WAKING FROM MAO'S DREAM: COMMUNIST IDEOLOGICAL IMPRINTING AND THE INTERNATIONALIZATION OF ENTREPRENEURIAL VENTURES IN CHINA[*]

Christopher Marquis
Cornell University
Ithaca, NY 14853
cmarquis@cornell.edu

Kunyuan Qiao
Cornell University
Ithaca, NY 14853
qiaokunyuan@gmail.com

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ABSTRACT

We theorize how an ideological imprint serves as an information filter that affects individuals' decision-making and how the imprinter's subsequent behaviors may alter it. We test our model with a longitudinal dataset of Chinese private entrepreneurs from 1993 to 2012, specifically investigating (a) the influence of a founder's communist ideological imprint that characterizes foreign capitalism as evil and (b) subsequent dynamics introduced by the imprinter—the government or Communist Party of China (CPC)—on two internationalization strategies that deal with foreign investors and markets: firms' efforts to attract foreign capital and to expand globally. Our findings show that Chinese entrepreneurs' communist ideological imprint negatively affects the internationalization of their ventures, while available and credible information contradicting communism—coming from the government directly, government-created industry social networks for entrepreneurs, or observing governmental support of internationalization—weakens the influence of the imprint. Our study contributes to a better understanding of imprinting and its decay, the effects of corporate decision maker's political ideology, and the internationalization of firms.

Keywords: imprinting, political ideology, internationalization, entrepreneurship

INTRODUCTION

Many studies have demonstrated the long-lasting influence of individuals' imprints: characteristics that reflect prominent environmental features during formative periods. For instance, Tilcsik (2014) demonstrated that the level of organizational resources available during new hires' socialization affects their ability to solve problems and interact with clients, and as a result their subsequent job performance. And McEvily, Jaffee and Tortoriello (2012) showed that lawyers' early-career exposure to experienced mentors has an enduring effect on how much practical knowledge they acquire and thus affects the later growth of firms they serve as partners. While a few studies have shown that founders can leave a lasting imprint on their organizations (e.g., Baron, Hannan, and Burton, 1999; Johnson, 2007), we know little about the "imprint transfer" process whereby a founder's individual imprint is instantiated in his or her firm (Marquis and Tilcsik, 2013; Tilcsik, 2014), and specifically how a founder's life history and prior experiences affect this process. Moreover, scholars have argued that "persistence does not imply permanence" (Marquis and Tilcsik, 2013: 231), indicating that imprints do not last forever. Yet we know little about how the effects of imprints may change over time (Simsek, Fox, and Heavey, 2015).

We study these unresolved research questions by investigating how an organizational founder's ideology formed early in life through an imprinting process fundamentally shapes his or her venture. We theorize that an ideological imprint created through socialization (Jost, Federico, and Napier, 2009) during key events in one's life course serves as an information filter (England, 1967; Jost, Glaser, Kruglanski, and Sulloway, 2003) that limits the set of possible choices corporate leaders explore before making decisions (Hambrick and Mason, 1984). In doing so, we build on research on leaders' information processing (Newell and Simon, 1972; Simon, 1978; Gavetti, Levinthal, and Ocasio, 2007) and recent developments in the upper echelons perspective on how executives' political ideology reflects their values—"an enduring belief that a specific mode of conduct or end-state of existence is…preferred to alternative modes" (Rokeach, 1973: 159-160)—that correspondingly affect corporate decisions (Chin, Hambrick, and Treviño, 2013; Briscoe, Chin, and

Hambrick, 2014). Though this latter literature has mainly focused on leaders' current and ongoing ideology (e.g., Chin et al., 2013; Briscoe et al., 2014; Chin and Semadeni, 2017; Gupta, Briscoe, and Hambrick, 2017; Carnahan and Greenwood, 2018), we shift the focus to the ideology of leaders that was imprinted during their early experiences through socialization. We show that in addition to leaders' current ideologies, their ideological imprints also help explain their decision making and thus corporate strategies.

We further examine how exposure to new information from a variety of different channels affects the original imprint. Consistent with research on information processing (e.g., Newell and Simon, 1972; Simon, 1978; Gavetti et al., 2007; Knudsen and Srikanth, 2014), we argue and show that the information filter is eroded when new and credible information contradicting the imprint is available. In particular, we examine how the "imprinter" (Simsek et al., 2015)—the source of the original imprint—can endorse the credibility of the new information and thus are the ones who can remove the imprints they established. Thus, our study explains why individual imprints have long-lasting but not permanent effects—i.e., why they may vary over time—and that imprinters may persistently affect the imprinted individuals after the imprint is established.

We unpack these processes utilizing a unique longitudinal dataset of Chinese private enterprises from 1993 to 2012, testing how founders' communist ideological imprint affects their firms' internationalization strategies while ruling out several alternative explanations. Communist ideology in China during the Mao Zedong era (1949-1978) comprises the traditional "Marxist-Leninist doctrine advocating the overthrow of the capitalist system," labeling foreign capitalists enemies of the state (Wang, 1999: 206). The communist ideological imprint we examine reflects socialization and indoctrination in this communist ideology by the government/Communist Party of China (CPC)[1] in individuals' early, formative periods. Because of the strong anti-foreign capitalist bias at the root of communism under Mao (Raynard, Lounsbury, and Greenwood, 2013), we expect a persistently negative effect of Chinese entrepreneurs' socialization into the CPC at this time on how

[1] China is a one-party state and the government and the Communist Part of China (CPC) are tightly coupled, we thus use the terms "government/CPC," "government," and "CPC" interchangeably to indicate this entity throughout the paper.

they perceive and interact with foreigners. Furthermore, because this imprinting process typically took place during a sensitive period when these entrepreneurs were entering adulthood and their values began to crystalize (Krosnick and Alwin, 1989; Ashforth and Saks, 1996; Bianchi, 2014), they became especially responsive to the government/CPC doctrines and information more generally.

However, following the death of Chairman Mao, the Communist government of China—the imprinter—dramatically changed course with the "Reform and Opening-up" policy, inaugurating a period beginning in 1978 when China began establishing a market economy by legitimating entrepreneurship (Li, Meng, Wang, and Zhou, 2008; Luo, Xue, and Han, 2010) and due to economic necessity gradually opened itself to the outside world. Thus subsequent CPC communications and behaviors, which embrace markets and increasingly encourages internationalization, pose a sharp contrast to the rhetoric and propaganda during Mao's rule and provide opportunities for Chinese entrepreneurs to reconsider foreign capitalism over time. We argue that the variation over time in exposure to different types of information from the imprinter can potentially erode the imprint.

Our study contributes to the literature on imprinting by showing how an individual corporate leader's imprint affects corporate strategy and theorizing how information filtering, developed through socialization, functions as a core theoretical mechanism through which an imprint and its dynamics shape behavior. Unlike the existing imprinting literature that suggests a static influence of prominent features during sensitive periods of focal entities and assumes one-off impacts by imprinters, we unpack the evolution of individual imprints and how subsequent interactions with the imprinter lead to imprint decay, an important but understudied imprint "metamorphosis" (Simsek et al., 2015). By emphasizing the importance of imprinters in the dynamics of the imprints they established, we suggest that imprints—reflections of prominent features in sensitive periods—carry seeds of their own decay and that imprinters may persistently affect the imprinted entities. Our study highlights a key meta-theoretical assumption of the imprinting literature—selective attention, which leads imprinted entities to selectively attend to environmental cues in information processing (Newell and Simon, 1972). As a result, imprinters' actions are especially salient and referential. Selective attention is thus not only a key to imprint formation and persistence (Marquis and Tilcsik, 2013), but

also influences imprinting decay when imprinters try to remove imprints they established earlier. Departing from previous studies that have examined how founders imprint specific structures and practices in organizations (e.g., Baron et al., 1999; Beckman, Burton, and O'Reilly, 2007), we argue and show that founders also transfer non-business-related personal experiences—such as political orientation—to organizations, which then correspondingly reflect various dimensions of the founders' life experiences (Hambrick and Mason, 1984).

We also contribute to the burgeoning stream of upper echelons literature on the effects of political ideology on organizations (e.g., Chin et al., 2013; Briscoe et al., 2014; Chin and Semadeni, 2017; Gupta et al., 2017; Carnahan and Greenwood, 2018) by highlighting that leaders' ideological imprints—as opposed to current ideology—affect their firms' strategies enduringly. We unveil a largely overlooked origin of organizational decision makers' cognition and values: early-life history, when certain environmental characteristics are internalized and become trait-like values that affect information processing persistently. The phenomenon is particularly interesting and important when considering former communist countries that experienced drastic paradigmatic shifts such that political ideologies in post-reform periods pose a sharp contrast to those before the reform (e.g., Steensma and Lyles, 2000; Kriauciunas and Kale, 2006). Relatedly, most studies have examined political ideology within the liberalism-conservativism spectrum, yet we still need to understand how other ideologies such as socialism/communism and ideological spectra such as communism-capitalism and libertarianism-authoritarianism affect organizational behaviors and strategy.

Finally, our research enriches the literature on the internationalization of firms (e.g., Johanson and Vahlne, 1977; Welch and Luostarinen, 1988). Unlike existing antecedents shown in the literature such as knowledge (Johanson and Vahlne, 1977), resource deployment (Li, Yi, and Cui, 2017), organizational structure (Melin, 1992), and institutional and industry environmental factors (Hitt, Tihanyi, Miller, and Connelly, 2006), we highlight the importance of managers' background in this process, connecting this literature with the upper echelons' perspective (Sanders and Carpenter, 1998). Furthermore, regarding literature on the internationalization of Chinese firms specifically, most research attention has been on state-owned firms (e.g., Child and Rodrigues, 2005; Zhang, Li,

Li, and Zhou, 2010; Li et al., 2017). Our study is among the first to examine the internationalization of private firms in China (Liang, Lu, and Wang, 2012), especially new ventures that are increasingly important for the development of the Chinese and the world economy (Li and Zhang, 2007).

THEORY AND HYPOTHESES

Marquis and Tilcsik (2013: 201) defined imprinting as "a process whereby, during a brief period of susceptibility, a focal entity develops characteristics that reflect prominent features of the environment, and these characteristics continue to persist despite significant environmental changes in subsequent periods." This suggests that there are temporary sensitive periods during which external environmental factors leave a long-lasting impact on individuals and organizations. For individuals, sensitive periods typically occur when they are experiencing role transitions and are forming their worldviews, values, and beliefs, such as early adulthood (Ashforth and Saks, 1996; Bianchi, 2014; Kish-Gephart and Campbell, 2015). Events and experiences during these periods shape interpretation of what constitutes appropriate behaviors and rules of action later in life. For instance, early career experiences significantly affect individuals' future work practices, such as workplace mentorship and relationships with clients (McEvily et al., 2012).

Similarly, the upper echelons' perspective examines how background characteristics such as executives' functional and other career-related experiences affect decision making (Crossland, Zyung, Hiller, and Hambrick, 2014). Recent work in this area has investigated how political ideology—the "interrelated set of attitudes and values about the proper goals of society and how they should be achieved . . ." that "helps to explain why people do what they do; it organizes their values and beliefs" (Tedin, 1987: 65)—is a manifestation of personal values that affect corporate decision-making (e.g., Chin et al., 2013; Briscoe et al., 2014; Chin and Semadeni, 2017; Gupta et al., 2017; Carnahan and Greenwood, 2018). For example, Chin et al. (2013) linked CEOs' political ideologies to their corporate charitable donations, Briscoe et al. (2014) found that CEOs' political liberalism positively affects the likelihood of formation of lesbian, gay, bisexual, and transgender employee groups, and

Chin and Semadeni (2017) provided evidence that politically liberal CEOs reduce pay dispersion among top executives.

Consistent with this perspective, we argue that an individual's ideology functions as an important filter that shapes information processing through a number of potential mechanisms (e.g., Chin et al., 2013; Gupta et al., 2017). Humans have cognitive, attentional, perceptual, memory, and computational limitations: when processing information—i.e., receiving, gathering, interpreting, and synthesizing it—our information processing systems distort both how we acquire that information (noticing, i.e. where to look and what to see) and how we interpret it (determining what stimuli mean) (Starbuck and Milliken, 1988; Knudsen and Srikanth, 2014). Therefore, prior research has shown that ideology can affect choices either directly through processes such as "behavioral channeling," whereby a person chooses a course of action from available alternatives that fits his/her values, or indirectly through "perceptual filtering," whereby a person filters out information that is incongruent with his/her values prior to making choices, thus regulating his/her behavior (England, 1967; Chin et al., 2013). Research has also suggested that motivated cognition, influenced by vested interests or motives that may reflect and/or are instantiated in our values or ideology, affects information processing (Jost et al., 2003). That is, in certain situations people may be more or less closed-minded, considering or disregarding certain information based on their motives. For example, economically disadvantaged conservatives might denigrate egalitarian policies that could make them financially better off but are inconsistent with their ideology (Jost et al., 2009). All these processes point to selective filtering of information based on values and/or ideology as the mechanism through which ideology shapes decisions.

Building on this prior research, we shift attention from current and ongoing ideology to the effects of imprinted ideology formed before entrepreneurs established their ventures that reflects environmental features during these leaders' sensitive periods. While the ideological imprint is also a manifestation of personally held values (Chin et al., 2013; Briscoe et al., 2014; Gupta et al., 2017), we argue and provide evidence that the values we examine result from the *imprinting process*—socialization or communist indoctrination in our context—which internalizes the values, instead of

deeply held dispositional differences (Jost, 2006). As Akerlof (1983: 54) argued, "When people go through experiences, frequently their loyalties, or their values, change," and even dispositional values contain some socially derived elements (Rokeach, 1973). Individuals learn values consistent with their new roles through socialization processes, after which their value systems tend to adapt to incorporate these new elements (Ashforth and Saks, 1996). Thus, the concept of an ideological imprint extends the upper echelons' perspective by theorizing the early imprinting process (important non- or pre-career experiences during leaders' sensitive period) into this research stream, focusing attention on leaders' early experiences in a critical life stage. Furthermore, we also examine how values might not only reflect nature (disposition) but also be nurtured through the imprinting process (Jost, 2006; Jost et al., 2009; Bianchi, 2014; Kish-Gephart and Campbell, 2015).

The Communist Ideological Imprinting Process in China

A majority of Chinese entrepreneurs during the period of our study was born between the 1950s and 1978, the Maoist period when the government/CPC seriously undertook the communist cause and the country was committed to that political ideology.[2] People born during that period were thought to be "Born Red" (Gao, 1987), and political life—particularly communist ideology—played a predominant role. CPC membership was almost universally sought and an important criterion for the best career opportunities (e.g., Dickson and Rublee, 2000; Li and Walder, 2001). But not everyone joined the CPC at that time (Gao, 1987; Shambaugh, 2008),[3] and we argue that the intensive socialization process of joining the CPC is mainly responsible for an identifiable ideological imprint that differentiates party members from non-members. As we discuss in more detail below, the CPC requires an intensive socialization process to indoctrinate core communist beliefs, tenets,

[2] Entrepreneurs born between the1950s and 1970s also constitute a majority of our sample starting from 1993. Yet we analyzed four groups of entrepreneurs—pre-1978 communists, pre-1978 non-communists, post-1978 communists, and post-1978 non-communists—with a diff-in-diff design, and found strong differences among entrepreneurs in terms of attitude toward foreign cooperation between pre-1978 communists and pre-1978 non-communists.

[3] We address potential selection issues on observable characteristics with both propensity score matching and regression discontinuity design approaches. Table 1a also shows no material difference between entrepreneurs who joined the CPC and those did not, further alleviating selection concerns. While the CPC maintained some persistent selection criteria such as work performance, engagement in social activities, relationships with co-workers and neighbors, and interpersonal skills (e.g., Bian, Shu, and Logan, 2001; Dickson, 2003; Li et al., 2008), as we describe below, our observed variables and analyses should capture any effects of these criteria and alleviate selection concerns.

agendas, and values (Li and Walder, 2001; Higgins, 2005; Shambaugh, 2008). According to Ginsburg (2002: 248), "Internalization [of an ideology] can occur through professional indoctrination and training or through promulgation of a substantive political ideology that commands . . . loyalty."

Most people join the CPC after 18 years old (Li et al., 2008), a sensitive period consistent with other studies on impressionable life stages (Krosnick and Alwin, 1989; Ashforth and Saks, 1996; Bianchi, 2014). Becoming a CPC member requires a rigorous socialization process over an extended period of time, which includes promotion of communism through a number of reinforcing processes such as attending classes promoting communist beliefs, writing reports on opinions about the CPC—especially their strong and firm belief in communism, attending socialization events where CPC leaders extol communist principles, and watching documentaries advocating communism (Bian et al., 2001). After the candidates demonstrate loyalty to the CPC through their reports, performance in socialization events, and oral interviews, they finally take an oath to devote their lives to the communist cause. Importantly, the CPC selection process has mostly remained stable during the time period of our study (Li and Walder, 2001; Shambaugh, 2008).

The strong ideological imprinting likely has a deep effect on members, especially when they join during early adulthood, a period when individuals form their worldviews and political beliefs (Krosnick and Alwin, 1989; Ashforth and Saks, 1996; Bianchi, 2014). Consistent with this, a number of studies have found that entrepreneurs who are CPC members are strongly influenced by communist ideology, which shapes their outlook and decision-making. For instance, Dickson (2007) found that entrepreneurs who were CPC members tended to hire workers who were communists as well and thought CPC membership conferred important business advantages, and Li et al. (2008) showed that entrepreneurs with CPC membership had more confidence in China's legal system. Furthermore, a fundamental aspect of members' loyalty to the CPC is faith in its communications (Guo, 2001): the CPC aims to control what kind of information members should believe and what is deemed dangerous, such as information that unveils negative aspects of the CPC or its governance (Bian et al., 2001; Shambaugh, 2008).

As a result of the socialization process described above, private entrepreneurs who joined the CPC prior to establishing their new ventures have an ideological imprint that reflects communist beliefs and are likely to rely on government/CPC communications for acquiring and interpreting information (Li et al., 2008). In this way, the communist ideological imprint serves as an information filter persistently: it does not just limit entrepreneurs' access to information but also specifies how they should interpret information, which corresponds to their values that are "stable enough to reflect certain socialization within a given culture and society" (Rokeach, 1973: 11).

Founders' Communist Ideological Imprint and Firms' Internationalization

A central tenet of communism from the 1950s to 1978 was the dichotomization of the world into "capitalist" and "communist/socialist" camps: hostile powers that were antagonistic to each other (Raynard et al., 2013). Following the Communist Revolution, Chairman Mao shut China off from the rest of the world, continuously emphasizing self-reliance and downplaying international cooperation in almost any form, except for foreign aid to other countries with the purpose of advancing the international communist movement. Thus, while the anti-foreign sentiment applied principally to Western capitalist countries, it also extended to other countries that had developed connections with the West/capitalist camp. Chinese who joined the CPC in that period were indoctrinated with a negative perception of most foreign countries, which has become a taken-for-granted belief (Shambaugh, 2008). Given the strength of such indoctrination, we argue that even though Chinese entrepreneurs are market-oriented, those with a communist ideological imprint may filter out positive information about foreign capital and refuse to internationalize their firms, even long after the Chinese government/CPC in 1978 instituted the "Reform and Opening-up" policy aimed at reforming its economy.

Internationalization in our context is when a corporation engages in "the process of increasing involvement in international operations…, both inward and outward" (Welch and Luostarinen, 1988: 36). Previous research has suggested a rich set of antecedents of internationalization, including international knowledge (Johanson and Vahlne, 1977), management (Sullivan, 1994; Sanders and

Carpenter, 1998), strategic requirements (Melin, 1992), cross-border coordination resources (Li et al., 2017), and performance and industry structure (Sullivan, 1994; Hitt et al., 2006). And existing studies have used a wide range of perspectives such as institutional theory, transaction cost economics, resource dependence, resource-based view, industrial organization economics, and organizational learning to understand internationalization, mostly as a cross-border corporate strategy such as acquisition and/or diversification (Hitt et al., 2006) and/or as a change of organizational boundaries (Villalonga and McGahan, 2005). While the literature on internationalization is large, less considered is how managers' background and particularly ideology developed during critical life stages shapes the underlying processes of foreign cooperation.

For Chinese firms, internationalization—both the inward process of bringing in foreign capital and the outward process emphasizing global expansion (Welch and Luostarinen, 1988; Child and Rodrigues, 2005)—involves cooperating with "foreign capitalists" who were described during their years of indoctrination as exploitative, mercenary, greedy, and ruthless (Jin, Shen, and Zou, 2012). Internationalization of Chinese firms almost exclusively involves interactions with richer countries that fall into the "capitalist camp." The foreign capital entering China starting in the late 1970s was primarily from the U.S., Canada, and Western Europe (Zhang et al., 2010), and the major overseas markets for Chinese firms were developed countries such as the U.S., Australia, and Canada (Buckley, Clegg, Cross, Liu, Voss, and Zheng, 2007; Li et al., 2017).[4] The CPC also labeled many non-West countries, e.g., Japan and Korea as capitalist. Furthermore, the communist propaganda during the entrepreneurs' imprinting period advocated inwardness and self-reliance, effective sealing China off from the outside world. Internationalization counters this and in itself involves capitalist practices. Thus, to internationalize their firms, Chinese entrepreneurs would have to engage in action that both contradicted and betrayed their imprinted ideology.

While studies have documented how individuals' socialist/communist legacies affect their business-related attitudes and behaviors (Steensma and Lyles, 2000), the imprint we describe does

[4] We also analyzed subsamples of firms that specifically cooperated with U.S. and EU partners in terms of inward and/or outward internationalization, and obtained similar results.

not necessarily affect their propensity to go into business in the first place. This is because when it introduced a market economy into China, the government/CPC carefully communicated this reform in a way that was ideologically congruent with communism and thus effectively decoupled entrepreneurship and capitalism. Starting in 1978, the government/CPC carefully chose words to deliver the idea of reform and the "socialist market economy." "Capitalism" and related words were effectively avoided. As Deng Xiaoping, who succeeded Mao as the paramount Chinese leader, said in 1992, "The market economy does not equal capitalism, and it can exist in socialism/communism."[5] The government/CPC also connected entrepreneurship to traditional Chinese culture and traditions, emphasizing the role of Confucian entrepreneurs (Li and Liang, 2015): lofty and wealthy individuals who are benevolent, trustworthy, polite, wise, and faithful. Essentially, the CPC redefined communism and encouraged an entrepreneurial spirit as part of a new system of "socialism/communism with Chinese characteristics," which became the official ideology of the CPC in the early 1990s.

At the same time however, the word "capitalist" was still often used to refer to foreign investors, financiers, speculators, and arbitrageurs rather than the domestic entrepreneurs who were contributing to this new stage of communism (Tsang, 1996). Because of this framing and communication, the government/CPC discourse and rhetoric differentiated private entrepreneurs from foreign capitalists, and entrepreneurs with a communist ideological imprint could maintain consistency with communism by starting a business but not collaborating with foreigners. There are many examples of how entrepreneurs' CPC membership negatively affected foreign cooperation. For example, a 2011 survey of Chinese private entrepreneurs showed that a majority of the interviewed entrepreneurs bearing communist beliefs expressed a negative attitude toward foreign capitalism but

[5] According to communist doctrine, socialism is an early and temporary stage as a society/economy progresses toward communism, the final utopian society. Thus, government rhetoric uses "socialism" to refer to the current stage of the communist development and "communism" to suggest a consistent ideology. For consistency, we use the term "communism" throughout the paper.

embraced market practices (Zhou and Hu, 2015).[6] These prior studies and examples suggest that the communist ideological imprint is still functioning, even though it is incongruent with the current business environment and detrimental to an organization's survival and success by constraining its attempts to adapt to and profit from the changing environment. Thus, Chinese entrepreneurs may still bear their communist ideological imprint (Dickson, 2003; Li et al., 2008; Shambaugh, 2008; Lu and Tao, 2010), which is transferred to their firms and instantiated as opposition to internationalization:

> **Hypothesis 1 (H1):** Firm leaders' communist ideological imprint negatively affects the subsequent internationalization of their firms.

New Information and Decay of the Ideological Imprint

Although information filters are relatively stable (Newell and Simon, 1972), information-processing systems are also adaptive, capable of molding and changing behavior over time through learning (Simon, 1978). Knudsen and Srikanth (2014) argued that actions are informed by humans' existing knowledge, ingrained cognition, and mental models, all of which might evolve over time with feedback. And research has argued that socialized values, unlike dispositional traits (Parks and Guay, 2009), can decay with time and/or in response to new events (Akerlof, 1983). As a socialized value, the ideological imprint is likely "unstable enough to permit rearrangements of value priorities as a result of changes in culture, society, and personal experience" (Rokeach, 1973: 11). Thus although the ideological imprint of a firm's leader tends to exhibit inertia and persist over time, it is still subject to decay (Marquis and Tilcsik, 2013; Simsek et al., 2015). We argue that credible information diffusion could erode the deeply established imprint (information filter) by providing reliable new knowledge and choices (Marquis and Tilcsik, 2013). Studies have implied that information from certain sources is more credible and thus more likely to diffuse (Vissa, 2012) and penetrate individuals' perceptual filters (Starbuck and Milliken, 1988), and/or to integrate with vested

[6] See also Mingshan Yin—founder of the large motorcycle and automobile manufacturer Lifan Group—for an example at http://www.economist.com/node/1666584. Meanwhile, our questionnaires suggested that entrepreneurs with a communist ideological imprint did not have a problem with starting a new business and grow their business even a bit faster.

interests or motives (Jost et al., 2003). Both the *availability* and *credibility* of information that contradicts the original imprint are key factors that influence the decay of imprints.

Given that socialization and intensive indoctrination by the government/CPC—the imprinter—led to the ideological imprint, it is likely that government/CPC actions and information are particularly credible to Chinese entrepreneurs with a communist ideological imprint. Specifically, the government/CPC established that its communications are authoritative and reliable in its members during their early life, so that they then persistently depend on the government for information (Guo, 2001), even if they have become market-oriented entrepreneurs. Existing studies have also documented the persistent influence of the government/CPC on entrepreneurs who were CPC members (e.g., Dickson, 2007; Li et al., 2008). Dickson and Rublee (2000); Li et al. (2008)In particular, the powerful role of the government in the economy and society leads to its strong influence on entrepreneurship. For instance, entrepreneurs are responsive to the government because of resource dependence (Tsang, 1996), and the situation is similar in other transition economies (Choudhury and Khanna, 2014), especially former communist countries such as Hungary (Steensma and Lyles, 2000) and Lithuania (Kriauciunas and Kale, 2006). Relatedly, the institutional arrangement in China magnifies the importance of the government for legal protections and to overcome institutional barriers such that some entrepreneurs even become “Red Capitalists” and are coopted into the political system (Dickson, 2003; Zhang, Marquis, and Qiao, 2016). Prior research has also shown that entrepreneurs wish to gain status by associating with the government (e.g., Ma and Parish, 2006). Furthermore, the deep Confucian influence on Chinese culture also prioritizes the importance of the bureaucratic state as a key reference and puts businesspersons at the bottom of the social hierarchy, which leads them to respond to the government in order to improve their social status (Tsang, 1996).

As noted, in recent decades, the Chinese government/CPC has increasingly decoupled communist rhetoric from capitalist conduct and recognized the importance of foreign capital and overseas markets in promoting economic growth (Luo et al., 2010; Zhang et al., 2010). The government/CPC thus increasingly framed foreign cooperation as important for economic

development, scientific advancement and innovation, legal reform, and alleviation of energy shortages, and it reconciled to some extent the ideological incongruence between communism and foreign capital. Nevertheless, tolerating foreign cooperation is fundamentally different from redefining communism in a way that incorporates entrepreneurship and market principles at the ideological level. The redefinition that occurred after 1978 established entrepreneurship as consistent with and even an integral part of communism, whereas foreign cooperation is at best compatible with communism because it contributes to Chinese economy.

To understand the countervailing effects of the dramatic shift in Chinese government ideology after 1978, we examine (a) how subsequent interactions with the contemporary market-oriented, reformer-led government provided firsthand knowledge and thus affected Chinese entrepreneurs' imprint. We then (b) consider how secondhand data from government-created industry social networks also gave entrepreneurs information that reshaped their perception of foreign capitalism. In addition, we (c) argue that with the implementation of national-level economic development plans encouraging firms to cooperate with foreign investors, as well as increasing foreign exposure in a region, entrepreneurs could infer the government's acceptance of foreign capital.

Interactions with the contemporary reformer-led government. Experiencing new and credible information can prompt behavioral changes by affecting information processing and the focus of attention (Gavetti et al., 2007), which in turn may affect corporate strategies (Finkelstein, Hambrick, and Cannella, 2009).

Interactions between Chinese entrepreneurs with a communist ideological imprint and the contemporary government post-1978 provide credible information because entrepreneurs' loyalty to the government was established through the imprinting process. Direct contact with government officials' positive attitudes toward internationalization likely reshapes entrepreneurs' perceptions about foreign capitalism (Luo et al., 2010; Zhang et al., 2010). Specifically, governmental actions in the more recent period convey that cooperating with foreign capitalists does not necessarily betray communist doctrine and is actually a legitimate endeavor; yet such behavior is incongruent with the communist ideological imprint established during entrepreneur's sensitive period. Such actions likely

trigger cognitive dissonance, requiring entrepreneurs to reconsider communism and foreign capitalism with deep information processing. Entrepreneurs likely recognize that the government promotes markets and economic opening while still uses traditional communist rhetoric and propaganda to control the general population. Discovering that communist belief has become symbolic, entrepreneurs likely resolve the incongruences and begin to accept foreign capital and increasingly consider internationalization opportunities. Such interactions with the government may ratify profitable foreign business opportunities in capitalist markets, and even help entrepreneurs discover and identify them (Buckley et al., 2007; Lu and Tao, 2010).

Unlike in democratic countries where the general public can participate in politics and government administration (Yue, Rao, and Ingram, 2013), the general public in China does not have a window into government processes; its operations and decision making are essentially in a "black box." But one important type of direct interaction with the government is political involvement, i.e., a firm's leader becomes a delegate to either of the two legislative bodies in China: the People's Congress (PC) or the Chinese People's Political Consultative Conference (CPPCC) (Ma and Parish, 2006; Zhang et al., 2016). During the meetings of these two bodies, the politically involved entrepreneurs increasingly grasp government officials' open attitude toward internationalization, ratification of international business opportunities, and the symbolic use of communist rhetoric, all of which should erode their ideological imprint and dampen its negative effect on internationalization. Stated formally:

> **Hypothesis 2a (H2a):** Political involvement in subsequent periods weakens the negative effect of firm leaders' ideological imprint on the internationalization of their firms.

A significant side effect of China's market transition is corruption. Before 1978, government officials could gain from their power via allocating resources. They have been less able to do so after the reform and thus have often pursued private gain through practices such as appropriating firms' profits (Nee, 1989), which occur because property rights protection for private entrepreneurs is generally missing in China (Li, Meng, and Zhang, 2006; Li et al., 2008). For example, as documented in the *People's Daily*, a private drink-producing firm in Hengyang, Hunan Province was forced to

shut down within two weeks after opening because it refused to pay "relational fees" to the government.[7] Government officials confiscated the firm's equipment and even held the entrepreneur in custody (see Li et al., 2006 for a summary of examples). Government appropriation of firms' profits informs entrepreneurs about CPC corruption, leading to growing mistrust of the government and so undermining private entrepreneurs' communist beliefs. The more profits the government appropriates from private firms, the less faith entrepreneurs should have in the government and communism and the more disillusioned they would become. The result should be that their communist ideological imprint erodes and has a weaker effect on filtering internationalization opportunities.

Furthermore, prior research has shown that in developing and emerging economies where governments have a heavy hand and thus generate firms' dependence on them, a typical organizational response is exploring global markets and becoming a multinational enterprise (Choudhury and Khanna, 2014). Several other studies have documented a similar kind of pressure from government imposition on private firms in China (Zhang et al., 2016), which likely accelerates the disillusionment with communist ideology, making it easier to embrace foreign cooperation. The need for internationalization to escape government expropriation should diminish the impact of the communist ideological imprint on entrepreneurs' information processing as well. Thus, profits appropriated by the government likely weaken the negative association between the communist ideological imprint and internationalization. We expect:

> **Hypothesis 2b (H2b):** The rate of subsequent government appropriation of a firm's profits weakens the negative effect of a firm leader's ideological imprint on the internationalization of the firm.

Involvement in government-created industry social networks. After 1978, although the Chinese government increasingly instituted a market economy and changed its anti-foreign/capitalism position dramatically, the private sector was still under the government's scrutiny and control (Li et al., 2008). A common strategy to informally monitor entrepreneurs was through

[7] See the report by journalist Tianlun Li, http://www.people.com.cn/GB/guandian/26/20020927/832240.html.

government-backed membership associations such as the Association of Private Entrepreneurs (APE) (Dickson, 2003). The government selects private entrepreneurs for membership in these associations, its connection and background help establish the authority, credibility, and reliability of the information shared among members. Involvement in these associations allows private entrepreneurs to share information and experiences from running their businesses, and it also allows the government to maintain informal connections with and coopt entrepreneurs by publicizing the CPC's accomplishments (Shambaugh, 2008).

These groups are affiliation networks (Li and Zhang, 2007), resembling business councils or the business roundtable described by Haunschild (1993). They give Chinese entrepreneurs an opportunity to obtain information about government policies and new international business opportunities encouraged by the government through frequent exchanges of business ideas and knowledge with colleagues (Li and Zhang, 2007; Jia, 2014).

While not all information or knowledge will be diffused within networks automatically and completely (Vissa, 2012), networks backed by the government are likely seen as providing trustworthy and credible information, because a fundamental aspect of the communist ideological imprinting process is faith in and trust of the government/CPC. In addition, members of these groups are selected through governmental processes and likely share similar values and experiences, have overlapping business knowledge, and exhibit similar behavioral patterns. Through interactions with these "common" others, entrepreneurs' trust and friendship are more likely to develop, facilitating information diffusion (Haunschild, 1993; Vissa, 2012). For instance, common others likely transfer material private information and affect individuals' values (Finkelstein et al., 2009). Existing literature has argued that corporate decision makers often rely on common others for information when the perceived external environment is uncertain (Daft and Weick, 1984), which characterizes internationalization decisions that often involve significant risks and ambiguity (Sanders and Carpenter, 1998). Recent studies have also shown that interorganizational linkages may contribute to imprint dynamics (McEvily et al., 2012), and these ties might also provide evidence-based merits of

adopting internationalization practice such that it can spread throughout the network (Briscoe, Gupta, and Anner, 2015).

We thus argue that the secondhand information diffused through these networks tends to reduce the effect of entrepreneurs' ideological imprint. Entrepreneurs involved in these networks are likely exposed to new information that conflicts with the ideological imprint, as their peer members may have experienced the processes described in H2a and H2b. The experiences from common others should provide evidence of the government/CPC's increasingly open attitude toward foreign cooperation and loss of faith in orthodox Maoist communism. Thus, although the government's original intention in establishing these networks was to control entrepreneurs, help them promote their businesses and even to coopt entrepreneurs by communicating positive aspects of the CPC, involvement in these networks may ironically lead to decay of the communist imprint as well:

> **Hypothesis 3 (H3):** Firm leaders' subsequent involvement in government-created industry social networks weakens the negative effect of their ideological imprint on the internationalization of their firms.

Observing governmental support of internationalization. The Chinese government implemented the *10th Five-Year National Economic and Social Development Plan* in 2001, explicitly encouraging foreign cooperation: both inward foreign investments and exploration of international markets (Peng, 2012). The government framed the need for internationalization as an economic necessity, as is shown for example by many sections of this plan specifically noting this association.[8]

This national-level policy provides information and encouragement for entrepreneurs to reconsider collaborating with foreign capitalists to enhance economic aspects, and both inward and outward foreign investments have become more commonplace consequently since then (Buckley et al., 2007). Entrepreneurs with a communist ideological imprint would have faith in state media and government/CPC communications, so following this policy they would be more likely to accept

[8] See the original text of the policy that encourages both inward and outward foreign cooperation at http://www.people.com.cn/GB/shizheng/16/20010318/419582.html.

foreign capital and/or explore international markets. Thus, the implementation of the post-2001 economic development plan tends to erode the communist ideological imprint:

> **Hypothesis 4a (H4a):** Subsequent national economic policy encouraging internationalization since 2001 weakens the negative effect of firm leaders' ideological imprint on the internationalization of their firms.

While the economic development plan was a national-level strategy, regional governments' compliance and implementation—more of a bottom-up process—are also salient to entrepreneurs. Given the top-down power structure (Li and Walder, 2001), local effort plays a crucial role in implementing rules and policies in attracting foreign capital and encouraging firms to expand globally (Branstetter and Feenstra, 2002). Thus after 1978, local governments played an increasing role in attracting foreign direct investment (FDI), which ratifies and endorses foreign cooperation (Luo et al., 2010). Local government officials, who are judged primarily by the economic performance in their jurisdictions (Zhang et al., 2016), have become increasingly aware of the importance of FDI for local economic growth, and thus compete against each other for foreign investors' patronage (Branstetter and Feenstra, 2002). Entrepreneurs might be influenced by foreign ideas when they see internationalization by other Chinese firms in the same region, especially when it is supported by preferable local government policies (Buckley et al., 2007).

Entrepreneurs with a communist ideological imprint were trained to have faith in the government and are thus likely to infer the government's implicit support and increasingly positive attitude toward FDI by observing the abundance of foreign investors. Marquis and Tilcsik (2016) argued that geographic proximity provides important information to firms for strategic decision-making and is an important source of social cues, and thus we anticipate that when regional FDI intensity is high, entrepreneurs' ideological imprint against foreign capitalism may be eroded so that they favor foreign cooperation. A research report about private entrepreneurs indicated that the government's effort in promoting FDI helps reshape entrepreneurs' perception of the capitalist world (Hou, Zhang, and Liu, 2015), and a survey by the Chinese Academy of Social Sciences indicated that

the government's encouragement of FDI helps alleviate concerns based on the political ideology of private entrepreneurs.[9] Thus, we hypothesize that:

> **Hypothesis 4b (H4b):** Regional FDI intensity reduces the negative effect of firm leaders' ideological imprint on the internationalization of their firms.

METHOD

Data and Sample

We obtained a longitudinal dataset of private firms in China, which were coded from the national-level Survey of Chinese Private Entrepreneurs conducted by the Research Center for Private Entrepreneurs of the Chinese Academy of Social Sciences (RCPE-CASS). The sample randomly drew entrepreneurs since the legitimation of the private sector in 1992, and thus covered the very first generation of these entrepreneurial individuals since the foundation of the communist regime in China, and these entrepreneurs are still actively steering their ventures.[10] The private entrepreneurs were sampled randomly in proportion to the local population density, and a number of management studies have used certain cross-sections of the data (Ma and Parish, 2006; Jia, 2014). The currently available data include observations in 1993, 1995, 1997, 2000, 2002, 2004, 2006, 2008, 2010, and 2012. Regional institutional environment data were from Fan, Wang and Zhu (2011), which provide the most authoritative information on this important control variable (Zhang et al., 2016). We also obtained data on historical presence of foreign concessions—areas where foreign countries had preferential trade access—to alleviate the endogeneity concern of including inward internationalization when analyzing outward internationalization as a dependent variable.[11]

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[9] See the report at http://www.cssn.cn/mkszy/mkszyzgh/201606/t20160615_3071008_7.shtml.

[10] Survival bias potentially introduced by leadership change is not a serious issue in our data. Almost all (97% of) entrepreneurs were still leading their ventures during the time of the survey and there are few leadership changes in our sample. More importantly, the results were similar to what is reported when we also include firms that experienced leadership change. Since we are interested in how founding entrepreneurs' own ideological imprint affects their firms' behaviors—as opposed to the situation where entrepreneurs left a legacy that affects the organization's future even after their departure from firms (Baron et al., 1999; Johnson, 2007), we only include these firms and exclude the other 3%.

[11] The foreign concession data were assembled from various international treaties since 1842—the first year a foreign country was given a concession—and statistical yearbooks at that time, i.e. China Maritime Customs services, and crosschecked to ensure accuracy of the data with various books and online resources.

The original dataset did not provide unique identifiers for all firms tracked over the years, but we were able to obtain unique identifiers for 68 percent of all entrepreneurs by contacting data providers and matching ventures' founding characteristics and entrepreneurs' life histories that are time-invariant and obtained a panel dataset. [12] We then lagged variables on the right-hand side of the model to avoid reverse causation and kept observations that appeared at least twice over the sample period, and finally obtained 20,564 firm-year observations with 4,582 unique firms.

Variables

Dependent variables. We examine two specific internationalization processes (Welch and Luostarinen, 1988): inward internationalization by attracting foreign capital (Child and Rodrigues, 2005) and outward international by investing in an overseas economy (Liu, Buck, and Shu, 2005; Luo et al., 2010). Inward internationalization was measured with two variables: a binary variable reflecting whether the firm has foreign investment (1 = yes, 0 = no), and the ratio of foreign investment over total assets. Outward internationalization was also measured with two variables: a binary variable reflecting whether the firm has overseas assets (1 = yes, 0 = no), and the ratio of overseas assets over total assets. Welch and Luostarinen (1988) argued that these variables represent two fundamentally different internationalization processes, which are particularly important for Chinese firms (Child and Rodrigues, 2005). Because we tested both, our results do not just reflect inward or outward globalization alone, but overall sentiments toward internationalization (Li et al., 2017). Information on outward internationalization is available only from 2000, and thus those analyses cover seven years of observation. When investigating outward internationalization, we controlled for inward internationalization (Li et al., 2017).[13]

[12] First, the surveys were administrated randomly in each wave. Therefore, our longitudinal sample is still random to the extent that the surveyed entrepreneurs were randomly chosen, at least during the first wave. Second, sample attrition does not pose a threat to our analysis. On the one hand, since for each wave the entrepreneurs were randomly selected, the attrition can be treated as missing completely at random. On the other hand, we employed a t-test and Hotelling's test (the multivariate version, joint t-test) to examine the differences of variables employed in our study, and found that none of these variables was significantly different at the 10% level individually or jointly.

[13] Because inward internationalization is endogenous and serves as a dependent variable itself, we used whether the firms' locality had a historical foreign concession as an instrumental variable. Foreign concession establishment was over 100 years ago, and thus is exogenous. Meanwhile, foreign concession does not affect overseas market expansion directly as

Independent variable. *Communist ideological imprint* indicates whether entrepreneurs were CPC members before founding their enterprise (1 = yes, 0 = no). 21.4 percent of entrepreneurs in our sample have the communist ideological imprint, consistent with other research that reports 20 to 25 percent of Chinese entrepreneurs are CPC members (e.g., Dickson, 2003). The variable is time-invariant and reflects entrepreneurs' life history, while all other variables—except for foreign and government work experience that also capture entrepreneurs' life history—in our analyses were time-varying and measured on a yearly basis.

Moderators. We hypothesized five circumstances under which the ideological imprint is likely to decay. We measured *political involvement* by whether the entrepreneur served as a delegate to the PC or CPPCC in a given year (1 = yes, 0 = no), legislative bodies that are the only means for the public to participate in government decisions (Ma and Parish, 2006; Zhang et al., 2016). *Government appropriation* was gauged by the ratio of firms' profits taken by the government in a given year as "various fees to be shared with the government"—what Li et al. (2006) termed as "relational fees." Involvement in the government-created industry *social network* was measured by membership in the Association of Private Entrepreneurs on an annual basis (APE; 1 = yes, 0 = no). We used two variables to indicate observational exposure of governmental support of internationalization. The first one is a binary variable indicating whether it was *post-2001* (1 = yes, 0 = no) when the *10th Five-Year National Economic and Social Development Plan* was implemented. The second one, *regional FDI intensity*, was calculated by the value of total FDI over the local GDP yearly, using data from the China Regional Statistical Yearbook (Zhang et al., 2010).

Control variables. Based on the existing literature on firms' internationalization strategies (e.g., Liu et al., 2005; Villalonga and McGahan, 2005; Hitt et al., 2006; Luo et al., 2010; Liang et al., 2012), we controlled for entrepreneurs' characteristics, firm-level attributes, industry-level variables, and regional-level variations. At the individual level, we controlled for entrepreneurs' *current*

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the outward foreign direct investment is mainly driven by host market prospects and profits, and by the local government (Buckley et al., 2007; Liang et al., 2012). Yet, it likely positively relates to inward internationalization because concession establishment reflected geographic advantage that may consistently attract foreign investors. We also performed recently developed tests and obtained support of the exclusion restriction assumption (Kédagni and Mourifie, 2015): i.e., the joint statistical independence (JSI) assumption is not rejected at 10% level.

communist ideology, which ranges from 1 (least enthusiastic about communism) to 10 (most enthusiastic about communism), to determine the extent to which the effects we find are a result of their imprinted or current ideology, which has already been shown to affect corporate strategies (Chin et al., 2013; Briscoe et al., 2014). Specifically, "current communist ideology", which varies over the sample period, was collected from an item in the survey questionnaire asking how closely individuals identify themselves with communism when the survey was administrated. Controlling for the current value adds further credibility to our results in demonstrating an imprinting effect (Marquis and Huang, 2010), and in this way we are able to identify the incremental validity of this new construct—ideological imprint—by way of showing the additional explanatory power as well. We also controlled for entrepreneurs' *age*, measured in years, as entrepreneurs in different age cohorts might exhibit different strengths of the imprinting effect.[14] Entrepreneurs' *educational attainment* (in years) might also have an impact, as the more knowledgeable the entrepreneurs are, the more likely they will engage in internationalization for economic benefit (Luo et al., 2010). We controlled for the *foreign experience* of entrepreneurs, identifying those who received education or training, or were employed outside China (1 = yes, 0 = no), as such foreign experiences may make them more likely to engage in internationalization (Li et al., 2017). Lastly, we controlled for the *government work experience* of entrepreneurs (1 = yes, 0 = no), which indicates both the benefits entrepreneurs may get with these established political ties—resources, licenses, capital, etc.—and the proximity to the government for new information about internationalization (Zhang et al., 2016). Like the ideological imprint, both foreign and government work experiences are time-invariant as they reflect entrepreneurs' life history.

At the firm level, we controlled for attributes that likely affect internationalization (Villalonga and McGahan, 2005; Hitt et al., 2006; Buckley et al., 2007; Luo et al., 2010; Liang et al., 2012). *Firm size* was measured as the logarithm of the number of employees, as larger firms are more likely to internationalize. *Financial leverage* was calculated by debts over assets to indicate whether firms have slack resources to engage in internationalization (Li et al., 2017). *Firm age* (in years) was also

[14] However, our post hoc analysis using age as a moderator yielded insignificant results both statistically and economically (less than 1% of other moderating effects). In addition, we ruled out cohort effects with the diff-in-diff analysis reported in Table A4 in the Appendix. These results add further credibility to our theory.

included. At the industry level, we controlled for *industry average* of the corresponding dependent variable, excluding that from the focal firm. Namely, we used the ratio of firms that internationalized their firms for binary dependent variables, and the average values of the continuous dependent variables. We also controlled for the *manufacturing firm* (1 = yes, 0 = no), as manufacturing firms are more likely to be exposed to internationalization, particularly outward FDI (Luo et al., 2010; Zhang et al., 2010), and the government has emphasized the importance of global competition in the manufacturing sector (Peng, 2012). At the regional level, we controlled for (1) *poor Internet coverage*, reverse coded (i.e., subtracting the value from its maximum counterpart) as the number of Internet users per capita in the firms' home province (Harwit, 2004), which negatively relates to internationalization; (2) *density of CPC membership*, the number of CPC members per capita in the firms' home province (Bian et al., 2001; Shambaugh, 2008); and (3) economic conditions that might affect the internationalization of firms, particularly outward FDI (Liu et al., 2005), including *GDP per capita* in logarithm and *population growth*. We also controlled for *institutional development*, which indicates to what extent prices are determined by the market, the private sector is developed, products are circulated, resources are allocated, and the law is enforced (Fan et al., 2011) and is likely related to internationalization (Liu et al., 2005; Luo et al., 2010; Liang et al., 2012).

Estimation

We tested our hypotheses using both propensity score matching (PSM) (Rosenbaum and Rubin, 1983) and a Heckman model (Heckman, 1979). First, entrepreneurs might self-select to join the CPC and/or selected by the CPC, creating a potential endogeneity issue even though this issue may not be severe since the surveys chose respondents randomly and independently of communist ideology since 1993. We employed PSM to address this issue (Rosenbaum and Rubin, 1983). The approach matches entrepreneurs with a communist ideological imprint (the treatment group) with those without (the control group) based on the propensity score, which is computed by running a Probit or Logit model on observable variables (control variables in our study) to estimate the likelihood of being selected into the treatment group. We used a Logit model, the nearest-neighbor

matching without replacement and a caliper of 0.25 standard deviation to form the matched sample (Zhang et al., 2016). About 10.6 percent of firms were dropped at this stage. Tests confirmed that our overall matching quality was good, and in the matched sample, the communist ideological imprint could be regarded as randomly assigned to different entrepreneurs to the extent that we had ruled out selection on these observable variables.[15]

Meanwhile, as not all entrepreneurs internationalize their firms,[16] we incurred a sample-induced selection issue (Certo, Busenbark, Woo, and Semadeni, 2016). We therefore employed Heckman two-stage regression (Heckman, 1979), following recent advances in implementing this model (Lennox, Francis, and Wang, 2012; Certo et al., 2016).[17] In the first stage, for two binary dependent variables reflecting whether the firm received foreign capital and whether the firm had overseas assets, we ran a random effects Probit model and generated the respective inverse Mills ratios. In the second stage, we estimated a random effects linear model of internationalization on the independent variable, moderators, the corresponding inverse Mills ratio, and control variables with firms that experienced internationalization in the first stage. We had to use random effects because the ideological imprint is time-invariant, and thus fixed-effects estimation is not possible. We also ensured that random effects estimation was the appropriate model for both the first stage and second stage of the Heckman analysis by the Breusch and Pagan test (Breusch and Pagan, 1979).

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[15] Specifically, (1) t-tests of each variable between the two groups suggested that the differences were all insignificant at the 10% level after matching; (2) the pseudo-R^2 of the Logit model diminished to 0.0001 for the matched sample; and (3) the percentage bias fell well below the accepted threshold of 5% (Rosenbaum and Rubin, 1983). Test details are reported in Table A1 and Figure A1. Then the selection issue of the communist ideological imprint for results using weights generated from the matching is alleviated. We used the PSM weights for the subsequent Heckman model analyses, i.e. the weighted random effects Probit and linear regressions to analyze the data.

[16] Survival bias introduced by dropouts is not an issue. We used a balanced panel dataset over the sample period, i.e. these entrepreneurs managed their firms and their ventures still existed in our sample from 1993 to 2012 and found similar results. Meanwhile, all control variables—independently and jointly—are insignificantly different (statistically at 10% level and economically) between observations in the balanced panel dataset and the rest in the panel dataset.

[17] According to Lennox et al. (2012) and Certo et al. (2016) in executing Heckman analyses, we included firms' *technological resource* (1 = with R&D expenditure, 0 = without R&D expenditure), *profitability* (return on assets), *industry competitiveness* measured by the Herfindahl index of sales, and *industry sales growth* as exclusion restrictions that appear in the first stage but not the second stage based on existing literature (e.g., Johanson and Vahlne, 1977; Melin, 1992; Sullivan, 1994; Villalonga and McGahan, 2005; Hitt et al., 2006), which provided conflicting predictions of these variables on internationalization and suggested them insignificant in predicting the amount of internationalization. We also empirically confirmed their exclusion with the JSI test (Zhang et al., 2016) and Hausman test, and examined the strength suggested by Certo et al. (2016). We fully reported the first-stage results, evaluated the significance of explanatory variables and the inverse Mills ratio, and ensured robustness of the model by changing the set of control variables. Finally, we considered other sources of endogeneity by combining Heckman model with PSM analysis.

RESULTS

Table 1 presents some basic information of our working sample of 4,582 distinct firms, divided by whether or not the founder has a communist ideological imprint. Panel A in Table 1a shows that consistent with Lu and Tao's (2010) findings, the ratio of entrepreneurs with a communist ideological imprint increases faster than those without after 1989, suggesting that individuals with a communist ideological imprint did not eschew entrepreneurial opportunities in the first place. Panel B suggests that entrepreneurs with a communist ideological imprint mostly started their ventures in agricultural and manufacturing/construction industries. Statistics in panel C exhibit that firms started by entrepreneurs with and without a communist ideological imprint are similar in terms of size. Panel D demonstrates that most entrepreneurs were born into poor families and wanted to earn more income and to achieve self-fulfillment. Panel E suggests that there is no material difference between entrepreneurs with and without a communist ideological imprint. Basic information from the full sample was similar.

Table 1A presents the summary statistics. The largest correlation coefficient (0.49 between regional organizational age and government appropriation) is smaller than the rule-of-thumb 0.7. The largest variance inflation factors (VIFs) of all regressions is 8.65—less than 10—with a mean of 2.12. At such levels of correlation coefficients and VIFs, multicollinearity did not pose a threat to our analyses (Cohen, Cohen, West, and Aiken, 2003).

===Insert Tables 1 to 3 about here===

Tables 2 and 3 report empirical results. We employed two-tailed tests, with the dependent variables being the binary dependent variable of inward and outward internationalization in Panels A of Tables 2 and 3 respectively. Panels B of Tables 2 and 3 report results of the continuous dependent variable of inward and outward internationalization respectively. In all four tables, Model 1 serves as the baseline regression, Model 2 adds the independent variable and moderators, and Models 3 to 7 add in each interaction separately. Model 8 is the full model.

Hypothesis 1 argues that a firm leader's communist ideological imprint negatively affects the internationalization of the firm. Model 2 of Tables 2 and 3 shows that the effects of a firm leader's ideological imprint on both the inward internationalization (β = –0.517, $p < 0.01$ for the binary measure and β = –0.133, $p < 0.01$ for the continuous measure) and on outward FDI (β = –0.313, $p < 0.01$ for the binary measure and β = –0.623, $p < 0.01$ for the continuous measure) are negatively significant. On average, firms whose founders have a communist ideological imprint are 22.3 percent less likely to have inward foreign investment and have 0.133 less share of such investment—over 120 percent of the mean of 0.105, suggesting a large impact on share of inward foreign investment. Firms whose founders have a communist ideological imprint are 20.2 percent less likely to invest abroad and invest 0.623 less—over 500 percent of the mean value of 0.120, showing that such firms tend to forgo opportunities of exploring overseas markets. Meanwhile, the increase in explanatory power, R-squared, is substantial from baseline models (Model 1 in both Tables 2 and 3) to Model 2 of the corresponding tables and corroborated by Wald tests.

Hypotheses 2a and 2b maintain that direct interactions with the government, embodied by political involvement and government appropriation, accelerate the decay of firm leaders' ideological imprint. Model 3 of Tables 2 and 3 shows that the moderating effect of political involvement on the ideological imprint is positively significant for both inward internationalization (β = 0.279, $p < 0.01$ for the binary measure and β = 0.493, $p < 0.01$ for the continuous measure) and outward internationalization (β = 0.460, $p < 0.01$ for the binary measure and β = 0.322, $p < 0.01$ for the continuous measure), and thus Hypothesis 2a is supported. Similar findings are obtained on government appropriation in Model 4 of Tables 2 and 3, which positively and significantly moderates the relationship between ideological imprint and internationalization, i.e., the inward internationalization (β = 4.489, $p < 0.01$ for the binary measure and β = 0.198, $p < 0.01$ for the continuous measure) and outward internationalization (β = 0.700 $p < 0.10$ for the binary measure and β = 0.270, $p < 0.05$ for the continuous measure). Therefore, Hypothesis 2b is supported.

Hypothesis 3 posits that involvement in the government-created industry social networks also contributes to the decay of the ideological imprint. Model 5 of Tables 2 and 3 exhibits that this

variable positively moderates the negative relationship between firm leaders' ideological imprint and internationalization strategies, both inward ($\beta = 0.189$, $p < 0.01$ for the binary measure and $\beta = 0.305$, $p < 0.01$ for the continuous measure) and outward ($\beta = 0.154$, $p < 0.01$ for the binary measure and $\beta = 0.251$, $p < 0.05$ for the continuous measure). Hence, Hypothesis 3 is supported.

Hypothesis 4a states that the internationalization carried out as a national-level economic development plan in 2001 contributes to decay of the firm leaders' ideological imprint. Model 6 in Tables 2 and 3 shows that the estimated coefficients on the interaction between the post-2001 period and ideological imprint are positively significant for both proxies of the internationalization strategy, i.e. inward ($\beta = 0.136$, $p < 0.05$ for the binary measure and $\beta = 0.137$, $p < 0.01$ for the continuous measure) and outward ($\beta = 0.135$, $p < 0.10$ for the binary measure and $\beta = 0.015$, $p < 0.05$ for the continuous measure). Therefore, Hypothesis 4a is supported.

Hypothesis 4b suggests that regional FDI intensity is also an important factor leading to the decay of firm leaders' ideological imprint. According to Model 7 in Tables 2 and 3, the regional FDI intensity positively moderates the negative relationship between ideological imprint and internationalization strategy, both inward ($\beta = 0.199$, $p < 0.01$ for the binary measure and $\beta = 0.057$, $p < 0.05$ for the continuous measure) and outward ($\beta = 0.212$, $p < 0.05$ for the binary measure and $\beta = 0.013$, $p < 0.10$ for the continuous measure). Thus, Hypothesis 4b is supported.

We illustrated the data visually in Figures 2 and 3, which provide graphical examination of our hypotheses involving continuous-valued moderators as well. Specifically, we employed pairs of scatterplots with linear fits of continuous measures of both internationalization variables on vertical axes respectively in Figures 2 and 3, splitting entrepreneurs with and without communist ideological imprint in the sets of paired figures. For each pair of figures, i.e. subfigures (a) and (b), we presented moderator on the horizontal axis and used consistent scales on vertical axis to ease comparison. The figures lend visual support to our hypotheses in that (1) ideological imprint has a negative impact as shown in the lower position of fitted lines for entrepreneurs with such imprint; and (2) the slopes on the left-hand-side figure are steeper, indicating positive moderating effects. We obtained similar results for binary-valued moderators in bar charts. Our results are also supported by slope tests.

===Insert Figures 1 and 2 about here===

Robustness Checks

Importance of socialization. An important concern related to potential selection bias influencing our results is whether the effects we observe occur because of reinforcement of individuals' prior belief in communism (a dispositional value), or whether the process of socialization led to the imprint that is orthogonal to the existing values. Historical evidence on how CPC membership was almost universally sought suggests this is not an issue (e.g., Dickson and Rublee, 2000; Li and Walder, 2001), but to understand it further, we employed regression discontinuity design (RDD) analyses to examine the importance of socialization in establishing the pre-1978 communist ideological imprint.[18]

The basic tenet of RDD is that an exogenously determined discontinuity in some explanatory variables helps researchers to identify a causal effect. In our setting, an exogenous and predetermined qualification is the age of entrepreneurs—from the foundation of the CPC until 1978, individuals younger than 18 were not allowed to join the CPC (with very few exceptions). Therefore, entrepreneurs who were around 18 years old (17–19) in 1978 constituted a random sample in terms of the communist ideological imprint (whether going through the socialization process). Namely, entrepreneurs who became CPC members later but did not before 1978 because of the age qualification (for 17-year-old cohort) are the control group, while those already 18 years old (18–19) and joined the CPC are the treatment group. In this sample, all entrepreneurs maintain the same dispositional ideology (value), and the age discontinuity reflecting whether the focal entrepreneurs

[18] The following standards and recommended steps guided our RDD analysis: (1) the age discontinuity is not anticipatable; (2) different bin widths—1959 to 1961, 1958 to 1962, and 1955 to 1965—provide similar results; (3) the discontinuity is not driven by omission of certain key variables or can be approximated with polynomial or nonparametric regression, and thus represents an exogenous shock; (4) age exhibits discontinuity only at our specified cutoff points and other explanatory variables do not exhibit a discontinuity based on McCrary (2008) test; (5) placebo tests that shift age discontinuities earlier or later yield non-results; (6) differences of explanatory variables other than the age are all insignificant at 10% level above and below the age discontinuity (in the age bins we used) such that the effects of age discontinuity on dependent variables are not attributable to other explanatory variables; and (7) controlling for explanatory variables does not affect the results. Also, because the CPC selection process and associated incentives are opaque to Chinese citizens (Bian et al., 2001), it is unlikely that in the short run at least (years immediately after 1978) personal incentives for joining the party would change. Thus, because the discontinuity exhibited such a dramatic break, the RDD does not likely reflect a change in individual incentives to join the party.

reached 18–19 years captures the impact of CPC socialization in the pre-1978 period. Therefore in this quasi-natural experiment design, the age discontinuity helps distinguish the impact of imprinting (the socialized value) from the disposition, and thus we can further provide evidence that the effects are a result of becoming a CPC member after going through the socialization/indoctrination processes, rather than individuals' dispositional interest. Figures 3 (a) and (b) illustrated that going through the imprinting process leads to less inward internationalization and outward internationalization. Table 4 presents the results. The results suggest that socialization is important, as randomly selection into the communist ideological imprinting process significantly and negatively affects internationalization. The communist ideological imprint is a socialized value.

===Insert Figure 3 and Table 4 about here===

We also report a wide range of other robustness checks and further analyses in the Appendix, including the PSM details, full longitudinal sample analyses, counterfactual analysis to provide evidence of motivated cognition, and results of diff-in-diff estimation for finer-grained analysis of the communist ideological imprint and to show that it is not simply a cohort effect.

DISCUSSION

Our study examined how Chinese entrepreneurs' communist ideological imprint has affected their firms' internationalization strategies. Based on analyses of a longitudinal sample of Chinese private entrepreneurs, we found that their communist ideological imprint, formed prior to founding their enterprises, consistently and negatively affected the internationalization of their ventures in a later stage. However, the negative effects are mitigated by entrepreneurs' direct interactions with the source of the imprint—the contemporary reformer-led government—as well as by involvement in a government-created industry social networks and by observing governmental support of internationalization. We theorized and showed that the diffusion of information from each of these sources leads to the decay of entrepreneurs' ideological imprint.

Theoretical Implications

Our study offers a number of important theoretical implications. First, we show the "imprint transfer" process whereby an individual's imprint affects the organization he or she leads, highlighting the important role of "entrepreneurs in selecting and incorporating historically specific elements that may remain for decades or even centuries as fundamental features of the organization in question" (Johnson, 2007: 97). While prior research has shown that organizational-level or work-unit-level imprints can affect individuals (McEvily et al., 2012) and that individuals can leave an imprint in organizations that functions even after they depart (Baron et al., 1999; Johnson, 2007), cross-level imprinting processes such as what we examined are underexplored (Simsek et al., 2015) and contribute to a better understanding of a general multilevel imprinting perspective (Marquis and Tilcsik, 2013). Our results provide evidence that in addition to cognitive frames and values related to business directly—such as blueprints, organizational structures, business models, and employment relations (e.g., Baron et al., 1999; Beckman et al., 2007)—corporate leaders may also inject their non-business-related frames and values, such as imprinted political ideologies, into their firms.

Second, the extent to which imprints decay is an important yet understudied issue, especially for individuals (Marquis and Tilcsik, 2013). Our study unpacks the evolutionary process of imprints by examining the effects of information diffusion, suggesting that two key conditions must be satisfied to erode the imprint: availability and credibility of contradicting information. We also highlight that imprints carry seeds of their own decay, as the source of the original imprint triggers the decay of imprints they established earlier. We thus bring the role of the imprinter back into the imprinting literature, which has mostly centered on the imprinter's initial and one-off actions. We argue that imprinters are crucial in understanding imprinting dynamics and particularly the subsequent functions and evolution of the imprints they establish. Finally, our theorizing highlights selective attention (Newell and Simon, 1972) as one important meta-theoretical assumption of the imprinting literature. Selective attention is not only responsible for the original imprinting process

wherein focal entities internalize prominent features of the environment that affect their future behaviors enduringly, but also facilitates decay of the imprint.

Third, our research contributes to the upper echelons literature (Hambrick and Mason, 1984). The imprint transfer process we examine suggests that this perspective could be more precisely defined as viewing organizations as reflecting their top managers' selected life histories: salient impressionable periods of both their early life experiences and their careers. Within this literature, our study extends the burgeoning research on the influence of corporate leaders' political ideology on corporate strategies and policies (e.g., Chin et al., 2013; Briscoe et al., 2014; Chin and Semadeni, 2017; Gupta et al., 2017). Different from the argument that their current political ideologies are responsible for corporate strategies but may also reflect managers' self-interest (Chin et al., 2013), we theorize that individuals' political ideologies established in the past—reflecting their influential experiences during sensitive periods—endure. We thus revisit Mannheim's early focus on both the importance of impressionable years and the historicism of ideology (Mannheim, 1929/1936). By integrating these two strands of literature, our study brings temporality back into ideological research on organizations, highlighting its importance to understand organizational behaviors.

More importantly, our study suggests that political ideology might not be a reflection of only ones' dispositional values but also of socialization processes in key life stages (Jost, 2006; Jost et al., 2009). Like macroeconomic conditions (e.g., Bianchi, 2014) and social class (e.g., Kish-Gephart and Campbell, 2015), socialization is an important imprinting process that internalizes individuals' values (Ashforth and Saks, 1996) and may even change ones' existing values (Akerlof, 1983). The socialized value perspective we bring to understanding ideological imprinting highlights the importance of critical experiences that individuals go through, and it bridges two important personal antecedents of corporate leaders' decision-making: experiences and values (Hambrick and Mason, 1984; Finkelstein et al., 2009). We suggest that better understanding the interrelationship of different executive characteristics further develops the upper echelons perspective on how strategy and organizational behaviors are formed.

Finally, our research extends the effects of individuals' imprints to an important corporate strategy: internationalization. While existing literature has focused extensively on understanding internationalization processes (Johanson and Vahlne, 1977; Melin, 1992; Li et al., 2017), managerial characteristics—although recognized as important (Sanders and Carpenter, 1998)—have received limited attention. Therefore, we extend research on the set of antecedents of internationalization by examining corporate leaders' backgrounds. Furthermore, researchers have increasingly paid attention to the internationalization of Chinese firms (Child and Rodrigues, 2005), yet mostly have focused on state-owned enterprises (see Liang et al., 2012 for an exception). As the marketization of China progresses (Dickson, 2003), private firms are increasingly important (Li and Zhang, 2007), and their internationalization will likely play a greater role in the Chinese and world economy (Liang et al., 2012). The internationalization of private firms in China is likely to have profound implications for both academic research and business operations (Li et al., 2017). Our study is among the first to unpack important trends in their internationalization, especially that of new ventures.

Limitations and Future Research

Our focus on internationalization as an outcome of ideological imprinting was guided by both theoretical and historical reasons, and future research may examine other outcomes, such as corporate strategies, executive compensation (Chin and Semadeni, 2017), and employee related issues (Briscoe et al., 2015). For example, entrepreneurs with a communist ideological imprint—which also stresses social contributions—may be more focused on societal concerns, avoid exploitative business practices, and be more philanthropic (e.g., Tsang, 1996; Dickson, 2007). In exploratory analyses, we found evidence that entrepreneurs with a communist ideological imprint are more engaged in such corporate social responsibility (CSR) practices.

Second, while we have ruled out potential selection biases driven by observable characteristics through our PSM analyses and shown that CPC socialization rather than selection is the major mechanism for the influence of the ideological imprint through our RDD analyses, we acknowledge that there may be unobservable characteristics that affect entrepreneurs' self-selection

into CPC membership and/or the selection criteria of the CPC. For instance, research suggests that the CPC may base membership on characteristics that are unobservable to us such as work performance, engagement in social activities, relationships with co-workers and neighbors, and interpersonal skills (e.g., Bian et al., 2001; Dickson, 2003; Li et al., 2008). However, we believe these issues do not compromise our analyses. First, given our raft of control variables on entrepreneurs' characteristics such as education and work experience, it is likely these differences are mostly accounted for in our analyses. For instance, education may proxy ability and thus work performance, and foreign and government experiences may indicate their engagement in social activities, relationships with co-workers and neighbors, interpersonal skills as these job positions are competitive and require strong social skills (e.g., Li and Zhang, 2007). Furthermore, involvement in social networks is part of our theorized model. Second, according to Rosenbaum and Rubin (1983), if selection is not based on observable information, then it is not likely based on unobservable characteristics either. In addition, the similarity across the different types of entrepreneurs (see Table 1a) and our large sample size should also alleviate the issue. However, we do encourage future studies to use other more exogenous experiences—such as coming of age in a recession (Bianchi, 2014) and social class (Kish-Gephart and Campbell, 2015)—to more strongly establish causality between imprinting and its consequences.

Finally, extensions of our theory to other contexts beyond China are also encouraged. For instance, India experienced a reform similar to China's 1978 transition in 1991 (Choudhury and Khanna, 2014) and other countries have different ideologies (i.e. socialism) and spectra of political ideologies (e.g. socialism-capitalism and liberalism-authoritarianism). Ideology is a multifaceted and in many ways context-specific characteristic, and only by examining different settings and organizational practices will we develop a full understanding of the role of ideology in organizational theory.

Conclusion

Our study examines how an entrepreneur's ideological imprint is transferred to his or her ventures and the factors that contribute to its decay. We highlight the importance of information in imprints, showing that information filtering is a critical mechanism through which imprints function, and the availability and credibility of contradictory new information are key conditions to induce the subsequent decay of the imprint. In essence, as we demonstrate, an imprint is not permanent but contains the seeds of its own decay. Our research offers explicit theoretical mechanisms for the functioning of imprints over time as well as a model for imprint decay, and it suggests that future research needs to move beyond examining the "stability" of imprints, to investigating in more detail how imprints evolve over time.

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Table 1 Descriptive Statistics of the Final Sample

Characteristics/Sample	Communist ideological Imprint =1 and % of all entrepreneurs		Communist ideological Imprint =0 and % of all entrepreneurs		All	
Panel A: Founding dates of firms						
Founded between 1978 and 1988	68 (7.0% of all periods)	10.6%	574 (15.9% of all periods)	89.4%	642	
Founded between 1989 and 1992	22 (2.2% of all periods)	12.3%	157 (4.4% of all periods)	87.7%	179	
Founded between 1993 and 2002	508 (52.0% of all periods	24.3%	1,583 (43.9% of all periods)	75.7%	2,091	
Founded between 2003 and 2012	379 (38.8 % of all periods)	22.7%	1,291 (35.8% of all periods)	77.3%	1,670	
Panel B: Industries of firms						
Agriculture	83 (8.5 % of all industries)	25.5%	242 (6.7% of all industries)	74.5%	325	
Manufacturing and construction	521 (53.3 % of all industries)	22.1%	1,832 (50.8% of all industries)	77.9%	2,353	
Services (finance, real estate, etc.)	373 (38.2 % of all industries)	19.6%	1,531 (42.5% of all industries)	80.4%	1,904	
Panel C: Firm characteristics	With communist ideological imprint		Without communist ideological imprint		All	
Statistics	Mean	std. dev.	Mean	std. dev.	Mean	std. dev.
Total assets (in 1,000 US$, logged)	6.87	3.02	6.61	4.59	6.68	4.08
Total sales (in 1,000 US$, logged)	8.13	3.8	8.17	6.17	8.16	5.24
Number of employees (logged)	3.7	1.85	3.58	1.61	3.65	1.74
Panel D: Characteristics of entrepreneurs						
Socioeconomic background (poor)	720	21.17%	2,681	78.83%		3,401
Socioeconomic background (middle-class)	220	20.72%	842	79.28%		1,062
Socioeconomic background (rich)	37	31.09%	82	68.91%		119
Top reason to start a business (earn more income)‡	672	19.13%	2840	80.87%		3,512
Top reason to start a business (self-fulfillment)	219	27.04%	591	72.96%		810
Panel E: Comparison among entrepreneurs	**Mean**	**S.D.**	**Mean**	**S.D.**		
1. Age	45.18	8.75	45.69	8.56		
2. Educational attainment	12.84	1.65	12.90	1.48		
3. Current communist ideology	5.52	2.52	5.54	2.51		
4. Foreign experience	0.25	0.43	0.20	0.40		
5. Government work experience	0.11	0.32	0.08	0.27		
6. Firm size	3.70	1.85	3.58	1.61		
7. Financial leverage	0.13	0.22	0.13	0.23		
8. Firm age	7.61	5.60	8.92	5.43		
13. Manufacturing firm	0.15	0.04	0.15	0.03		
14. Poor internet coverage	0.11	0.04	0.11	0.04		
15. Density of CPC membership	0.18	0.09	0.17	0.09		
16. GDP per capita (logged)	0.14	0.06	0.12	0.05		
17. Population growth	0.20	0.23	0.23	0.22		
18. Institutional development	0.11	0.14	0.11	0.14		
19. R&D investment (0/1)	0.01	0.07	0.01	0.05		
20. Firm performance	7.22	4.21	7.35	4.24		
21. Industry competitiveness	0.04	0.04	0.04	0.04		
22. Industry growth	6.64	3.08	7.19	2.80		

Data are from our final sample.

‡ The two items are not exhaustive for all private entrepreneurs (94.33% of all entrepreneurs maintain the two as top reason to start a business, and other reasons include influence by others and bad interpersonal relations in the previous job).

Table 2. Results from Heckman Model and PSM: Inward Internationalization (1993-2012)

Model	1	2	3	4	5	6	7
Panel A: First stage results of Heckman (random effects Probit) after PSM. Controls are reported in Panel A of Table A2a.							
Ideological imprint (**H1**)	-0.517••	-0.602••	-1.202••	-2.162••	-0.840••	-1.303••	-3.892••
	(0.031)	(0.038)	(0.050)	(0.229)	(0.064)	(0.057)	(0.297)
Political involvement	0.097••	0.051†	0.090••	0.102••	0.094••	0.079••	0.043
	(0.027)	(0.029)	(0.027)	(0.027)	(0.027)	(0.027)	(0.029)
Government appropriation	1.191••	1.179••	-0.532••	1.033••	1.175••	0.895••	-0.635••
	(0.109)	(0.109)	(0.152)	(0.110)	(0.109)	(0.113)	(0.153)
Social network	0.131••	0.131••	0.097••	0.005	0.130••	0.104••	-0.014
	(0.026)	(0.026)	(0.026)	(0.027)	(0.026)	(0.026)	(0.027)
Post 2001	0.032	0.028	-0.004	0.010	-0.029	0.073	-0.019
	(0.044)	(0.044)	(0.045)	(0.045)	(0.046)	(0.045)	(0.047)
Regional FDI intensity	0.555••	0.550••	0.448••	0.504••	0.545••	-0.068	-0.132•
	(0.047)	(0.047)	(0.048)	(0.048)	(0.047)	(0.057)	(0.058)
Ideological imprint × political involvement (**H2a**)		0.279••					0.300••
		(0.065)					(0.081)
Ideological imprint × government appropriation (**H2b**)			4.489••				6.863••
			(0.234)				(0.256)
Ideological imprint × social network (**H3**)				0.189••			0.220••
				(0.023)			(0.028)
Ideological imprint × post 2001 (**H4a**)					0.136•		0.067••
					(0.062)		(0.031)
Ideological imprint × regional FDI intensity (**H4b**)						0.199••	0.083•
						(0.029)	(0.037)
Number of observations	18,424	18,424	18,424	18,424	18,424	18,424	18,424
Goodness of fit (pseudo R^2)	0.361	0.382	0.384	0.385	0.384	0.384	0.413
Panel B: Second stage results of Heckman (random effects) after PSM. Controls are reported in Panel B of Table A2a.							
Inverse Mills ratio	-0.076••	-0.072••	-0.109••	-0.071••	-0.064••	-0.074••	-0.003
	(0.008)	(0.008)	(0.011)	(0.008)	(0.008)	(0.011)	(0.042)
Ideological imprint (**H1**)	-0.133••	-0.116••	-0.167••	-0.170•	-0.020	-0.129••	-0.497••
	(0.007)	(0.008)	(0.010)	(0.069)	(0.013)	(0.013)	(0.132)
Political involvement	0.033••	0.025••	0.030••	0.033••	0.034••	0.033••	0.027••
	(0.004)	(0.005)	(0.004)	(0.004)	(0.004)	(0.004)	(0.005)
Government appropriation	0.012	0.017	0.090••	0.016	0.018	0.014	0.032
	(0.017)	(0.017)	(0.024)	(0.017)	(0.017)	(0.018)	(0.032)
Social network	0.008†	0.009•	0.009•	0.008†	0.008•	0.008†	0.009•
	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)
Post 2001	0.018••	0.016••	0.021••	0.018••	0.016••	0.018••	0.017••
	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)
Regional FDI intensity	0.021••	0.021••	0.010	0.024••	0.023••	0.019•	0.012
	(0.008)	(0.008)	(0.008)	(0.008)	(0.007)	(0.009)	(0.009)
Ideological imprint × political involvement (**H2a**)		0.493••					0.632••
		(0.110)					(0.123)
Ideological imprint × government appropriation (**H2b**)			0.198••				0.965••
			(0.042)				(0.110)
Ideological imprint × social network (**H3**)				0.305••			0.226•
				(0.069)			(0.090)
Ideological imprint × post 2001 (**H4a**)					0.137••		0.101••
					(0.013)		(0.015)
Ideological imprint × regional FDI intensity (**H4b**)						0.057•	0.093†
						(0.020)	(0.054)
Number of observations	2,781	2,781	2,781	2,781	2,781	2,781	2,781
Goodness of fit (between R^2)	0.321	0.326	0.326	0.325	0.346	0.321	0.361

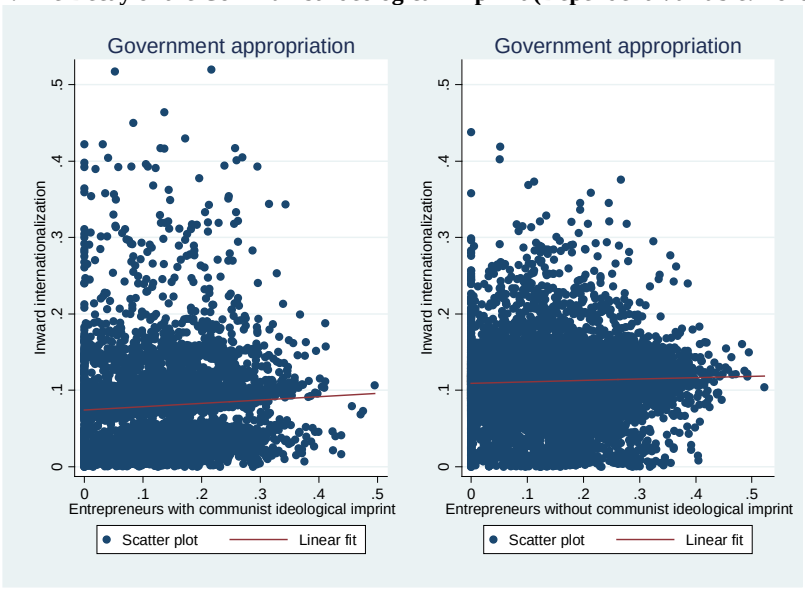
Note: •• p<0.01, • p<0.05, † p<0.1. Intercept not reported to save space.
18,424 observations are on the common support and thus used for PSM analysis. 2,781 of them experienced inward internationalization.

Table 3. Results from Heckman Model and PSM: Outward Internationalization (1993-2012)

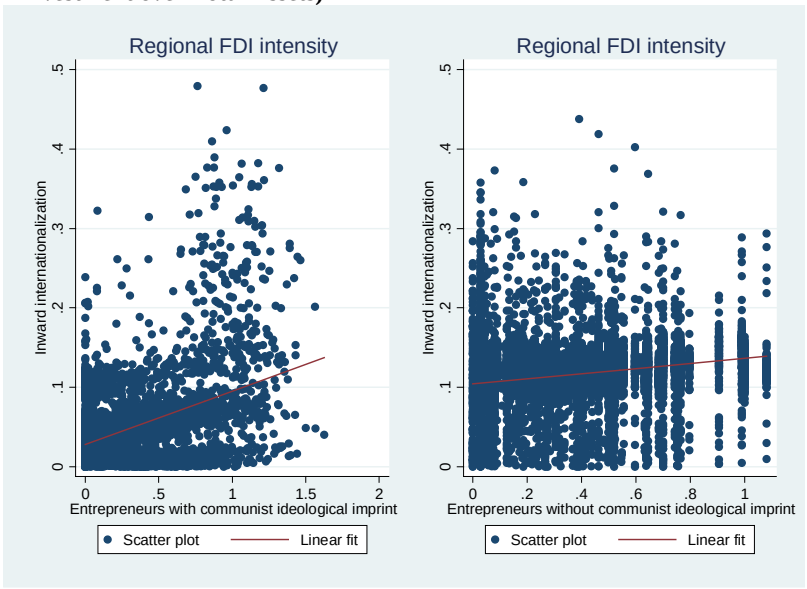
Model	1	2	3	4	5	6	7
Panel A: First stage results of Heckman (random effects Probit) after PSM. Controls are reported in Panel A of Table A2b.							
Ideological imprint (**H1**)	-0.313••	-0.445••	-0.393••	-1.129••	-0.208••	-0.385••	-1.285••
	(0.034)	(0.041)	(0.058)	(0.091)	(0.068)	(0.050)	(0.125)
Political involvement	0.057†	-0.035	0.056†	0.070•	0.058†	0.055†	-0.020
	(0.033)	(0.036)	(0.033)	(0.033)	(0.033)	(0.033)	(0.036)
Government appropriation	0.137	0.085	-0.308	-0.134	0.154	0.033	-0.381
	(0.197)	(0.198)	(0.334)	(0.199)	(0.197)	(0.205)	(0.334)
Social network	0.208••	0.211••	0.205••	0.067•	0.208••	0.206••	0.069•
	(0.032)	(0.032)	(0.032)	(0.034)	(0.032)	(0.032)	(0.034)
Post 2001	0.014	0.009	0.016	0.009	0.037	0.021	0.042
	(0.050)	(0.050)	(0.050)	(0.050)	(0.051)	(0.050)	(0.052)
Regional FDI intensity	0.160••	0.148•	0.145•	0.116•	0.157••	0.095	0.003
	(0.058)	(0.058)	(0.059)	(0.058)	(0.058)	(0.066)	(0.067)
Ideological imprint × political involvement (**H2a**)		0.460••					0.467••
		(0.073)					(0.075)
Ideological imprint × government appropriation (**H2b**)			0.700†				1.560••
			(0.413)				(0.427)
Ideological imprint × social network (**H3**)				0.154••			0.221••
				(0.029)			(0.032)
Ideological imprint × post 2001 (**H4a**)					0.135†		0.158•
					(0.075)		(0.080)
Ideological imprint × regional FDI intensity (**H4b**)						0.212•	0.131•
						(0.106)	(0.062)
Number of observations	12,643	12,643	12,643	12,643	12,643	12,643	12,643
Goodness of fit (pseudo R^2)	0.477	0.478	0.478	0.478	0.477	0.480	0.583
Panel B: Second stage results of Heckman (random effects) after PSM. Controls are reported in Panel B of Table A2b.							
Inverse Mills ratio	-0.394••	-0.296••	-0.380••	-0.551••	-0.396••	-0.407••	-0.083
	(0.087)	(0.095)	(0.088)	(0.117)	(0.088)	(0.090)	(0.959)
Ideological imprint (**H1**)	-0.623••	-0.677••	-0.655••	-0.375••	-0.634••	-0.618••	-1.453••
	(0.025)	(0.034)	(0.040)	(0.117)	(0.045)	(0.036)	(0.424)
Political involvement	0.177••	0.156••	0.177••	0.164••	0.177••	0.177••	0.159••
	(0.021)	(0.022)	(0.021)	(0.021)	(0.021)	(0.021)	(0.023)
Government appropriation	0.567••	0.565••	0.385†	0.595••	0.565••	0.577••	0.440†
	(0.124)	(0.123)	(0.217)	(0.124)	(0.124)	(0.133)	(0.245)
Social network	-0.038†	-0.026	-0.037†	-0.041†	-0.038†	-0.038†	-0.039
	(0.021)	(0.022)	(0.021)	(0.021)	(0.021)	(0.021)	(0.030)
Post 2001	-0.005	-0.008	-0.004	-0.010	-0.007	-0.006	-0.017
	(0.032)	(0.032)	(0.032)	(0.032)	(0.032)	(0.032)	(0.035)
Regional FDI intensity	0.041	0.047	0.036	0.029	0.041	0.044	0.043
	(0.037)	(0.037)	(0.038)	(0.038)	(0.037)	(0.041)	(0.041)
Ideological imprint × political involvement (**H2a**)		0.322••					0.341••
		(0.051)					(0.081)
Ideological imprint × government appropriation (**H2b**)			0.270•				1.588••
			(0.134)				(0.274)
Ideological imprint × social network (**H3**)				0.251•			0.226
				(0.115)			(0.147)
Ideological imprint × post 2001 (**H4a**)					0.015•		0.040•
					(0.008)		(0.019)
Ideological imprint × regional FDI intensity (**H4b**)						0.013†	0.068•
						(0.007)	(0.032)
Number of observations	2,171	2,171	2,171	2,171	2,171	2,171	2,171
Goodness of fit (between R^2)	0.328	0.330	0.328	0.329	0.328	0.328	0.330

Note: •• p<0.01, • p<0.05, † p<0.1. Intercept not reported to save space.
18,424 observations are on the common support and thus used for PSM analysis.12,643 observations are left after 2000, and 2,171 of them experienced outward internationalization.

Figure 1. The Decay of the Communist Ideological Imprint (Dependent Variable: Foreign Investment over Total Assets)

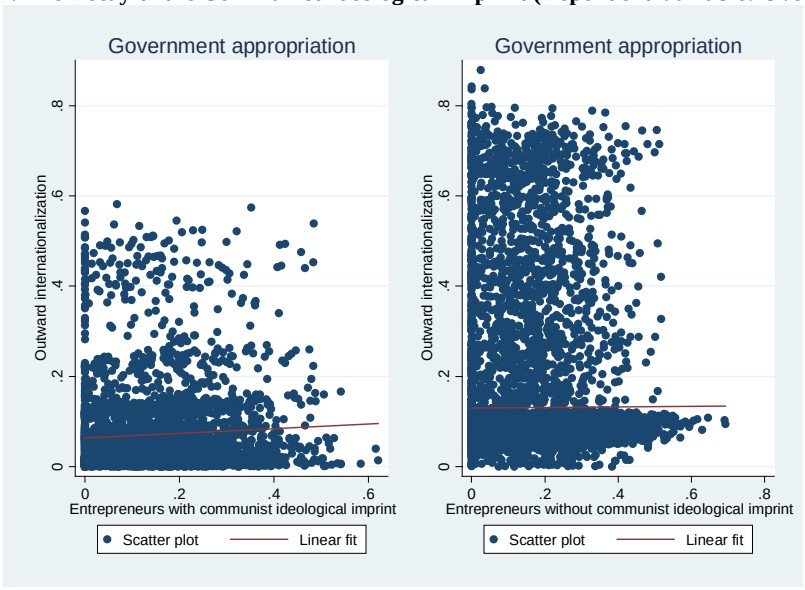


(a) Government appropriation (left: imprint=1, right: imprint=0)

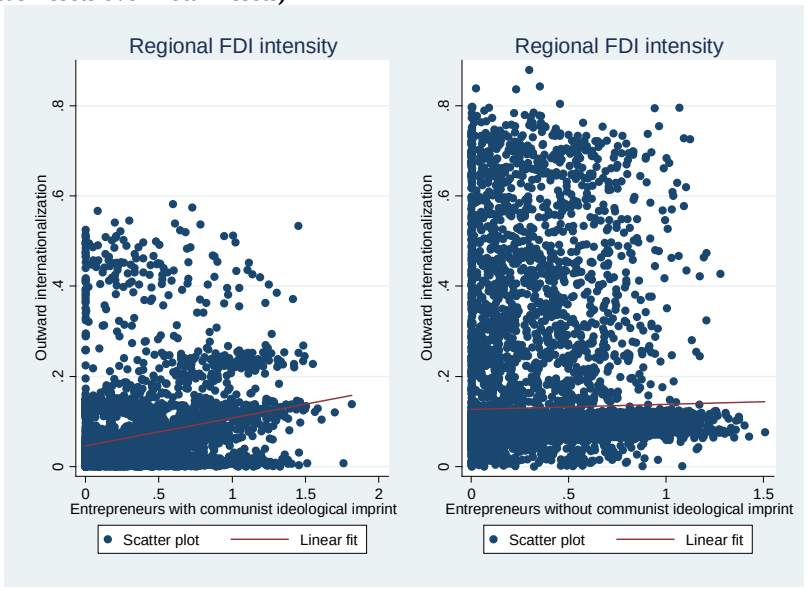


(b) Regional FDI intensity (left: imprint=1, right: imprint=0)

Figure 2. The Decay of the Communist Ideological Imprint (Dependent Variable: Overseas Assets over Total Assets)



(a) Government appropriation (left: imprint=1, right: imprint=0)



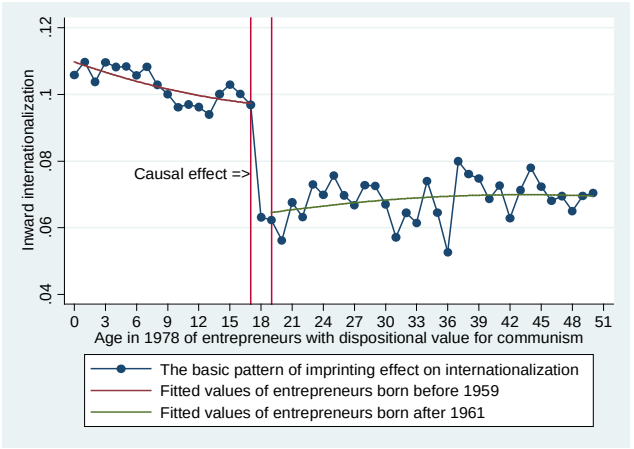
(b) Regional FDI intensity (left: imprint=1, right: imprint=0)

Table 4. Results from Regression Discontinuity Design: The Sample Includes Cohorts (Varying with Age) Who Became CPC Members Later But Did Not Before 1978 Because of the Age Qualification as Control and Those Actually Joined CPC as Treatment (1993-2012)

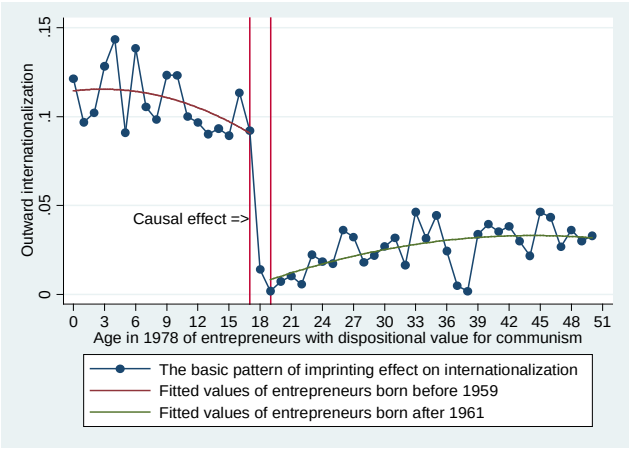
Model	1	2	3	4	5	6	7	8
Dependent variable	**Inward internationalization**				**Outward internationalization**			
Form of dependent variable	**Binary**		**Continuous**		**Binary**		**Continuous**	
With other explanatory variables	**No**	**Yes**	**No**	**Yes**	**No**	**Yes**	**No**	**Yes**
Age discontinuity (already 18 before 1978)	-0.342•	-0.355•	-0.377••	-0.382••	-0.344••	-0.347••	-0.324••	-0.284••
(were between 17 and 19 in 1978)	(0.136)	(0.143)	(0.043)	(0.046)	(0.120)	(0.124)	(0.091)	(0.094)
Number of observations	1,077	1,077	238	238	725	725	131	131
Goodness of fit (pseudo and between R^2)	0.013	0.062	0.242	0.285	0.012	0.036	0.122	0.193
Age discontinuity (already 18 before 1978)	-0.235••	-0.272••	-0.378••	-0.361••	-0.343••	-0.346••	-0.271••	-0.236••
(were between 16 and 20 in 1978)	(0.089)	(0.092)	(0.030)	(0.030)	(0.083)	(0.085)	(0.063)	(0.064)
Number of observations	2,183	2,183	536	536	1,477	1,477	285	285
Goodness of fit (pseudo and between R^2)	0.006	0.033	0.232	0.311	0.012	0.026	0.161	0.193
Age discontinuity (already 18 before 1978)	-0.247••	-0.269••	-0.363••	-0.357••	-0.239••	-0.237••	-0.240••	-0.224••
(were between 13 and 23 in 1978)	(0.056)	(0.056)	(0.018)	(0.018)	(0.052)	(0.053)	(0.041)	(0.041)
Number of observations	5,394	5,394	1,328	1,328	3,708	3,708	652	652
Goodness of fit (pseudo and between R^2)	0.007	0.016	0.239	0.315	0.006	0.013	0.144	0.154

Note: •• p<0.01, • p<0.05, † p<0.1. Intercept not reported to save space.
Entrepreneurs (1) who became CPC members later but did not before 1978 because of the age qualification (born after 1960), and those (2) joined the CPC before 1978 and were born before 1960 are included. Exact birth years were according to different age cohort bin. Numbers of observations vary by different age cohorts of entrepreneurs.
Pseudo and between R^2 are goodness of fit for binary and continuous dependent variables respectively.

Figure 3. The Graphical Illustration of RDD Results and Tests



(a) Causal effect of the age discontinuity for the socialization of the communist ideological imprint for the continuous inward internationalization measure



(b) Causal effect of the age discontinuity for the socialization of the communist ideological imprint for the continuous outward internationalization measure

APPENDIX: Additional Robustness Checks and Analyses, Tables and Figures

List of Appendices, Tables and Figures

Appendix 1: Summary Statistics and Correlation Matrix

Table A1 Summary Statistics and Correlation Matrix (N = 20,564)

Variable	Mean	Std. Dev.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1. Inward internationalization (0/1)	0.15	0.36	1.00														
2.Inward internationalization (foreign investment/total)	0.11	0.12	0.63	1.00													
3.Outward internationalization (0/1)	0.18	0.38	0.14	0.14	1.00												
4.Outward internationalization (overseas asset/total)	0.12	0.48	0.12	0.11	0.43	1.00											
5. Ideological imprint	0.21	0.41	-0.18	-0.15	-0.16	-0.19	1.00										
6. Political involvement	0.30	0.46	0.04	0.07	0.01	0.05	-0.06	1.00									
7. Government appropriation	0.13	0.10	0.05	0.15	-0.07	-0.02	0.03	0.00	1.00								
8. Social network	0.69	0.46	0.04	0.07	0.05	-0.01	-0.02	0.10	0.02	1.00							
9. Post 2001	0.66	0.47	0.07	0.09	0.14	0.02	0.09	-0.07	-0.23	-0.04	1.00						
10. Regional FDI intensity	0.25	0.28	0.10	0.20	0.08	0.00	0.08	-0.06	-0.05	-0.05	0.49	1.00					
11. Age	45.29	8.71	0.01	0.01	0.02	0.01	0.02	0.04	-0.08	-0.01	0.14	0.08	1.00				
12. Educational attainment	12.89	1.62	-0.03	-0.02	-0.02	0.00	-0.02	0.06	0.05	-0.01	-0.32	-0.17	-0.16	1.00			
13. Current communist ideology	5.53	2.52	-0.01	-0.01	0.01	-0.01	0.34	-0.24	0.01	-0.02	0.06	0.00	-0.13	-0.02	1.00		
14. Foreign experience	0.21	0.41	0.03	0.04	0.05	0.01	0.05	0.29	-0.09	0.09	0.33	-0.07	0.00	-0.14	-0.01	1.00	
15. Government work experience	0.09	0.28	0.02	0.02	0.04	0.00	0.05	-0.08	-0.05	-0.04	0.18	0.11	0.05	-0.04	0.02	0.00	1.00
16. Firm size	3.61	1.69	0.02	0.02	0.02	0.01	0.02	0.20	-0.06	0.03	0.03	0.04	0.11	0.07	-0.24	0.04	0.00
17. Financial leverage	0.13	0.22	0.01	0.02	0.00	-0.01	0.01	0.05	0.06	0.02	0.03	-0.04	0.04	-0.05	-0.05	0.12	-0.01
18. Firm age	7.89	5.59	0.05	0.05	0.11	0.01	0.10	-0.21	-0.22	-0.19	0.49	0.45	0.15	-0.18	0.06	-0.05	0.22
19.Industry average (inward internationalization 0/1)	0.15	0.04	0.06	0.05	0.11	0.02	0.00	0.07	-0.20	0.03	0.41	0.35	0.11	-0.23	0.01	0.28	0.09
20.Industry average (inward internationalization, continuous)	0.11	0.04	0.95	0.62	0.04	0.01	-0.06	0.03	0.05	0.03	0.10	0.12	0.01	-0.04	0.00	0.06	0.03
21.Industry average (outward internationalization 0/1)	0.18	0.09	0.05	0.04	0.24	0.05	0.00	0.00	-0.27	0.06	0.49	0.25	0.09	-0.09	0.04	0.18	0.10
22.Industry average (outward internationalization, continuous)	0.12	0.06	0.02	0.02	0.69	0.22	-0.07	0.07	-0.05	0.01	0.05	0.05	0.00	0.01	-0.01	0.03	0.00
23. Manufacturing firm	0.22	0.23	0.00	-0.01	0.01	0.01	-0.01	0.00	-0.01	-0.05	0.02	0.04	0.03	-0.03	-0.04	-0.08	0.01
24. Poor internet coverage	0.11	0.14	0.00	0.00	-0.02	0.01	0.00	0.00	0.00	-0.01	0.00	0.00	0.00	0.00	0.00	0.01	-0.01
25. Density of CPC membership	0.06	0.06	0.01	0.00	-0.01	0.00	0.00	0.01	-0.01	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00
26. GDP per capita (logged)	7.25	4.21	0.03	0.02	0.09	0.04	0.01	-0.10	-0.21	-0.11	0.29	0.46	0.08	-0.03	0.01	-0.42	0.09
27. Population growth	0.04	0.04	-0.01	-0.01	0.02	0.03	-0.01	0.05	-0.08	0.15	-0.15	-0.04	-0.04	0.07	0.02	-0.18	-0.08
28. Institutional development	6.76	3.03	0.03	0.03	0.10	0.02	0.07	-0.08	-0.19	0.07	0.42	0.33	0.06	-0.12	0.06	0.05	0.09
29. R&D investment (0/1)	0.37	0.48	0.02	0.02	0.05	0.01	0.06	0.11	-0.12	0.06	0.08	0.04	0.08	0.08	-0.09	0.07	0.00
30. Firm performance	0.13	0.28	-0.03	-0.02	-0.07	-0.02	-0.09	0.00	0.35	-0.06	-0.25	-0.13	-0.04	0.04	-0.01	-0.10	-0.04
31. Industry competitiveness	0.93	0.12	-0.01	0.00	-0.03	-0.03	0.01	0.03	0.04	0.05	-0.09	-0.07	-0.01	-0.06	-0.01	0.08	-0.04
32. Industry growth	0.00	0.64	0.00	0.00	0.00	0.00	0.00	0.00	0.02	-0.01	0.00	0.00	0.01	0.01	0.01	0.00	0.00

Variable	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
16. Firm size	1.00																
17. Financial leverage	0.07	1.00															
18. Firm age	0.02	-0.02	1.00														
19.Industry average (inward internationalization 0/1)	0.08	0.01	0.42	1.00													
20.Industry average (inward internationalization, continuous)	0.02	0.02	0.37	0.62	1.00												
21.Industry average (outward internationalization 0/1)	0.05	0.02	0.32	0.20	0.16	1.00											
22.Industry average (outward internationalization, continuous)	0.02	0.00	0.04	0.18	0.19	0.37	1.00										
23. Manufacturing firm	0.05	-0.01	0.07	0.02	-0.01	0.00	0.03	1.00									
24. Poor internet coverage	0.01	0.00	0.00	0.00	-0.01	0.00	-0.01	0.01	1.00								
25. Density of CPC membership	0.01	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00	1.00							
26. GDP per capita (logged)	0.03	-0.16	0.48	0.27	0.02	0.32	0.11	0.09	0.00	0.01	1.00						
27. Population growth	-0.02	-0.10	-0.17	-0.02	-0.02	0.09	0.06	-0.03	0.00	-0.01	0.47	1.00					
28. Institutional development	-0.01	-0.03	0.37	0.29	0.05	0.37	0.04	-0.01	-0.01	0.01	0.41	0.11	1.00				
29. R&D investment (0/1)	0.26	0.07	0.07	0.09	0.02	0.15	0.03	0.01	0.00	0.00	0.15	0.14	0.15	1.00			
30. Firm performance	-0.06	0.15	-0.23	-0.19	-0.04	-0.26	-0.04	0.01	0.00	-0.01	-0.35	-0.25	-0.30	-0.18	1.00		
31. Industry competitiveness	0.02	0.04	-0.19	-0.05	0.00	-0.10	-0.06	-0.09	-0.01	-0.01	-0.21	-0.01	-0.06	0.00	0.06	1.00	
32. Industry growth	0.01	0.01	-0.01	0.01	0.00	0.00	0.00	0.01	-0.01	0.00	-0.04	-0.03	-0.03	-0.01	0.06	0.01	1.00

Pearson correlation tests are used if both variables are continuous and Spearman rank tests are employed otherwise. Coefficients of correlation over 0.01 are significant at 1% level.

Appendix 2: Results of Control Variables

Table A2a Results of Control Variables in Table 2

Model	1	2	3	4	5	6	7	8
Panel A: First stage results of Heckman (random effects Probit) after PSM.								
Age	-0.002	-0.001	-0.001	-0.002	-0.001	-0.001	-0.002	-0.002
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Educational attainment	-0.020••	-0.012†	-0.012	-0.017•	-0.013†	-0.014†	-0.018•	-0.023••
	(0.007)	(0.007)	(0.007)	(0.007)	(0.007)	(0.007)	(0.007)	(0.008)
Current communist ideology	-0.007	-0.004	-0.004	-0.004	-0.005	-0.004	-0.005	-0.005
	(0.004)	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)
Government work experience	0.130••	0.104••	0.113••	0.082•	0.110••	0.121••	0.147••	0.147••
	(0.034)	(0.039)	(0.039)	(0.040)	(0.040)	(0.040)	(0.040)	(0.041)
Foreign experience	0.086•	0.101••	0.102••	0.114••	0.102••	0.100••	0.097•	0.110••
	(0.037)	(0.038)	(0.038)	(0.038)	(0.038)	(0.038)	(0.038)	(0.039)
Firm size	0.009	0.005	0.006	0.003	0.005	0.005	0.005	0.003
	(0.007)	(0.007)	(0.007)	(0.007)	(0.007)	(0.007)	(0.007)	(0.007)
Financial leverage	0.114•	0.110•	0.104•	0.116•	0.116•	0.113•	0.108•	0.116•
	(0.050)	(0.051)	(0.051)	(0.052)	(0.052)	(0.051)	(0.052)	(0.053)
Firm age	0.005†	0.011••	0.010••	0.010••	0.012••	0.012••	0.008•	0.009•
	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.004)
Manufacturing firm	-0.023	-0.014	-0.016	-0.017	-0.019	-0.010	0.004	-0.001
	(0.047)	(0.048)	(0.048)	(0.048)	(0.048)	(0.048)	(0.048)	(0.049)
Industry average (for corresponding dependent variable)	1.094••	0.160	0.165	0.304	0.154	0.228	0.511	0.588†
	(0.312)	(0.342)	(0.342)	(0.347)	(0.344)	(0.342)	(0.345)	(0.352)
Poor internet coverage	-0.022	-0.021	-0.025	-0.004	-0.024	-0.022	-0.034	-0.019
	(0.076)	(0.077)	(0.077)	(0.078)	(0.078)	(0.077)	(0.078)	(0.080)
Density of CPC membership	0.253	0.258	0.253	0.268	0.224	0.267	0.215	0.194
	(0.172)	(0.175)	(0.175)	(0.177)	(0.177)	(0.176)	(0.178)	(0.181)
GDP per capita (logged)	0.016••	-0.002	-0.001	-0.002	0.002	-0.001	0.012•	0.018••
	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)
Population growth	-0.487	0.265	0.245	0.046	0.020	0.252	-0.296	-0.698
	(0.395)	(0.417)	(0.417)	(0.421)	(0.422)	(0.417)	(0.423)	(0.431)
Institutional development	-0.003	-0.008†	-0.008†	-0.008†	-0.010•	-0.008†	-0.005	-0.005
	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.005)
R&D investment (0/1)	0.019	0.041†	0.039	0.036	0.037	0.038	0.031	0.019
	(0.024)	(0.024)	(0.024)	(0.025)	(0.025)	(0.024)	(0.025)	(0.025)
Firm performance (return on assets)	-0.017	-0.217••	-0.212••	-0.051	-0.195••	-0.223••	-0.168••	-0.013
	(0.047)	(0.050)	(0.050)	(0.050)	(0.050)	(0.050)	(0.050)	(0.051)

Industry competitiveness	0.129	0.099	0.112	0.132	0.107	0.101	0.139	0.184†
	(0.092)	(0.094)	(0.094)	(0.096)	(0.095)	(0.094)	(0.096)	(0.098)
Industry growth	-0.009	-0.007	-0.007	-0.012	-0.007	-0.007	-0.007	-0.009
	(0.018)	(0.017)	(0.017)	(0.018)	(0.017)	(0.017)	(0.018)	(0.018)
Panel B: Second stage results of Heckman (random effects) after PSM.								
Age	0.000†	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Educational attainment	0.005••	0.003••	0.003••	0.004••	0.003••	0.003•	0.003••	0.002
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Current communist ideology	0.001	0.001	0.001	0.001	0.001	0.001†	0.001	0.001
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Government work experience	-0.017••	-0.020••	-0.017••	-0.021••	-0.020••	-0.016••	-0.020••	-0.004
	(0.005)	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)	(0.008)
Foreign experience	-0.015•	-0.009	-0.009	-0.013•	-0.009	-0.010†	-0.009	-0.005
	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)	(0.007)
Firm size	-0.000	-0.001	-0.001	-0.001	-0.001	-0.001	-0.001	-0.001
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Financial leverage	-0.011	0.001	-0.000	-0.003	0.001	0.002	0.001	0.005
	(0.009)	(0.008)	(0.008)	(0.008)	(0.008)	(0.008)	(0.008)	(0.009)
Firm age	-0.001•	-0.001	-0.001	-0.001	-0.001	-0.000	-0.001	-0.000
	(0.000)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Manufacturing firm	0.008	0.013†	0.012	0.013†	0.013†	0.012	0.013†	0.011
	(0.008)	(0.008)	(0.008)	(0.008)	(0.008)	(0.007)	(0.008)	(0.007)
Industry average (for corresponding dependent variable)	0.000	-0.001	-0.002	-0.001	-0.001	-0.002	-0.001	-0.006
	(0.013)	(0.012)	(0.012)	(0.012)	(0.012)	(0.012)	(0.012)	(0.012)
Poor internet coverage	-0.041	-0.023	-0.024	-0.030	-0.024	-0.015	-0.023	-0.012
	(0.030)	(0.028)	(0.028)	(0.028)	(0.028)	(0.027)	(0.028)	(0.027)
Density of CPC membership	-0.002••	-0.001	-0.001	-0.001	-0.001	-0.001	-0.001	0.000
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
GDP per capita (logged)	0.051	0.002	-0.006	0.011	0.016	-0.028	-0.000	-0.053
	(0.069)	(0.064)	(0.064)	(0.064)	(0.064)	(0.063)	(0.065)	(0.066)
Population growth	0.000	-0.000	-0.000	0.000	-0.000	-0.000	-0.000	-0.000
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Institutional development	0.188••	-0.027	-0.026	-0.026	-0.019	-0.031	-0.027	-0.020
	(0.069)	(0.065)	(0.065)	(0.065)	(0.065)	(0.064)	(0.065)	(0.063)

Note: •• p<0.01, • p<0.05, † p<0.1. Intercept not reported to save space.
18,424 out of 20,564 observations are on the common support and thus used for PSM analysis.
2,781 out of 3,115 observations are on the common support and thus used for PSM analysis.

Table A2b Results of Control Variables in Table 3

Model	1	2	3	4	5	6	7	8
Panel A: First stage results of Heckman (random effects Probit) after PSM.								
Age	-0.001	-0.001	-0.001	-0.001	-0.001	-0.001	-0.001	-0.001
	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
Educational attainment	0.001	0.005	0.004	0.004	0.005	0.005	0.004	0.004
	(0.009)	(0.009)	(0.009)	(0.009)	(0.009)	(0.009)	(0.009)	(0.009)
Current communist ideology	0.000	0.002	0.002	0.002	0.002	0.002	0.001	0.002
	(0.005)	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)
Government work experience	-0.045	-0.105•	-0.080	-0.103†	-0.097†	-0.112•	-0.096†	-0.067
	(0.046)	(0.053)	(0.054)	(0.054)	(0.054)	(0.054)	(0.054)	(0.054)
Foreign experience	0.024	0.032	0.032	0.032	0.029	0.032	0.032	0.028
	(0.041)	(0.042)	(0.042)	(0.042)	(0.042)	(0.042)	(0.042)	(0.042)
Firm size	0.024••	0.022••	0.022••	0.021•	0.022••	0.021•	0.022••	0.023••
	(0.008)	(0.008)	(0.008)	(0.008)	(0.008)	(0.008)	(0.008)	(0.008)
Financial leverage	-0.051	-0.047	-0.058	-0.046	-0.040	-0.047	-0.047	-0.050
	(0.062)	(0.063)	(0.063)	(0.063)	(0.063)	(0.063)	(0.063)	(0.063)
Firm age	-0.001	0.003	0.002	0.003	0.004	0.002	0.003	0.003
	(0.003)	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)
Manufacturing firm	0.068	0.065	0.062	0.068	0.063	0.065	0.067	0.063
	(0.055)	(0.055)	(0.055)	(0.055)	(0.056)	(0.055)	(0.055)	(0.056)
Industry average (for corresponding dependent variable)	-0.189•	-0.179†	-0.192•	-0.178†	-0.186•	-0.182•	-0.180†	-0.203•
	(0.092)	(0.093)	(0.093)	(0.093)	(0.093)	(0.093)	(0.093)	(0.093)
Poor internet coverage	-0.199	-0.206	-0.228	-0.205	-0.243	-0.207	-0.212	-0.277
	(0.209)	(0.210)	(0.211)	(0.210)	(0.211)	(0.210)	(0.210)	(0.212)
Density of CPC membership	-0.004	-0.013†	-0.009	-0.012†	-0.008	-0.013†	-0.012†	-0.002
	(0.006)	(0.007)	(0.007)	(0.007)	(0.007)	(0.007)	(0.007)	(0.007)
GDP per capita (logged)	0.301	0.092	0.129	0.069	-0.096	0.105	0.041	-0.104
	(0.467)	(0.481)	(0.482)	(0.482)	(0.484)	(0.482)	(0.482)	(0.486)
Population growth	0.005	-0.001	-0.001	-0.001	-0.002	-0.002	-0.001	-0.000
	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)
Institutional development	-0.002	-0.006	-0.007	-0.005	-0.008	-0.005	-0.006	-0.011
	(0.028)	(0.028)	(0.028)	(0.028)	(0.028)	(0.028)	(0.028)	(0.028)
R&D investment (0/1)	-0.079	-0.082	-0.080	-0.066	-0.049	-0.081	-0.077	-0.035
	(0.091)	(0.093)	(0.093)	(0.094)	(0.094)	(0.093)	(0.093)	(0.094)
Firm performance (return on assets)	-0.076	-0.058	-0.044	-0.060	-0.064	-0.059	-0.057	-0.048
	(0.101)	(0.102)	(0.103)	(0.102)	(0.103)	(0.102)	(0.102)	(0.103)
Industry competitiveness	-0.066	-0.066	-0.059	-0.067	-0.053	-0.066	-0.068	-0.048
	(0.064)	(0.067)	(0.067)	(0.067)	(0.066)	(0.067)	(0.067)	(0.066)
Industry growth	1.062••	0.434	0.396	0.443	0.351	0.418	0.455	0.332

	(0.363)	(0.378)	(0.380)	(0.378)	(0.385)	(0.378)	(0.378)	(0.388)
Inward internationalization‡	3.916••	3.857••	3.872••	3.853••	3.908••	3.861••	3.850••	3.917••
	(0.146)	(0.148)	(0.148)	(0.148)	(0.149)	(0.148)	(0.148)	(0.149)
Panel B: Second stage results of Heckman (random effects) after PSM.								
Age	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Educational attainment	0.006	0.004	0.004	0.004	0.003	0.004	0.004	0.003
	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)
Current communist ideology	-0.006	-0.003	-0.003	-0.003	-0.003	-0.003	-0.003	-0.003
	(0.004)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)
Government work experience	0.091••	-0.018	-0.014	-0.018	-0.001	-0.017	-0.018	-0.001
	(0.034)	(0.036)	(0.036)	(0.036)	(0.036)	(0.036)	(0.036)	(0.041)
Foreign experience	-0.034	-0.000	0.001	-0.001	-0.005	-0.001	-0.000	-0.005
	(0.029)	(0.025)	(0.025)	(0.025)	(0.025)	(0.025)	(0.025)	(0.027)
Firm size	-0.018••	-0.012•	-0.011•	-0.012•	-0.015••	-0.012•	-0.012•	-0.015†
	(0.006)	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)	(0.008)
Financial leverage	0.055	0.054	0.047	0.055	0.060	0.054	0.054	0.059
	(0.044)	(0.039)	(0.039)	(0.039)	(0.039)	(0.039)	(0.039)	(0.043)
Firm age	-0.003	0.002	0.002	0.002	0.001	0.002	0.002	0.001
	(0.002)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)	(0.003)
Manufacturing firm	0.010	0.017	0.019	0.021	0.009	0.016	0.017	0.012
	(0.038)	(0.033)	(0.033)	(0.033)	(0.033)	(0.033)	(0.033)	(0.038)
Industry average (for corresponding dependent variable)	0.196••	0.118•	0.099†	0.118•	0.141•	0.119•	0.118•	0.137
	(0.066)	(0.058)	(0.058)	(0.058)	(0.059)	(0.058)	(0.058)	(0.084)
Poor internet coverage	0.145	-0.038	-0.059	-0.036	-0.008	-0.037	-0.037	-0.009
	(0.146)	(0.129)	(0.129)	(0.129)	(0.129)	(0.129)	(0.129)	(0.150)
Density of CPC membership	0.012•	-0.006	-0.005	-0.005	-0.005	-0.006	-0.006	-0.004
	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)
GDP per capita (logged)	0.430	0.750••	0.776••	0.736•	0.762••	0.749••	0.754••	0.767••
	(0.316)	(0.288)	(0.288)	(0.288)	(0.287)	(0.288)	(0.288)	(0.288)
Population growth	0.000	0.004	0.004	0.004	0.004	0.004	0.004	0.004
	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)
Institutional development	0.186•	-0.081	-0.090	-0.081	-0.090	-0.081	-0.081	-0.093
	(0.088)	(0.080)	(0.080)	(0.080)	(0.080)	(0.080)	(0.080)	(0.080)
Inward internationalization‡	0.820••	0.185	0.459	0.220	0.298	0.173	0.176	0.218
	(0.262)	(0.255)	(0.279)	(0.257)	(0.338)	(0.258)	(0.259)	(1.151)

Note: •• p<0.01, • p<0.05, † p<0.1. Intercept not reported to save space.
12,643/2,171 out of 14,119/2,476 observations are on the common support and thus used for PSM analysis in the first/second stage.
‡ Foreign investment over total assets was instrumented by presence of foreign concession, whose test is based on joint statistical independence (Zhang et al., 2016). Test results suggested that the instruments are highly correlated with foreign investments, and satisfy the exogeneity and exclusion restriction.

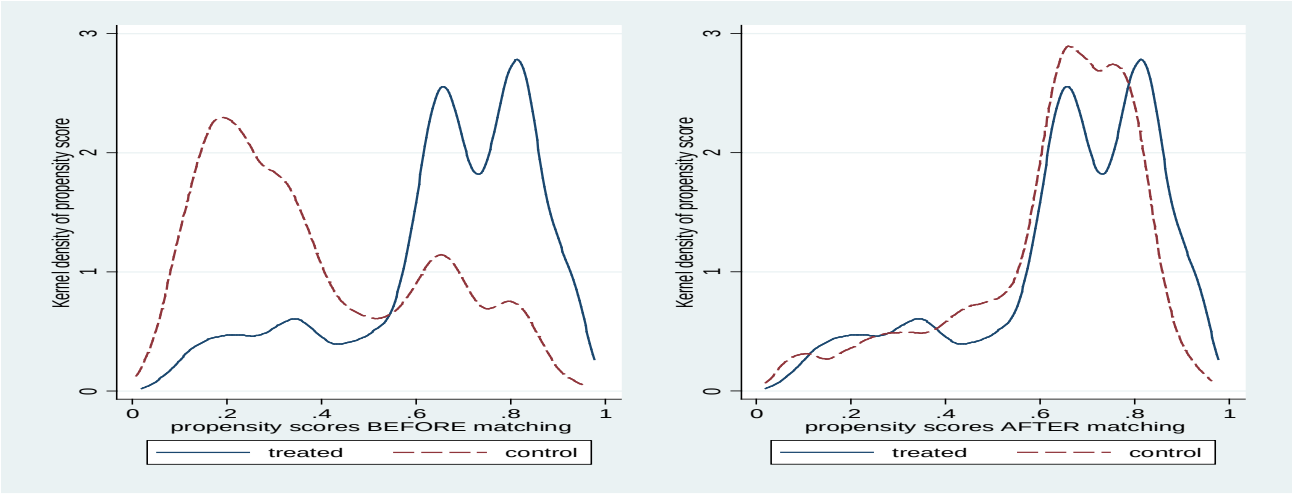
Appendix 3: PSM Test Details

Table A3 Logit Regression Results, Pre- and Post-Match Differences and Percentage Bias Reduction

Variable	Pre-match	Post-match	Bias (%)	
Column	1	2	3	4
Logit model is used for PSM.	Results	p-value of differences	Reduction	Post-match
Age	0.015••	0.324	388.6	-0.511
	(0.001)			
Educational attainment	0.067••	0.198	239.9	1.19
	(0.007)			
Current communist ideology	0.024••	0.277	421.9	1.24
	(0.004)			
Government work experience	0.197••	0.347	226.1	0.91
	(0.006)			
Foreign experience	-0.870••	0.28	492.1	0.8
	(0.038)			
Firm size	0.054••	0.152	354.7	1.5
	(0.007)			
Financial leverage	0.105•	0.202	233.7	-0.66
	(0.051)			
Firm age	-0.019••	0.394	297.4	1.6
	(0.000)			
Manufacturing firm	-0.261••	0.491	483.6	0.4
	(0.036)			
Industry average of inward Internationalization (0/1)	-0.314••	0.458	375.4	-0.83
	(0.024)			
Industry average of outward internationalization (0/1)	-0.578••	0.42	329.4	-0.44
	(0.044)			
GDP per capita (logged)	0.177••	0.364	188.0	-1.4
	(0.006)			
Population growth	-0.031••	0.283	274.6	-0.46
	(0.004)			
Institutional development	-0.017••	0.376	135.7	-1.7
	(0.004)			
Poor Internet coverage	-0.033••	0.321	138.9	0.2
	(0.010)			
Density of CPC membership	-0.077•	0.315	149.6	0.14
	(0.039)			
Political involvement	0.168••	0.219	133.8	1.36
	(0.029)			
Government appropriation	-0.576••	0.285	178.8	1.33
	(0.132)			
Social network	0.508••	0.154	237.1	-1.35
	(0.028)			
Post 1999	0.247••	0.248	364.7	-0.94
	(0.047)			
Regional FDI intensity	-0.004••	0.232	269.5	-1
	(0.001)			
Number of observations	20,564			
Goodness of fit (pseudo R^2)	0.270			

The pseudo R^2 of the Logit model diminished to less than 0.001 for the matched sample, and all variables are insignificant at 10% level.
Note: •• p<0.01, • p<0.05, † p<0.1. Intercept not reported to save space.

Figure A3 Graphical Illustration of PSM Matching Quality



Appendix 4: Results from the Original Sample with Unique Identifiers: 20,564 Firm-Year Observations
We present results from the original sample with unique identifiers (20,564 firm-year observations). The results are similar to what were reported with PSM approach in Tables 2 and 3, and Tables A2a and A2b.

Table A4a. Results from Heckman Model: Inward Internationalization (1993-2012)

Model	1	2	3	4	5	6	7
Panel A: First stage results of Heckman (random effects Probit). Controls are the same as Panel A of Table A2a and not reported.							
Ideological imprint (**H1**)	-0.505••	-0.589••	-1.198••	-0.431••	-2.125••	-4.822••	-3.907••
	(0.032)	(0.038)	(0.051)	(0.066)	(0.230)	(0.559)	(0.303)
Political involvement	0.102••	0.059•	0.096••	0.107••	0.099••	0.086••	0.051†
	(0.027)	(0.029)	(0.027)	(0.027)	(0.027)	(0.027)	(0.029)
Government appropriation	1.149••	1.137••	0.520••	1.003••	1.131••	0.857••	0.609••
	(0.109)	(0.109)	(0.151)	(0.111)	(0.110)	(0.113)	(0.152)
Social network	0.146••	0.147••	0.116••	0.029	0.145••	0.120••	0.012
	(0.026)	(0.026)	(0.026)	(0.027)	(0.026)	(0.026)	(0.027)
Post 2001	0.041	0.037	0.001	0.023	0.016	0.080†	0.011
	(0.044)	(0.044)	(0.044)	(0.044)	(0.045)	(0.044)	(0.046)
Regional FDI intensity	0.503••	0.498••	0.402••	0.453••	0.493••	0.115•	0.173••
	(0.047)	(0.047)	(0.048)	(0.048)	(0.047)	(0.057)	(0.058)
Ideological imprint × political involvement (**H2a**)		0.280••					0.308••
		(0.066)					(0.073)
Ideological imprint × government appropriation (**H2b**)			4.521••				3.897••
			(0.238)				(0.262)
Ideological imprint × social network (**H3**)				0.186••			0.170••
				(0.023)			(0.029)
Ideological imprint × post 2001 (**H4a**)					0.440••		0.102•
					(0.073)		(0.024)
Ideological imprint × regional FDI intensity (**H4b**)						1.046••	0.311••
						(0.102)	(0.110)
Number of observations	20,564	20,564	20,564	20,564	20,564	20,564	20,564
Goodness of fit (pseudo R^2)	0.367	0.397	0.397	0.398	0.401	0.404	0.423
Panel B: Second stage results of Heckman (random effects linear). Controls are the same as Panel B of Table A2a and not reported.							
Inverse Mills ratio	-0.074••	-0.070••	-0.104••	-0.069••	-0.062••	-0.072••	0.003
	(0.008)	(0.008)	(0.011)	(0.008)	(0.008)	(0.012)	(0.045)
Ideological imprint (**H1**)	-0.128••	-0.111••	-0.160••	-0.181••	-0.216••	-0.126••	-0.516••
	(0.007)	(0.008)	(0.010)	(0.069)	(0.053)	(0.013)	(0.140)
Political involvement	0.031••	0.023••	0.028••	0.031••	0.032••	0.031••	0.026••
	(0.004)	(0.005)	(0.004)	(0.004)	(0.004)	(0.004)	(0.005)
Government appropriation	0.021	0.024	0.092••	0.024	0.025	0.022	0.034
	(0.017)	(0.017)	(0.024)	(0.017)	(0.017)	(0.018)	(0.033)
Social network	0.006	0.007	0.006	0.006	0.006	0.006	0.008•
	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)
Post 2001	0.018••	0.016••	0.021••	0.018••	0.016••	0.018••	0.018••
	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)
Regional FDI intensity	0.028••	0.028••	0.018•	0.030••	0.029••	0.027••	0.016
	(0.008)	(0.008)	(0.008)	(0.008)	(0.007)	(0.009)	(0.010)
Ideological imprint × political involvement (**H2a**)		0.490••					0.651••
		(0.110)					(0.113)
Ideological imprint × government appropriation (**H2b**)			0.186••				0.978••
			(0.042)				(0.118)
Ideological imprint × social network (**H3**)				0.311••			0.236•
				(0.069)			(0.093)
Ideological imprint × post 2001 (**H4a**)					0.136••		0.151••
					(0.014)		(0.015)
Ideological imprint × regional FDI intensity (**H4b**)						0.004†	0.100†
						(0.002)	(0.061)
Number of observations	3,115	3,115	3,115	3,115	3,115	3,115	3,115
Goodness of fit (between R^2)	0.325	0.328	0.330	0.330	0.348	0.325	0.361

Note: •• p<0.01, • p<0.05, † p<0.1. Intercept not reported to save space.

Table A4b. Results from Heckman Model: Outward Internationalization (1993-2012)

Model	1	2	3	4	5	6	7
Panel A: First stage results of Heckman (random effects Probit). Controls are the same as Panel A of Table A2b and not reported.							
Ideological imprint (**H1**)	-0.317••	-0.448••	-0.397••	-1.118••	-1.869••	-1.390••	-1.247••
	(0.035)	(0.042)	(0.059)	(0.093)	(0.269)	(0.351)	(0.127)
Political involvement	0.047	-0.039	0.046	0.058†	0.048	0.045	-0.025
	(0.033)	(0.036)	(0.033)	(0.033)	(0.033)	(0.033)	(0.036)
Government appropriation	0.143	0.089	-0.282	-0.106	0.163	0.041	-0.334
	(0.198)	(0.199)	(0.325)	(0.200)	(0.198)	(0.205)	(0.325)
Social network	0.218••	0.222••	0.216••	0.090••	0.218••	0.216••	0.093••
	(0.032)	(0.032)	(0.032)	(0.033)	(0.032)	(0.032)	(0.034)
Post 2001	0.042	0.037	0.044	0.038	0.068	0.050	0.073
	(0.049)	(0.049)	(0.049)	(0.049)	(0.050)	(0.049)	(0.051)
Regional FDI intensity	0.165••	0.154••	0.151••	0.124•	0.162••	0.102	0.016
	(0.058)	(0.058)	(0.058)	(0.058)	(0.058)	(0.066)	(0.067)
Ideological imprint × political involvement (**H2a**)		0.458••					0.564••
		(0.074)					(0.077)
Ideological imprint × government appropriation (**H2b**)			0.691†				1.744••
			(0.409)				(0.603)
Ideological imprint × social network (**H3**)				0.127••			0.154••
				(0.031)			(0.035)
Ideological imprint × post 2001 (**H4a**)					0.164•		0.088•
					(0.077)		(0.042)
Ideological imprint × regional FDI intensity (**H4b**)						0.215•	0.091••
						(0.107)	(0.032)
Number of observations	14,119	14,119	14,119	14,119	14,119	14,119	14,119
Goodness of fit (pseudo R^2)	0.450	0.475	0.474	0.477	0.484	0.486	0.499
Panel B: Second stage results of Heckman (random effects linear). Controls are the same as Panel B of Table A2b and not reported.							
Inverse Mills ratio	-0.391••	-0.303••	-0.378••	-0.545••	-0.398••	-0.390••	-0.577
	(0.086)	(0.095)	(0.086)	(0.114)	(0.087)	(0.087)	(0.456)
Ideological imprint (**H1**)	-0.623••	-0.674••	-0.657••	-0.891••	-0.639••	-0.625••	-1.415••
	(0.026)	(0.035)	(0.040)	(0.118)	(0.045)	(0.036)	(0.478)
Political involvement	0.172••	0.153••	0.172••	0.161••	0.171••	0.172••	0.158••
	(0.020)	(0.022)	(0.020)	(0.021)	(0.020)	(0.020)	(0.024)
Government appropriation	0.540••	0.538••	0.356†	0.563••	0.536••	0.537••	0.417†
	(0.123)	(0.123)	(0.209)	(0.123)	(0.123)	(0.132)	(0.242)
Social network	-0.041†	-0.028	-0.040†	-0.046•	-0.042†	-0.041†	-0.048
	(0.021)	(0.022)	(0.021)	(0.021)	(0.021)	(0.021)	(0.039)
Post 2001	0.012	0.012	0.013	0.005	0.009	0.012	-0.005
	(0.031)	(0.031)	(0.031)	(0.031)	(0.032)	(0.031)	(0.041)
Regional FDI intensity	0.032	0.039	0.027	0.019	0.032	0.031	0.028
	(0.037)	(0.037)	(0.037)	(0.037)	(0.037)	(0.041)	(0.041)
Ideological imprint × political involvement (**H2a**)		0.313••					0.510••
		(0.052)					(0.072)
Ideological imprint × government appropriation (**H2b**)			0.280†				0.787••
			(0.158)				(0.269)
Ideological imprint × social network (**H3**)				0.234•			0.062
				(0.115)			(0.040)
Ideological imprint × post 2001 (**H4a**)					0.021†		0.014†
					(0.011)		(0.008)
Ideological imprint × regional FDI intensity (**H4b**)						0.004•	0.007†
						(0.002)	(0.004)
Number of observations	2,476	2,476	2,476	2,476	2,476	2,476	2,476
Goodness of fit (between R^2)	0.366	0.367	0.366	0.366	0.366	0.366	0.367

Note: •• p<0.01, • p<0.05, † p<0.1. Intercept not reported to save space.

Appendix 5: A Counterfactual Analysis for Understanding Effects of Profitability from Internationalization (1993-2012)

To better triangulate the imprinting processes we theorize, we also examined whether entrepreneurs with a communist ideological imprint tend to ignore profitable business opportunities from internationalization, showing whether the imprint dominates self-interest in considering foreign cooperation; i.e., whether the information filter by the communist ideological imprint motivates cognition. We measured profitable internationalization opportunities by calculating profitability differentials between internationalized firms and their non-internationalized/domestic counterparts of focal firms' institutional equivalents, i.e., those in the same geographical location (province) and industry as their counterfactuals, respectively (Marquis and Tilcsik, 2016). Then we interacted these two proxies of information of profitable internationalization with the communist ideological imprint to predict the tendency (hazard rate) of internationalization of the focal firm with Cox proportional hazard model. To estimate the Cox model, we stratified the model at industry-province level to alleviate unobservable heterogeneity concerns, and employed the graphic method (Andersen, 1982) and partial residuals approach (Schoenfeld, 1982) to ensure that the proportionality assumption holds. We also clustered standard errors at the industry-province level to obtain the most robust results (Lin and Wei, 1989). Table A3 shows that profit premiums of the same industry, same province, and their interaction are all positively associated with firms' tendency to internationalize. However, the interaction terms of all three variables with ideological imprint are negatively significant ($p < 0.05$), suggesting that information of profitable opportunities via internationalization was filtered by firm leaders with a communist ideological imprint. These results lend support to our theorizing that the communist ideological imprint acts as an information filter that motivates cognition—entrepreneurs eschew cooperation with foreign capitalists even when it is in their economic self-interest. Results from Heckman model are similar.

Table A5. Predicting Inward and Outward Internationalization with Counterfactual Profits (1993-2012)

Internationalization	**Inward**				**Outward**			
Column	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Model	**Cox model**		**Heckman 1st and 2nd stages**		**Cox model**		**Heckman 1st and 2nd stages**	
Analysis	Single event	Repeated events	RE Probit‡	RE linear	Single event	Repeated events	RE Probit	RE linear
Controls and moderators are the same as Tables A2a and A2b respectively (not reported), interaction terms are excluded.								
Ideological imprint	-0.206••	-0.444••	-0.250••	-0.035••	-0.167•	-0.767•	-3.892••	-0.513••
	(0.073)	(0.122)	(0.052)	(0.008)	(0.075)	(0.340)	(1.126)	(0.138)
Profit premium by geography	2.443••	0.024•	0.024••	0.003••	2.265••	0.086•	1.163†	0.211•
	(0.288)	(0.011)	(0.006)	(0.001)	(0.306)	(0.036)	(0.677)	(0.094)
Profit premium by industry	1.842••	0.022••	0.027••	0.006••	1.415••	0.086•	1.067†	0.306••
	(0.269)	(0.008)	(0.008)	(0.001)	(0.286)	(0.034)	(0.579)	(0.092)
Profit premium by geography	3.834••	0.157••	0.074••	0.008••	2.535••	0.155••	1.213••	0.174†
× profit premium by industry	(0.404)	(0.058)	(0.015)	(0.001)	(0.424)	(0.054)	(0.305)	(0.100)
Ideological imprint	-4.493••	-0.221••	-0.691••	-0.015••	-3.707••	-0.083••	-1.515••	-1.544••
× profit premium by geography	(0.352)	(0.070)	(0.163)	(0.005)	(0.360)	(0.016)	(0.477)	(0.282)
Ideological imprint	-4.695••	-1.735••	-0.326••	-0.013•	-3.841••	-1.868••	-2.029••	-1.055•
× profit premium by industry	(0.348)	(0.357)	(0.097)	(0.006)	(0.360)	(0.643)	(0.333)	(0.506)
Ideological imprint × profit premium by	-4.456••	-4.291••	-0.772•	-0.118•	-3.904••	-3.034••	-3.608••	-1.220••
geography × profit premium by industry	(0.364)	(0.567)	(0.385)	(0.054)	(0.376)	(0.590)	(0.561)	(0.278)
Number of observations	15,681	20,564¶	20,564	3,115	10,217	14,119	14,119	2,476
Goodness of fit (pseudo R^2)	0.125	0.186	0.330		0.104	0.193	0.494	
Goodness of fit (between R^2)				0.303				0.421

Note: •• p<0.01, • p<0.05, † p<0.1. Intercept not reported to save space. Sample size for Cox model single event history analysis varies because the right censoring: firms are dropped when they ever internationalized their firms.

‡ "RE" refers to random effects.

¶ Repeated events Cox proportional hazard model retains all observations even if the focal firm/individual has already adopted the action, and therefore numbers of observations are the same as Tables A2a and A2b for corresponding dependent variables. Standard errors are clustered at industry-province level to obtain the most robust results (Lin and Wei, 1989).

Appendix 6: Diff-in-Diff and Related Estimation of Internationalization

We provide a finer-grained analysis of communist ideological imprint and also rule out the cohort effect—it is not only those born before 1978 who are antagonistic about foreign cooperation, but the importance of the socialization of joining CPC—based on a diff-in-diff analysis. We distinguished those born before and after 1978, in addition to communist ideology. Therefore, we analyzed four groups of entrepreneurs: pre- and post-1978 communists and non-communists. Unlike traditional diff-in-diff estimation, our diff-in-diff analysis is not about the event of imprinting, but about whether the entrepreneur had the ideological imprint (treatment) or not (control), and the "event" was whether opening up in 1978 invalidates the negative impact of current ideology on internationalization such that post-1978 (reformist) government encourages capital and foreign cooperation more fully. Our approach resembles the diff-in-diff estimation for repeated cross sections, which utilizes between-differences of individuals rather than within ones, i.e. different individuals before and after the events (see Abadie, 2005: 9 for summary of exemplar studies). We found that pre-1978 communists are least prone to internationalization, and present results in Panel A of Table A4. We also combined the diff-in-diff analysis with PSM as whether going through the imprinting process might be self-selected and thus endogeneity could be an issue. The PSM approach helps generate a random sample in terms of entrepreneurs with or without a communist ideological imprint based on observable variables. The results are shown in Panel B of Table A4, and are consistent with the main analyses. Finally, we distinguished entrepreneurs' Party age (years since they joined the CPC) to gauge when they received the communist ideological imprinting process. We had a set of three dummy variables: joined the CPC before 1978, joined the CPC after 1978 and before they founded their ventures, and joined the CPC after they founded their ventures (an alternative proxy for current ideology). The results are shown in Panel C of Table A4, suggesting that the ideological imprint formed before 1978 has the strongest negative effect on internationalization, while that formed after 1978 but before entrepreneurs founded their ventures is much weaker. Contemporary ideology does not make a difference statistically or economically.

Table A6. Diff-in-Diff and Related Estimation of Internationalization

Panel A: Diff-in-diff estimation of internationalization				
Dependent variable	**Inward internationalization**		**Outward internationalization**	
Measure	**0/1**	**Value**	**0/1**	**Value**
Model	**1**	**2**	**3**	**4**
Controls and moderators are the same as Tables A2a and A2b respectively (not reported), interaction terms are excluded.				
CPC membership	-0.082	-0.001	-1.075	-0.006
	(0.063)	(0.002)	(0.824)	(0.008)
Born before 1978	-0.159•	-0.009•	-2.704•	-0.071•
	(0.062)	(0.003)	(1.261)	(0.032)
CPC membership	-0.234••	-0.021••	-4.858••	-0.277••
× born before 1978	(0.042)	(0.006)	(0.624)	(0.069)
Inverse Mills ratio‡		-1.502••		-2.315••
		(0.441)		(0.447)
Number of observations	20,564	3,115	20,564	2,476
Goodness of fit (pseudo R^2)	0.399		0.476	
Goodness of fit (between R^2)		0.315		0.404
Panel B: Diff-in-diff estimation of internationalization combined with propensity score matching				
Dependent variable	**Inward internationalization**		**Outward internationalization**	
Measure	**Binary**	**Continuous**	**Binary**	**Continuous**
Controls and moderators are the same as Tables A2a and A2b respectively (not reported), interaction terms are excluded.				
CPC membership	-0.005	-0.001	-0.894	-0.012
	(0.008)	(0.004)	(0.837)	(0.013)
Born before 1978	-0.035•	-0.005•	-1.524•	-0.041•
	(0.016)	(0.002)	(0.655)	(0.020)
CPC membership	-0.475••	-0.015••	-5.910••	-0.380••
× born before 1978	(0.074)	(0.003)	(1.297)	(0.113)
Inverse Mills ratio‡		-1.468••		-2.417••
		(0.390)		(0.443)

Number of observations	18,424	2,781	12,643	2,171
Goodness of fit (pseudo R^2)	0.370		0.372	
		0.281		0.286

Panel C: A Set of Dummy Variables to Measure Ideological Imprint and Current Ideology

Dependent variable	**Inward internationalization**		**Outward internationalization**	
Measure	**Binary**	**Continuous**	**Measure**	**Binary**
Controls and moderators are the same as Tables A2a and A2b respectively (not reported), interaction terms are excluded.				
Joined CPC before 1978	-0.466••	-0.043••	-3.863••	-0.347••
	(0.144)	(0.008)	(1.148)	(0.107)
Joined CPC after 1978 but before	-0.025••	-0.002•	-0.046••	-0.031•
they founded their venture	(0.005)	(0.001)	(0.016)	(0.015)
Joined CPC after founding their	-0.000	-0.000	-0.010	-0.000
venture (current political ideology)	(0.007)	(0.003)	(0.043)	(0.004)
Inverse Mills ratio⁑		-1.376••		-2.861••
		(0.318)		(1.050)
Number of observations	20,564	3,115	14,119	2,476
Goodness of fit (pseudo R^2)	0.364		0.442	
Goodness of fit (between R^2)		0.271		0.386

Note: •• p<0.01, • p<0.05, † p<0.1. Intercept not reported to save space.

‡ Inverse Mills ratio was from the first stage including two additional variables—*born before* 1978 and *CPC membership* × *born before* 1978 corresponding to the diff-in-diff setting.

⁑ Inverse Mills ratio was from the first stage including the corresponding three binary variables corresponding to the dummy approach.

Numbers of observations for the PSM results in Panel B vary because of the matching.