. Again, this evidence supports our interpretation of the empirical findings presented in Section 4.

As pointed out by one of the referees, one of the disadvantages of PSM methodology is its inability to capture the effects of unobservable variables. Missing variables such as entrepreneur's capability may co-exist with entrepreneurs' prior experience and contribute to the firm's growth. To further address the omitted variables, we conduct a two-stage estimation with an instrumental variable (IV).

Since 1997, the private sector started to play an important role in boosting the transition from a centrally planned to a market-oriented economy (Jian et al., 2021; McMillan & Woodruff, 2002). Although the legal status of private enterprises was eventually recognized in 1997, private ownership has been discriminated (Guo et al., 2014). Serving as a member of the top management team in SOEs/TVEs not only brings higher social status but also a lot of non-monetary benefits and a tenured position (Xin, Bao, & Hu, 2019). So top managers in the state sector are less likely to resign and found their own business unless they were either encouraged by local vibrant entrepreneurship or forced by government-initiated privatization. Building on this argument, we construct a variable (*PrivtEnv*) to measure the level of privatization at the prefecture-level as our IV for past managerial experience in SOEs/TVEs. *PrivtEnv* is defined as the ratio of the number of newly privatized firms over the total number of newly registered firms in the year the entrepreneurial firm was founded, and the data is from China Basic Statistical Units Yearbook. We expect that there is a positive relationship between our IV and prior managerial experience, indicating that top managers in the state sector are more likely to become entrepreneurs if they were in the regions with vibrant entrepreneurship and emerging private sector. However, it is unlikely that the level of privatization when the firm was founded is correlated with the errors that affect the firms' current growth. Therefore, we are confident

**Table 7a**  
Entrepreneur's work experiences, firm growth and local institutional quality.

	(1)	(2)	(3)	(4)	(5)	(6)
	Growth	Growth	Growth	Growth	Growth	Growth
Exp_M	-0.049 <sup>+</sup> (-1.945)		-0.045 <sup>+</sup> (-1.785)	-0.090 <sup>+</sup> (-1.863)		-0.081 <sup>+</sup> (-1.666)
Exp_T		0.143*** (3.552)	0.139*** (3.450)		0.164** (2.697)	0.158** (2.591)
Corruption	-0.340 (-1.456)	-0.206 (-0.927)	-0.232 (-0.993)			
Exp_M*Corruption	0.160 (0.348)		0.187 (0.401)			
Exp_T*Corruption		-1.811* (-2.256)	-1.776* (-2.218)			
Case				-0.078 (-0.582)	0.022 (0.162)	-0.023 (-0.168)
Exp_M*Case				0.191 (1.367)		0.177 (1.270)
Exp_T*Case					-0.293 <sup>+</sup> (-1.882)	-0.283 <sup>+</sup> (-1.816)
CPC	-0.005 (-0.348)	-0.005 (-0.329)	-0.002 (-0.151)	0.010 (0.683)	0.012 (0.815)	0.014 (0.912)
FormerCadre	0.031 (0.881)	0.002 (0.069)	0.026 (0.728)	0.021 (0.567)	0.011 (0.312)	0.016 (0.435)
PC	-0.015* (-2.076)	-0.015* (-1.997)	-0.015* (-1.986)	-0.021** (-2.909)	-0.021** (-2.814)	-0.021** (-2.830)
PPCC	-0.022*** (-3.910)	-0.022*** (-3.911)	-0.022*** (-3.894)	-0.026*** (-4.148)	-0.026*** (-4.131)	-0.026*** (-4.109)
FounderAge	-0.115** (-2.976)	-0.130*** (-3.409)	-0.120** (-3.114)	-0.119** (-2.826)	-0.132** (-3.183)	-0.124** (-2.954)
Gender	0.029 (1.422)	0.031 (1.512)	0.030 (1.468)	0.030 (1.429)	0.031 (1.481)	0.030 (1.449)
Edu	-0.015 (-1.079)	-0.023 (-1.629)	-0.021 (-1.476)	-0.013 (-0.870)	-0.019 (-1.321)	-0.018 (-1.200)
FounderShare	0.082** (2.879)	0.088** (3.089)	0.085** (3.022)	0.126*** (4.461)	0.131*** (4.641)	0.129*** (4.574)
FirmSize	0.076*** (15.308)	0.076*** (15.319)	0.076*** (15.374)	0.075*** (14.408)	0.075*** (14.446)	0.075*** (14.472)
FirmAge	-0.138*** (-10.681)	-0.138*** (-10.671)	-0.139*** (-10.719)	-0.156*** (-10.964)	-0.156*** (-10.993)	-0.156*** (-11.021)
ROS	0.147* (2.053)	0.162* (2.268)	0.158* (2.214)	0.200** (3.177)	0.210*** (3.340)	0.207** (3.283)
Board	-0.022 (-1.375)	-0.021 (-1.325)	-0.020 (-1.265)	-0.011 (-0.672)	-0.010 (-0.602)	-0.009 (-0.560)
Share_firm	-0.000 (-0.019)	-0.001 (-0.095)	-0.002 (-0.109)	0.001 (0.069)	-0.000 (-0.027)	-0.001 (-0.034)
_cons	-0.330 <sup>+</sup> (-1.889)	-0.286 <sup>+</sup> (-1.655)	-0.323 <sup>+</sup> (-1.854)	-0.312 (-1.625)	-0.308 (-1.619)	-0.318 <sup>+</sup> (-1.654)
Industry	Yes	Yes	Yes	Yes	Yes	Yes
Year	Yes	Yes	Yes	Yes	Yes	Yes
Province	Yes	Yes	Yes	Yes	Yes	Yes
N	5210	5210	5210	5000	5000	5000
adj. R <sup>2</sup>	0.108	0.110	0.110	0.112	0.113	0.114

*t* statistics in parentheses. Standard errors are clustered at the municipality level.

<sup>+</sup>  $p < 0.1$ .

\*  $p < 0.05$ .

\*\*  $p < 0.01$ .

\*\*\*  $p < 0.001$ .

that this instrument is likely to satisfy both the relevancy and exogeneity conditions.

External environment and perception of opportunities shape individuals' decision-making (Shepherd, Williams, & Patzelt, 2015). Individuals may learn techniques and then work as the technical staff of a company if they regard the learning and accumulation of technical knowledge to be promising. We use the variable, *TechEnv*, as the IV for prior technical experiences. It is the ratio of total industrial value added over GDP at the provincial level in the year when the entrepreneur was 14, and the data is obtained from China Compendium of Statistics 1949–2018. We expect that there is a positive relationship between this IV and entrepreneurs' prior technical experiences. The development of the industrial sector shape individuals' decisions on which subject to learn when they were 14 and just graduated from middle school. In regions with better-developed industrial sectors, individuals were influenced to hold a positive view of being technical staff of a company, and they are more likely to learn and accumulate technical experience. But, as a

**Table 7b**  
 Entrepreneur's work experiences, firm growth and political and economic instability.

	(1)	(2)	(3)	(4)	(5)	(6)
	Growth	Growth	Growth	Growth	Growth	Growth
Exp_M	-0.022 (-1.282)		-0.019 (-1.093)	0.131 (1.605)		0.129 (1.578)
Exp_T		0.050* (2.457)	0.048* (2.322)		0.156+ (1.698)	0.170+ (1.855)
Turnover	-0.006 (-0.406)	-0.018 (-1.205)	-0.006 (-0.360)			
Exp_M*Turnover	-0.073* (-2.048)		-0.074* (-2.079)			
Exp_T*Turnover		0.001 (0.026)	0.003 (0.080)			
EPU				-0.177*** (-5.174)	-0.172*** (-5.107)	-0.150*** (-4.113)
Exp_M*EPU				-0.184* (-2.171)		-0.179* (-2.099)
Exp_T*EPU					-0.103 (-1.043)	-0.124 (-1.251)
CPC	0.007 (0.501)	0.007 (0.505)	0.009 (0.669)	0.003 (0.202)	0.003 (0.231)	0.006 (0.438)
FormerCadre	0.032 (0.964)	0.012 (0.364)	0.029 (0.888)	0.056+ (1.757)	0.037 (1.242)	0.048 (1.503)
PC	-0.018** (-2.829)	-0.018** (-2.735)	-0.018** (-2.752)	-0.018** (-2.807)	-0.018** (-4.345)	-0.018** (-2.731)
PPCC	-0.026*** (-5.030)	-0.026*** (-5.009)	-0.026*** (-5.003)	-0.022*** (-4.323)	-0.023*** (-4.345)	-0.023*** (-4.376)
FounderAge	-0.134*** (-3.816)	-0.148*** (-4.264)	-0.138*** (-3.917)	-0.156*** (-4.449)	-0.171*** (-4.934)	-0.159*** (-4.547)
Gender	0.029 (1.584)	0.030+ (1.660)	0.029 (1.607)	0.024 (1.342)	0.026 (1.431)	0.025 (1.397)
Edu	-0.016 (-1.280)	-0.023+ (-1.836)	-0.021 (-1.617)	-0.031* (-2.515)	-0.039** (-3.138)	-0.036** (-2.850)
FounderShare	0.097*** (3.916)	0.100*** (4.050)	0.099*** (3.992)	0.118*** (4.795)	0.123*** (4.971)	0.120*** (4.871)
FirmSize	0.075*** (16.577)	0.075*** (16.609)	0.075*** (16.629)	0.074*** (16.495)	0.074*** (16.547)	0.074*** (16.600)
FirmAge	-0.134*** (-11.436)	-0.133*** (-11.416)	-0.134*** (-11.470)	-0.143*** (-12.334)	-0.143*** (-12.293)	-0.143*** (-12.322)
ROS	0.188** (3.206)	0.195*** (3.327)	0.192** (3.285)	0.160** (2.791)	0.169** (2.942)	0.166** (2.897)
Board	-0.015 (-1.057)	-0.015 (-1.081)	-0.014 (-1.014)	0.000 (0.006)	-0.001 (-0.060)	0.000 (0.006)
Share_firm	0.007 (0.514)	0.005 (0.390)	0.006 (0.426)	-0.003 (-0.206)	-0.004 (-0.279)	-0.004 (-0.269)
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	No	No	No
Province FE	Yes	Yes	Yes	Yes	Yes	Yes
N	6520	6520	6520	6520	6520	6520
adj. R <sup>2</sup>	0.106	0.106	0.106	0.098	0.099	0.100

t statistics in parentheses. Standard errors are clustered at the municipality level.

+  $p < 0.1$ .

\*  $p < 0.05$ .

\*\*  $p < 0.01$ .

\*\*\*  $p < 0.001$ .

historical variable at the aggregated level, this IV is exogenous from the current growth of the individual firms.

The two-stage estimations are reported in Table 9. Column (1) and (3) present the results for the first-stage regressions. Consistent with our expectation, *PrivtEnv* is significantly and positively correlated with the prior managerial experience, and *TechEnv* is significantly and positively correlated with the prior technical experiences, confirming the relevance of the IVs. The second-stage regression results are reported in Column (2) and (4). In Column (2), the coefficient of the instrumented prior managerial experience in SOEs/TVEs is significantly negative, while the instrumented prior technical experience is significantly positive. Such results confirm that prior managerial experience in SOEs/TVEs is detrimental to firms' growth but the prior technical experience is beneficial to firms' growth. In sum, the results of the two-stage estimates are consistent with those of the baseline regressions. Thus, the causal relationships between different types of prior experience and firms' growth are confirmed.

**Table 7c**  
Entrepreneur's work experiences and entrepreneur's perceived status.

	(1)	(2)	(3)
	Growth	Growth	Growth
Exp_M	-0.031 <sup>+</sup> (-1.913)		-0.028 <sup>+</sup> (-1.754)
Exp_T		0.039* (2.083)	0.036 <sup>+</sup> (1.934)
Self_perception	0.021 (0.800)	-0.008 (-0.341)	0.001 (0.055)
ExpM*Self_perception	-0.035 (-0.720)		-0.036 (-0.741)
ExpT*Self_perception		0.149* (2.060)	0.152* (2.098)
CPC	0.007 (0.500)	0.006 (0.440)	0.008 (0.590)
FormerCadre	0.035 (1.038)	0.012 (0.392)	0.033 (1.009)
PC	-0.019** (-2.904)	-0.018** (-2.801)	-0.018** (-2.837)
PPCC	-0.026*** (-5.034)	-0.026*** (-5.072)	-0.026*** (-5.055)
FounderAge	-0.137*** (-3.907)	-0.148*** (-4.282)	-0.140*** (-3.987)
Gender	0.029 (1.624)	0.031 <sup>+</sup> (1.717)	0.030 <sup>+</sup> (1.672)
Edu	-0.017 (-1.384)	-0.023 <sup>+</sup> (-1.843)	-0.021 <sup>+</sup> (-1.668)
FounderShare	0.097*** (3.913)	0.101*** (4.059)	0.099*** (3.999)
FirmSize	0.074*** (16.308)	0.075*** (16.352)	0.075*** (16.382)
FirmAge	-0.133*** (-11.415)	-0.133*** (-11.424)	-0.134*** (-11.468)
ROS	0.187** (3.187)	0.195*** (3.328)	0.191** (3.266)
Board	-0.014 (-1.026)	-0.015 (-1.054)	-0.014 (-0.991)
Share_firm	0.006 (0.444)	0.006 (0.413)	0.006 (0.397)
Industry FE	Yes	Yes	Yes
Year FE	Yes	Yes	Yes
Province FE	Yes	Yes	Yes
N	6520	6520	6520
adj. R <sup>2</sup>	0.105	0.106	0.107

t statistics in parentheses. Standard errors are clustered at the municipality level.

<sup>+</sup>  $p < 0.1$ .

\*  $p < 0.05$ .

\*\*  $p < 0.01$ .

\*\*\*  $p < 0.001$ .

## 6. Closing remarks

By exploiting a rich and representative dataset on private entrepreneurs in China, in this work we test the relationship between the growth rates of private companies after the liberalization of the private sector and the entrepreneurs' prior work experiences. The implications of imprinting effects on private firms during the transition period is important to improve our understanding of the contribution that economic, cultural and policy factors play in transition economies.

We find that the entrepreneurs' past work experiences did exercise an impact on firm performance. We provide some evidence that this is likely due to the fact that different past work experiences influenced the entrepreneurs' practices and strategies, which in turn affected the growth rates of their private firms. In particular, we show that the firms run by entrepreneurs with previous technical experience grew more than the other firms, whereas the companies run by individuals with past top managerial experience in SOEs/TVEs expanded relatively less than their counterparts.

By investigating some of the main mechanisms at work that the theory suggests as potentially conducive to such relationships between firm growth and different types of past work experiences, we find that entrepreneurs imprinted by top managerial experiences in SOEs/TVEs allocate less working time to managerial activities than to networking activities, thereby bringing them scarce resources but exposing them to even higher expropriation by the local authorities. We also show that the firms run by entrepreneurs with technical experience invest more in R&D and produce more innovation outputs, which in turn are plausible determinants of the

**Table 8**  
Propensity score matching and average treatment effect of different types of experiences.

Panel A: Balancing test for firms run by entrepreneurs with managerial experiences in SOEs/TVEs						
Variables	Sample	Mean		Mean-diff		
		Treated	Control	Treated-control	t	
PrivtEnv	Unmatched	0.138	0.150	-0.012	-1.027	
	matched	0.148	0.150	-0.003	-0.196	
CPC	Unmatched	0.282	0.447	-0.165***	-10.650	
	matched	0.422	0.445	-0.023	-1.191	
CEO Age0 (log)	Unmatched	3.553	3.637	-0.084***	-11.485	
	matched	3.629	3.636	-0.008	-0.947	
Gender	Unmatched	0.134	0.100	0.033***	3.020	
	matched	0.091	0.101	-0.009	-0.811	
Education	Unmatched	0.411	0.590	-0.179***	-10.893	
	matched	0.559	0.588	-0.028	-1.441	

  

Panel B: Balancing test for firms run by entrepreneurs with technical experiences						
Variables	Sample	Mean		Mean-diff		
		Treated	Control	Treated-control	t	
TechEnv	Unmatched	0.400	0.414	-0.014*	-1.888	
	matched	0.407	0.414	-0.008	-0.626	
CEO Age0 (log)	Unmatched	3.551	3.573	-0.022**	-2.437	
	matched	3.567	3.565	0.002	0.165	
Gender	Unmatched	0.135	0.128	0.007	0.494	
	matched	0.118	0.132	-0.014	-0.808	
Education	Unmatched	0.402	0.623	-0.221***	-11.552	
	matched	0.574	0.637	-0.063**	-2.424	

  

Panel C: ATT for different types of experiences						
Treated variables	On support obs	ATT	S.E.	z-value	P-value	
PSM						
Exp_T	1618	0.056	0.026	2.08**	0.038	
Exp_M	2452	-0.046	0.024	-1.88*	0.060	

\*, \*\* or \*\*\* indicates a significance level at 10%, 5% and 1% respectively.

positive growth differential characterizing these firms.

Local and personal factors moderate the impact of the entrepreneurs' previous work experiences on firm growth. In the post-reform period under investigation, the quality of the local institutions and political and economic policy uncertainty in China affect the entrepreneurs' ability to fruitfully engage with the local authorities and bureaucrats and their willingness to invest in innovation. Specifically, the positive effect of previous technical experience on firm growth appears to be lower where institutional quality is poorer and corruption is more widespread, and the negative effect of prior managerial experience in SOEs/TVEs on firm growth is more pronounced when local political environments and economic policies are characterized by high uncertainty: the effectiveness of the entrepreneur's efforts to exploit networking activities is lower, and this negatively affects firm growth. As to the moderating factors associated with individual features, we show that the firms run by entrepreneurs with a technical background and with a high subjective perception of social status did grow relatively more than the others: probably, this is because a high level of self-esteem makes the entrepreneur take more risks and develop innovative projects.

Our empirical findings have a number of important implications for those interested in development, cultural change and the dynamics of the economies in transition, and China in particular. The analysis reveals that there is a risk that the new entrepreneurs who held previous positions in SOEs/TVEs may reproduce the schemes learned in previous organizations during the centrally planned economy. Entrepreneurs with important managerial experiences in SOEs/TVEs may devote too much attention to networking activities and too little effort to push R&D and generate innovation, thereby exposing their companies to expropriation by the local authorities and reducing their growth opportunities. This phenomenon may hamper the transformation of the economy. Although two decades have passed since the beginning of the privatization spree in China, several practices used in SOEs during the centrally planned economy have been transferred into new private companies, with controversial results in terms of innovation and growth.

As said, weak local institutions seem to increase the negative impact of the entrepreneurs' past top managerial experience in SOEs/TVEs and reduce the positive effect of the entrepreneurs' technical experience. This suggests evidence that improving the local institutional environment is of utmost importance for the growth of all companies in China, and that such a positive impact works through different mechanisms across firms and entrepreneurs.

Notably, our findings shed also some light on the outcomes of the privatization of SOEs in China. As many private enterprises were

**Table 9**  
Instrument variable.

	(1)	(2)	(3)	(4)
	Exp_M	Growth	Exp_T	Growth
Exp_M		-0.619** (-2.779)		
Exp_T				0.496* (2.348)
PrivtEnv	0.441* (2.124)			
TechEnv			0.954* (2.434)	
CPC	0.279*** (6.613)	0.044* (2.162)	-0.252*** (-5.034)	0.031+ (1.934)
FormerCadre	1.846*** (17.336)	0.395** (2.806)	0.056 (0.608)	0.006 (0.200)
PC	-0.009 (-0.400)	-0.019** (-2.787)	-0.052* (-2.146)	-0.015* (-2.151)
PPCC	0.012 (0.673)	-0.025*** (-4.770)	-0.024 (-1.221)	-0.024*** (-4.407)
FounderAge	1.099*** (9.314)	0.015 (0.234)	0.547*** (3.726)	-0.185*** (-4.760)
Gender	-0.158* (-2.523)	0.007 (0.369)	-0.002 (-0.029)	0.031+ (1.684)
Edu	0.225*** (5.224)	0.013 (0.751)	0.421*** (8.883)	-0.065** (-2.940)
FounderShare	-0.192* (-2.417)	0.075** (2.687)	-0.200* (-2.312)	0.124*** (4.670)
FirmSize	0.032** (2.598)	0.080*** (16.003)	-0.019 (-1.438)	0.077*** (16.500)
FirmAge	-0.063+ (-1.765)	-0.142*** (-11.515)	0.044 (1.109)	-0.138*** (-11.353)
ROS	-0.551*** (-3.316)	0.115+ (1.752)	-0.377* (-2.294)	0.220*** (3.546)
Board	0.125** (2.740)	0.004 (0.261)	-0.079 (-1.624)	-0.008 (-0.555)
Share_firm	-0.024 (-0.476)	0.002 (0.114)	0.142* (2.533)	-0.007 (-0.427)
_cons	-5.899*** (-11.623)	-0.914*** (-3.495)	-4.058*** (-5.392)	-0.239 (-1.460)
Industry	Yes	Yes	Yes	Yes
Year	Yes	Yes	Yes	Yes
Province	Yes	Yes	Yes	Yes
N	6288	6288	6274	6274
adj. R <sup>2</sup>		0.106		0.108
pseudo R <sup>2</sup>	0.165		0.109	

t statistics in parentheses. Standard errors are clustered at the municipality level.

+  $p < 0.1$ .

\*  $p < 0.05$ .

\*\*  $p < 0.01$ .

\*\*\*  $p < 0.001$ .

and still are created out of Management Buy Out operations, the reliance of the entrepreneurs on their prior experience as managers in SOEs/TVEs is likely. This, in turn, may be detrimental to the growth performance of these private firms. The growth of privatized SOEs depends not only on the change in the ownership structure, as commonly assumed, but also on the entrepreneurs' past experiences. This represents a new perspective on the policies that might enhance the success of SOE privatizations: helping the entrepreneurs and the top management to open up to different perspectives may lead to better individual and aggregate performances. This contributes to progress along the lines suggested by He, Lu, and Qian (2019) and Huang, Liu, and Li (2020), who advocate the need to improve our understanding of the peculiar traits of entrepreneurship in China and, at a time characterized by generous entrepreneurship support (e. g., Mass Entrepreneurship and Innovation initiative), to adopt more sophisticated policies with a view to raising the quality of entrepreneurship.

Our findings, thus, bear directly upon policy-making. Improving the quality of local institutions and creating incentives for entrepreneurs to free themselves from managerial practices inherited from the socialist era are important objectives to foster firm growth. Although the participation in the top management of SOEs/TVEs in the socialist period will continue to exercise some influence on the entrepreneurs' approach to business, raising their awareness about the phenomenon may be an important ingredient for the successful transition towards a fast-growing market-oriented economy. Encouraging entrepreneurial undertakings by those who have prior technical experiences may contribute to increasing aggregate growth and economic dynamics, and, ultimately, ensure the overall

success of the privatization program.

## Data availability

The authors do not have permission to share data.

## Appendix A

**Table A.1**

Definition of the variables.

Variable	Definition
<b>Main dependent variables</b>	
Growth	The difference between the natural log of sales in the survey year and of sales in the year before.
<b>Independent Variable</b>	
Exp_M	Dummy variable equal to one if the entrepreneur was a member of the top management in an SOE or a TVE before setting up the private business.
Exp_T	Dummy variable equal to one if the entrepreneur was a member of the technical staff of a firm before setting up the private business.
<b>Owner characteristics</b>	
CPC	Dummy variable equal to one if the entrepreneur is a CCP member.
FormerCadre	Dummy variable equal to one if the entrepreneur was former government official at the prefecture-level governments or above.
PC	Categorical variable equal to 1 if the entrepreneur has been a member of the PC at the township level, 2 at the county level, 3 at the prefecture level, 4 at the province level and 5 at the national level (0 never).
PPCC	Categorical variable equal to 1 if the entrepreneur is/was a member of the PPCC at the township level, 2 at the county level, 3 at the prefecture level, 4 at the province level and 5 at the national level.
Gender	Dummy variable equal to one if the entrepreneur is a female.
CEO_Age	Logarithm of the age of the entrepreneur in the year of the survey.
Edu_d	Logarithm of the total schooling years of the entrepreneur.
CEO_Share	Percentage of equity held by the entrepreneur.
<b>Firm characteristics</b>	
FirmSize	Logarithm of the total employees of the firm in the year of the survey.
FirmAge	Logarithm of the age of the firm in the year of the survey.
ROS	The returns over sales of the firm in the year of the survey.
Board	Dummy variable equal to one if the firm has a board of directors.
Share_firm	Dummy variable equal to one if the entrepreneur is sole proprietorship.
<b>Auxiliary dependent variables</b>	
<b>Time and effort</b>	
WorkTime	Total number of daily hours that the entrepreneur devotes to management, networking, and learning activities
MngRatio	Ratio of hours devoted to management over the total working time in the year of the survey.
<b>Access to bank credit</b>	
Bank Loan_d	Dummy variable equal to one if the firm receives bank credit in the year of the survey.
lnBank Loan	Logarithm of the value of the bank loans received by the firm.
<b>Government Expropriation</b>	
Fee_d	Dummy variable equal to one if the firm pays extra-legal payments in the survey year.
lnFee	Logarithm of one plus the total extra-legal payments in the year of the survey.
PR_d	Dummy variable equal to one if the firm pays entertainment expenses in the year of the survey.
lnPR	Logarithm of the sum of one plus the total entertainment costs in the survey year.
Levy_d	Dummy variable equal to one if the firm pays informal levies in the year of the survey.
lnLevy	Logarithm of the sum of one plus the levy in the survey year.
<b>R&amp;D Input and Output</b>	
R&D	Dummy variable equals to one if the firm invested in R&D at the time of the survey and zero otherwise.
lnR&D	Logarithm of one plus the value of the R&D investments.
Patents	Logarithm of one plus the total number of patents owned by the firm in the year of the survey.
Self_Design	Logarithm of one plus the total number of products self-designed by the firm.
<b>Mediating factors</b>	
<b>Institution Quality</b>	
Corruption	The ratio of monetary value of corruption cases under direct investigation by procuratorates over GDP at the provincial level.
Cases	The ratio of the number of corruption cases under direct investigation by procuratorates over the total number of public employees.
Turnover	Dummy variable equal to one if the party secretary in the city where the firm is located changed in the year of the survey.
EPU	The economic policy uncertainty index for China developed by Baker et al. (2016).
<b>Self-perception</b>	
Self perception	Dummy variable identifying the entrepreneurs with a high perceived status.

Appendix B

**Table B.1**  
Entrepreneur's work experiences: bank credit and expropriation.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	BankLoan_d	lnBankLoan	PR_d	lnPR	Levy_d	lnLevy	Fee_d	lnFee
Exp_M	0.161* (2.140)	0.401 <sup>†</sup> (1.792)	0.290* (2.299)	0.319** (2.620)	0.297*** (3.403)	0.714*** (3.668)	0.230* (2.065)	0.308* (1.962)
Exp_T	-0.062 (-0.727)	-0.315 (-1.315)	0.167 (1.170)	0.214 <sup>†</sup> (1.650)	0.219* (2.168)	0.429* (1.976)	0.160 (1.237)	0.197 (1.220)
CPC	0.115 <sup>†</sup> (1.799)	0.261 (1.403)	-0.023 (-0.231)	-0.019 (-0.175)	0.183* (2.446)	0.413* (2.462)	0.110 (1.211)	0.181 (1.390)
FormerCadre	0.179 (1.152)	0.594 (1.309)	0.019 (0.056)	-0.067 (-0.335)	0.353 <sup>†</sup> (1.662)	0.521 (1.374)	-0.129 (-0.413)	-0.111 (-0.398)
PC	0.120*** (3.755)	0.470*** (4.943)	0.044 (0.771)	0.068 (1.368)	0.074* (1.968)	0.187* (2.249)	0.047 (0.981)	0.140* (2.106)
PPCC	0.133*** (5.069)	0.419*** (5.331)	0.016 (0.382)	0.033 (0.770)	0.025 (0.819)	0.085 (1.240)	0.057 (1.529)	0.081 (1.550)
FounderAge	-0.520** (-3.017)	-1.254** (-2.600)	-0.069 (-0.261)	-0.175 (-0.590)	-0.522** (-2.593)	-1.228** (-2.750)	-0.476* (-2.036)	-0.677* (-1.996)
Gender	-0.195* (-2.209)	-0.501* (-2.138)	-0.091 (-0.746)	-0.181 (-1.193)	0.035 (0.347)	0.094 (0.418)	-0.034 (-0.288)	-0.048 (-0.262)
Edu	-0.155* (-2.447)	-0.172 (-0.956)	0.059 (0.609)	0.190 <sup>†</sup> (1.778)	-0.040 (-0.544)	-0.063 (-0.385)	-0.168 <sup>†</sup> (-1.909)	-0.145 (-1.148)
FounderShare	0.073 (0.630)	0.090 (0.266)	0.010 (0.056)	0.035 (0.172)	0.386** (2.808)	0.766* (2.468)	0.066 (0.400)	0.071 (0.280)
FirmSize	0.352*** (17.872)	1.252*** (23.858)	0.291*** (9.639)	0.686*** (19.754)	0.157*** (7.205)	0.497*** (10.637)	0.217*** (8.074)	0.693*** (17.408)
FirmAge	0.180*** (3.469)	0.526*** (3.603)	0.085 (1.129)	0.207* (2.390)	0.122* (2.040)	0.313* (2.353)	0.219** (3.135)	0.398*** (3.786)
ROS	1.310*** (5.520)	3.606*** (5.954)	1.868*** (5.266)	3.700*** (9.097)	2.225*** (8.002)	5.799*** (10.208)	2.147*** (6.322)	4.901*** (10.071)
Board	0.153* (2.367)	0.540** (2.833)	0.110 (1.100)	0.178 (1.606)	0.250*** (3.293)	0.655*** (3.818)	0.043 (0.472)	0.143 (1.045)
Share_firm	-0.033 (-0.448)	0.023 (0.110)	0.026 (0.237)	0.086 (0.693)	-0.157 <sup>†</sup> (-1.884)	-0.330 <sup>†</sup> (-1.787)	0.026 (0.270)	0.080 (0.545)
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Province FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	6520	6520	5440	5446	4359	4359	5050	5050
adj. R <sup>2</sup>		0.240		0.178		0.128		0.225
pseudo R <sup>2</sup>	0.157		0.119		0.092		0.168	

t statistics in parentheses.

<sup>†</sup> p < 0.1.

\* p < 0.05.

\*\* p < 0.01.

\*\*\* p < 0.001.

**Table B.2**  
Entrepreneur's work experiences: investment in R&D and innovation output.

	(5)	(6)	(3)	(6)
	R&D_d	lnR&D	Patent	Self design
Exp_M	0.085 <sup>†</sup> (1.781)	0.221 (1.191)	-0.030 (-1.166)	-0.042 (-1.167)
Exp_T	0.229*** (4.535)	0.844*** (4.277)	0.059* (2.192)	0.098** (2.586)
CPC	0.053 (1.335)	0.200 (1.313)	-0.037 <sup>†</sup> (-1.777)	-0.048 (-1.590)
FormerCadre	-0.089 (-0.936)	-0.377 (-0.981)	0.058 (1.337)	0.126* (2.001)
PC	0.033 <sup>†</sup> (1.712)	0.186* (2.348)	0.032* (2.560)	0.051** (2.871)
PPCC	0.090*** (5.619)	0.364*** (5.666)	0.025** (2.919)	0.043*** (3.524)
FounderAge	-0.090	-0.404	0.113*	0.039

(continued on next page)

Table B.2 (continued)

	(5)	(6)	(3)	(6)
	R&D_d	lnR&D	Patent	Self design
Gender	(-0.850) -0.068 (-1.219)	(-1.036) -0.278 (-1.443)	(2.141) -0.060** (-2.639)	(0.523) -0.008 (-0.197)
Edu	0.219*** (5.603)	0.980*** (6.712)	0.118*** (5.835)	0.174*** (5.876)
FounderShare	0.090 (1.229)	0.337 (1.206)	-0.041 (-0.968)	0.059 (0.984)
FirmSize	0.159*** (13.454)	0.739*** (17.176)	0.037*** (6.102)	0.049*** (5.527)
FirmAge	0.123*** (3.742)	0.489*** (4.076)	0.017 (1.157)	0.042+ (1.837)
ROS	0.729*** (5.078)	3.044*** (6.195)	0.177** (2.783)	0.208* (2.257)
Board	0.197*** (4.853)	0.869*** (5.584)	0.077*** (3.752)	0.121*** (4.006)
Share_firm	0.023 (0.501)	0.200 (1.192)	0.012 (0.575)	0.068* (2.013)
Industry FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
Province FE	Yes	Yes	Yes	Yes
N	6520	6520	4307	4307
adj. R <sup>2</sup>		0.279	0.123	0.168
pseudo R <sup>2</sup>	0.213			

t statistics in parentheses.

+  $p < 0.1$ .

\*  $p < 0.05$ .

\*\*  $p < 0.01$ .

\*\*\*  $p < 0.001$ .

## Appendix C

Table C.1

The question in the survey used to construct prior experience.

What was your the most important experience among their previous work experiences?		
A. Party and government organizations, institutional cadres	(1) General cadres <input type="checkbox"/>	(2) Administrative cadres <input type="checkbox"/>
	(3) County level cadres <input type="checkbox"/>	(4) Above-county level cadres <input type="checkbox"/>
	(5) Technical cadres <input type="checkbox"/>	(6) Teachers <input type="checkbox"/>
B. State-owned enterprises or Township and Village Collectively owned enterprises	(1) major principal <input type="checkbox"/>	(2) Mid-level managerial personnel <input type="checkbox"/>
	(3) Technical personnel <input type="checkbox"/>	(4) Sales personnel <input type="checkbox"/>
	(5) Other staff, workers <input type="checkbox"/>	
C. Foreign enterprises	(1) major principal <input type="checkbox"/>	(2) Mid-level managerial personnel <input type="checkbox"/>
	(3) Technical personnel <input type="checkbox"/>	(4) Sales personnel <input type="checkbox"/>
	(5) Other staff, workers <input type="checkbox"/>	
D. Enterprises based in Hong-Kong, Macao and Taiwan	(1) major principal <input type="checkbox"/>	(2) Mid-level managerial personnel <input type="checkbox"/>
	(3) Technical personnel <input type="checkbox"/>	(4) Sales personnel <input type="checkbox"/>
	(5) Other staff, workers <input type="checkbox"/>	
E. Other enterprises	(1) major principal <input type="checkbox"/>	(2) Mid-level managerial personnel <input type="checkbox"/>
	(3) Technical personnel <input type="checkbox"/>	(4) Sales personnel <input type="checkbox"/>
	(5) Other staff, workers <input type="checkbox"/>	
F. Agricultural sector	(1) Village cadres <input type="checkbox"/>	(2) Peasants <input type="checkbox"/>
G. Self-employed entrepreneurs <input type="checkbox"/>	H. Soldiers <input type="checkbox"/>	(3) Immigrate workers <input type="checkbox"/>
J. Foreign students, workers <input type="checkbox"/>	I. Unemployed <input type="checkbox"/>	
	K. Other (please, specify): _____	

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