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Exploring the influence of political connections and managerial overconfidence on R & D intensity in China's large-scale private sector firms

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ABSTRACT

Political ties and managerial cognitive biases, specifically overconfidence, have been identified as affecting firm-level R & D processes and outcomes. Here we further conceptually and empirically explore how these two factors may influence R & D intensity in an emerging market context. Our empirical results, based on panel data from 1293 Chinese publicly listed firms (between 2010 and 2014) show, contrary to some previous research, that stronger formal political ties somewhat reduce firm-level R & D intensity. Greater overconfidence in managers, by contrast, increases R & D intensity. Interestingly, moreover, overconfidence positively moderates the relationship between political ties and R & D intensity to the extent that the weak negative relationship becomes positive in the presence of overconfidence. Our results highlight the role of managerial mindset as an important determinant of R & D intensity in the emerging market context.

1. Introduction

Are political ties and managerial overconfidence important factors shaping innovation in emerging market contexts? In developed markets, political ties may create the reassurances and certainty required to undertake large-scale, risky exploratory innovation projects (Kim, 2017). In emerging markets contexts, however, owing to weaker institutional environments, political ties may be of potentially even greater importance. Complex government to business inter-relationships, substituting for formal institutions, often develop in emerging markets. These relationships may potentially influence managerial and firm behaviours in important ways, including those related to firm R & D investments. To date, however, comparatively little research has looked at the influence of political connections on firm R & D intensity in emerging market contexts (Cumming et al., 2016; Gu and Lundvall, 2006; Lin et al., 2011; Song et al., 2015; Wu, 2011; Zhang et al., 2015). Its findings, moreover, are somewhat mixed.

The impact of the psychological traits of key executives has attracted research interest in the developed market context (Hirshleifer et al., 2012). Managerial cognitive biases, specifically managerial overconfidence (sometimes also referred to as managerial hubris), has consistently been identified as an important positive determinant of firm innovation intensity, output and efficiency in developed markets (where the focus has been upon patenting outputs and risk-taking behavior) (Hirshleifer et al., 2012; Tang et al., 2015). It has been argued that owing to the significant risks involved in much innovation, ignorance of the true magnitude of these risks may actually make overconfident managers more suitable for firms looking to innovate (Galasso and Simcoe, 2011). This character trait, of course, could also be especially important in the more uncertain, difficult and risky context of an emerging market (Li and Tang, 2010; Tang et al., 2015). Again, weak domestic institutions and imperfect markets intensify the potential hurdles and challenges to innovation. We thus also look to consider the impacts of bounded rationality in an emerging market context. We do so via the use of the now established construct of managerial overconfidence (De Bondt and Thaler, 1995; Herz et al., 2014).

Finally, we consider ways in which managerial overconfidence and political ties may interact to influence innovation in an emerging market context. In particular, we explore the conditions under which political connections affect R & D intensity. We show that cognitive biases play an important role in positively moderating the impact of political connections on R & D intensity. This, we argue, is because overconfident managers, as well as doing more, pursue qualitatively different types of innovation. These are typically more exploratory, as opposed to exploitative projects, which more readily benefit more from

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political ties.

We make three main contributions. First, using a large-scale panel data set we cast further light on the relationship between managerial political connections and R & D intensity in an emerging market context, China's large-scale private sector companies. Extant literature has argued that political connections facilitate access to investment capital and substitute for the weak private property rights found in underdeveloped institutional environments and can therefore be beneficial for innovation (Cumming et al., 2016; Lin et al., 2011). Interestingly, however, we find evidence to the contrary, suggesting political ties in isolation may weakly retard R & D intensity. Second, while managerial hubris is often associated with negative outcomes for firms, we advance further evidence for the positive impacts of such hubris with regards to firm innovation intensity. There may be especially good reasons for thinking such biases play an important role in the more unpredictable and challenging market environments of developing economies and those undergoing transition. Third, we identify managerial overconfidence as an important moderator of the relationship between political ties and R & D intensity. We thus identify managerial cognitive bias as a key driver of innovation intensity in China's private sector, suggesting that the mind-set of senior managers may affect innovation intensity in quite important ways in emerging market contexts.

The remainder of this paper is structured as follows. Section 2 lays out the research hypotheses; Section 3 presents the research design; Section 4 describes the sample and data, reports the empirical results, and discusses the findings; Section 5 concludes.

2. Conceptual background and hypotheses

Given conflicting evidence and arguments, we first outline two competing hypotheses regarding the possible impacts of political ties on innovation intensity in China. Second, we develop a hypothesis regarding the potentially positive impacts of overconfidence. Thirdly, we consider the possible moderating influences of overconfidence on the impact of political ties on innovation intensity. Specifically, we argue that overconfidence is associated with particular types of innovative activities, ones that more readily benefit from having such ties. Further, overconfident managers are better placed to exploit the potential of such ties.

2.1. The impacts of managerial political connections on firm R & D intensity

There are comparatively few studies looking at the impact of political ties on innovation in China, either in terms of innovation outcomes (like patenting) or inputs (such as R & D intensity) (Cumming et al., 2016; Lin et al., 2011; Song et al., 2015; Wu, 2011; Zhang et al., 2015). There are, however, a number of studies on the impacts of political ties on firm performance (i.e. financial performance, share price and so on) (Faccio, 2010). Their findings, however, are rather mixed. Some find that political ties enhance financial performance (Guo et al., 2014; Li et al., 2008; Sheng et al., 2011; Zhou, 2009). Such ties, it is argued, may do so by providing a number of benefits, including: better financial resources (i.e. via state banks) (Li et al., 2008; Zhou, 2009); intellectual property rights protection in a weak legal institutional environment (Cumming et al., 2016); access to reliable, higher quality information (Song et al., 2015); and other supportive policies (i.e. favourable regulations, reduced tax rates and the like). Other studies, by contrast, argue (and empirically verify) that political ties may actually drag firms away from market-oriented goals and lead them into a variety of unproductive activities (Fan et al., 2007). Political affiliations, in particular, may “ossify organizational routines” (Wu, 2011: 1151) and lead to involvement in projects that support local political objectives (i.e. fostering employment, short-term profit maximisation to sure up local government budget deficits and the like), as opposed to firm profitability (Fan et al., 2007). This school of thought, therefore, shows by contrast that there are negative impacts on performance (Fan et al., 2007).

Turning to the limited research that talks more directly to the links between political ties and firm-level innovation in China, one is again left with equivocal findings and competing arguments (Cumming et al., 2016; Song et al., 2015; Wu, 2011; Zhang et al., 2015). Cumming et al. (2016) for example, have recently argued that political ties increase access to direct governmental financing for private sector firms. They find there is also a relationship between financing and innovation investment and show that the costs of political instability on innovation are less severe for politically connected firms (Cumming et al., 2016). This suggests some political ties may have a positive impact on investment innovation intensity. Wu (2011) similarly argues that government control of available innovation resources has significantly impacted the R & D investment of Chinese firms. It has done so by appropriating R & D venture capital and investment funds and the transfer of scientific talent to businesses. Consequently, it is argued, close political connections can facilitate access to external innovation resources for Chinese businesses, which in turn improves their R & D intensity. Furthermore, political connections may act as an informal yet effective substitute for formal property rights protection, thereby protecting the infringement of the intellectual property of private firms (Cai and Wan, 2012; Shi and Gu, 2013; Yawen et al., 2012). This in turn can help create incentives for private sector R & D activities and lead to greater R & D intensity. Thus, it has been argued R & D intensity may be strengthened via the development of political ties. Empirically, moreover, Lin et al. (2011) have found that firms with political ties had greater R & D intensity than those without links (using a World Bank survey of 1088 private manufacturing firms in the 2000–2002 period). This leads to our first hypothesis.

Hypothesis 1a. Stronger political ties lead to increased R & D intensity in China's private sector firms.

In contrast to these positive arguments, however, Zhang et al. (2015), using a World Bank survey of 1500 Chinese manufacturing firms, draw far more negative conclusions about the impact of political ties on innovation. They firstly consider the specific conditions under which investments in nurturing political ties may improve performance, as well as when they do not. They argue (and demonstrate) that the returns to investing managerial time in cultivating political ties in China depend heavily upon the particular *type* of technological innovation being pursued. They identify two categories of innovation. Exploratory innovation involves novel technological and market knowledge that departs from the firm's existing knowledge-base and is inherently risky (March, 1991). Exploitative innovation, however, looks to develop existing technological knowledge and buttresses existing technological skills and processes. Exploitative innovation, they argue, in turn involves much lower technological and external market uncertainty.

By contrast, with innovation that is more exploratory, considerably higher levels of institutional uncertainty exist. This is because gaining explicit or tacit permission for radically new products or processes requires far more extensive and higher levels of regulatory approval, which often also involves “wide, discretionary interpretations by local government officials” (Zhang et al., 2015: 370). Stronger political ties may facilitate and lower the costs of such approvals, in these cases, and decrease the uncertainty involved in enforcing such things as intellectual property rights. This in turn bolsters R & D intensity. For exploitative innovations, by contrast, existing regulatory approvals may already suffice. Furthermore, as incremental improvements to existing products or processes may be harder to protect (even with the support of political ties), investing in political ties may not make much sense in the case of innovation that is more exploitative in nature. Zhang et al. (2015), therefore, show that in cases where exploratory types of innovation take place, stronger political ties do improve firm innovation performance but for exploitative innovation they do not. Extending this line of reasoning we might also infer a positive relationship for R & D

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