
**In the Name of the Family: The Effect of CEO Clan Culture Background on
Firm Internationalization**

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Abstract: Clan culture is a traditional culture that is widespread in Asian countries, yet little is known about its impact on crucial firm decisions, such as internationalization. Drawing on upper echelons theory and imprinting theory, we suggest that a CEO's clan culture background impacts firm internationalization through the mechanism of imprinting and strengthening the individual value of long-term orientation, and that this effect is subject to three conditional factors. Using a unique database of Chinese publicly listed firms, we confirm that (1) CEO clan culture background is positively related to the firm's degree of internationalization, and (2) the imprint effect is strengthened when the CEO works locally or when the domestic market competition is intensive, but is mitigated when the economic policy at home is unpredictable. Finally, implications and limitations also are discussed.

Keywords: CEO cultural background, clan culture, imprint, internationalization, long-term orientation

1. Introduction

International business (IB) scholars have endeavored to better understand what drives firms' internationalization from various perspectives, including macro institutional environments (Nuruzzaman et al., 2020; Li et al., 2021), meso industrial characteristics (Gaur et al., 2018) and organizational features (Sharma et al., 2020; Xu and Hitt, 2020). Since the 1960s, the world has witnessed waves of firm internationalization in East Asia, drawing academic attention to the impact of the influential and long-lasting native culture in this process, including clan culture (Xiong et al., 2021). The clan is a kinship-based organization composed of patrilineal households that trace their origin to a (self-proclaimed) common male ancestor (Freedman, 1966; Peng, 2010). In China, clan culture has evolved through thousands of years, profoundly affecting the country's social, political, and economic activities (Greif and Tabellini, 2017). More than 50,000 family books, or genealogies, which are an essential material carrier of clan culture, are well preserved in China, with the earliest ones dating back to the Shang Dynasty (1,600 BC–1,046 BC) (Zhang, 2019). Clans, as one of the most prominent and stable social groups in China, have significantly shaped their members' value and behavior (Hsu, 1963; Greif and Moky, 2017). An interesting question thus emerges: Does clan culture influence Chinese managers' internationalization decisions and contribute to China's leading position in global trade and investment?

Previous research has looked into how managers' individual endogenous characteristics affect their companies' international expansion, including

psychological characteristics (Agnihotri and Bhattacharya, 2019; Lin et al., 2020) and personal experiences (e.g., education and overseas experience) (De Cock et al., 2021). Moreover, studies have found that managers' imprint from the early-life environment can influence corporate acquisition decisions (Pan et al., 2020; Hagendorff et al., 2021) and financial performance (Nguyen et al., 2018). Studies in sociology have elucidated the development of Chinese clan culture (Fei, 1946; Fei and Liu, 1982) and its impact on contemporary activities (Tsai, 2007; Peng, 2010). However, studies on clan culture in business realm are scarce, with some emerging research on its effect on private sector development (Peng, 2004; Zhang, 2019), firm performance (Xiong et al., 2021), and risk-taking (Huang et al., 2022).

There are several significant gaps in the literature. First, prior research using upper echelons theory has paid little attention to exogenous characteristics of the early-life environment that an individual cannot choose, such as clan culture. This is a critical limitation because cultural environment has a direct and long-lasting imprint on people's values and preferences, which ultimately influence their decision-making (Marquis and Tilcsik, 2013). In the Chinese context, clan culture is a crucial component of managers' cultural origin and may imprint their decision-making on matters related to international expansion. However, the relationship between clan culture and firm decisions remains understudied.

Second, the IB literature has generally overlooked the significance of leaders' attributes in firm internationalization (Boustanifar et al., 2022). As noted by Coviello et al. (2017, p.1156), "the micro-level characteristics and actions of individuals are

tightly intertwined with firm-level outcomes”. Therefore, research on firm internationalization should consider the individual decision makers who run businesses. However, the IB literature has failed to offer insights into how manager characteristics, for instance their clan culture background, can affect firm internationalization.

Third, the current imprinting research has limitations in investigating the processes of imprint formation and persistence (Marquis and Qiao, 2020). The persistence of imprints can be altered by dynamic external environments (Marquis and Tilcsik, 2013; Marquis and Qiao, 2020). This aspect is particularly relevant in IB contexts where countries are characterized by consistent uncertainty, changes and transitions, such as China (Peng, 2004). However, the extant literature is unclear on how imprints evolve and interact with environmental forces. Therefore, another research question arises: how will the effect of clan culture on firms’ internationalization be influenced by external environments?

To address these gaps, this study applies upper echelons theory (Hambrick and Mason, 1984), imprinting theory (Marquis and Tilcsik, 2013), and insights from clan culture research (Fei, 1946) to investigate the influence of clan culture on managers’ decisions regarding their firms’ internationalization. We propose that Chinese managers are more likely to boost their firm’s internationalization if they have a pronounced clan cultural background that emphasizes the norm of long-term orientation, which may accentuate the value of long-range developments while raising tolerance for short-term risks and loss (Le Breton–Miller and Miller, 2006; Lumpkin

et al., 2010). Furthermore, the persistence of clan culture imprint is influenced by imprint–environment fit, which refers to the compatibility between imprinted values and subsequent external environments (Tilcsik, 2014). The imprint endures in congruent contexts, but it fades in incongruent ones (Tilcsik, 2014). We identify three environmental factors that can sustain or deteriorate imprinted values to moderate the effect of clan culture on firm internationalization, including CEO working location, market competition intensity, and economic policy uncertainty. We find robust evidence in support of our hypotheses by analyzing a dataset on Chinese publicly listed firms covering 2012 to 2018.

Our study makes three significant contributions. First, by adopting a micro-foundation perspective into the IB literature (Chittoor et al., 2019; Huang et al., 2021), we extend the research on antecedents of firms’ international expansion beyond the institution-level, industry-level or firm-level factors that many prior studies have emphasized. Our research identifies an important cultural factor, clan culture, that can influence internationalization decisions. Clan culture emphasizes the clan’s survival, growth, and prosperity, showing a long-term orientation among clan members (Peng, 2004), which encourages managers to bear short-term risks and losses to secure the long-term benefits of internationalization.

Second, we add to upper echelons theory by investigating the role of CEOs’ early-life cultural background on strategic decision-making. Prior research has explored the impact of past experiences on individual values and preferences, ignoring the imprint role of the cultural environment in which managers were born

and brought up. We highlight that exposure to clan culture in childhood, is largely exogenous, as a child does not (typically) choose where to live. Such a cultural environment for managers can shape their values directly and subtly and further influence decision-making of firm internationalization.

Third, we enrich imprint research by revealing how external environments characteristics create a variation in imprint persistence. Prior research has generally assumed that an imprint has a uniform effect (Marquis and Tilcsik, 2013). Following the imprint–environment fit perspective (Tilcsik, 2014), we theorize and empirically confirm how CEO working location, market competition intensity, and economic policy uncertainty moderate the relationship between CEO clan culture background and firm internationalization.

2. Theoretical background

2.1. Clan Culture

A clan is a kinship-based community composed of patrilineal households whose origin can be traced back to a (self-proclaimed) common male ancestor (Freedman, 1966; Greif and Tabellini, 2017). Clan culture features blood ties among members, worship of the common ancestors, the building of ancestral halls, the use of common surnames to denote ancestry, and compilations of genealogies (Tsai, 2007; Feng, 2013). Clans, which can date back to the Western Zhou Dynasty in ancient China in the eleventh century BC, have been essential to village governance, serving as the backbone for a vast country with a population predominantly working in agriculture and residing in villages (Su et al., 2011). Although clans faced some suppression after

1949, they regained their vitality after China's reform and opening up in 1978 (Su et al., 2011). Currently, most regions in China still maintain a lively clan culture (Zhang, 2019). Clan culture permeates every aspect of Chinese social and economic activities, such as public goods provision (Tsai, 2007; Xu and Yao, 2015), villagers' committee elections (Su et al., 2011), birth control policy (Peng, 2010), enrollment in social pension programs (Zhang, 2018), entrepreneurship (Peng, 2004; Zhang, 2019), and business performance (Xiong et al., 2021).

The core norm of clan culture lies in perpetuating the lineage bloodline by members (Peng, 2010). Clan members thrive to accumulate collective wealth and carry it over through generations for their offspring (Feng, 2013). In short, clan culture embodies the wisdom and value of a long-term orientation, which refers to an inclination to prioritize the long-range implications and effects of decisions that come to fruition after an extended period (Le Breton–Miller and Miller, 2006; Lumpkin et al., 2010). In this study we ask if managers' experience of clan culture plays a role in their decisions on firm internationalization.

2.2. Upper Echelons Theory and Imprinting Theory: Linking Managerial

Characteristics to Firm Internationalization

Internationalization is characterized by longer-term strategic implications and higher short-term risk (Luo and Tung, 2007; Boustanifar et al., 2022), which can lead to benefits such as enriching knowledge stock and managerial experience (Sun et al., 2019), diversifying risks (Luo and Tung, 2007), and ultimately increasing long-term performance (Sun et al., 2019; Lin et al., 2020). Meanwhile, firms must bear costs and

risks arising from the liability of foreignness (Jia et al., 2022; Zhang et al., 2022).

Studies have documented a range of antecedents of firm internationalization, such as macro-institutional (Nuruzzaman et al., 2020; Li et al., 2021), industrial (Gaur et al., 2018) and organizational (Sharma et al., 2020; Xu and Hitt, 2020) factors. However, the role of managers as decision-makers in firm internationalization has been understudied (Chittoor et al., 2019; Boustanifar et al., 2022). Thus, using upper echelons theory and imprinting theory, we propose that managers with a strong clan culture, characterized by a long-term orientation, are more likely to internationalize their businesses.

2.2.1. Upper Echelons Theory and Imprint Theory

According to the upper echelons theory, executives' unique traits have a substantial impact on their vision, selective perception, interpretation, and thus their strategic decisions (Hambrick and Mason, 1984; Hambrick, 2007). This theory has been applied in IB studies to examine how international decision-making is affected by executives' personalities and experiences, such as narcissism (Agnihotri and Bhattacharya, 2019; Fung et al., 2020), overconfidence (Lin et al., 2020), risk propensity (Boustanifar et al., 2022), and international experience (De Cock et al., 2021). Building on this theory, we propose that managers' values and preferences, shaped by clan culture, can also affect strategic decisions such as internationalization. Culture, defined as the values and norms shared by members of a social group (Guiso et al., 2006), has a more direct and persistent impact on individual values and

behavior patterns than personality or experience (Pan et al., 2014; Hagendorff et al., 2021). Clan culture is a subculture that influences many Chinese people's values and behaviors, and individuals are often exposed to it in childhood (Greif and Tabellini, 2017).

Further, imprinting theory offers insights into how and why an individual's early-life environment has a persistent influence on their values and preferences. Imprinting is "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" (Marquis and Tilcsik, 2013, p.201). Imprinting theory emphasizes the significance of sensitive periods (e.g., childhood) characterized by high susceptibility to environmental influences (Marquis and Qiao, 2020). Experiences and events during sensitive periods shape the interpretation of what constitutes proper behaviors and define the rules of conduct in life (Marquis and Tilcsik, 2013; Marquis and Qiao, 2020).

Moreover, imprinting is persistent and dynamic, rather than permanent or irreversible (Marquis and Tilcsik, 2013). The perspective of imprint–environment fit contributes to explaining the interaction between imprints and the subsequent environment. Imprint–environment fit refers to the degree of congruence, match and similarity between the initial formative context and subsequent conditions (Marquis and Tilcsik, 2013; Tilcsik, 2014). The focal imprint may be more likely to be evoked and activated when there is a strong fit between it and the subsequent environment.

Imprint–environment fit can be differentiated into supplementary fit and complementary fit, consisting of demand–ability fit and need–supply fit (Muchinsky and Monahan, 1987). Supplementary fit refers to cases in which a person “supplements, embellishes, or possesses characteristics which are similar to other individuals” in the environment (Muchinsky and Monahan, 1987, p.269). Demand–ability fit indicates how well an individuals’ abilities match the needs of the environment (Kristof, 1996). Need–supply fit is how well the environment supports individual requirements (Kristof, 1996).

In summary, following the logic of imprinting theory, clan culture can leave a cognitive residue of long-term orientation on the values of its members through the imprinting process. Such “imprints” are likely to form for individuals who grew up in a clan environment. Socialization and education are two main mechanisms through which individuals are imprinted by clan culture (Peng, 2010). During clan social interactions, individuals learn from and imitate each other. For instance, collective activities of ancestor worship emphasize the importance of group identity (Feng, 2013), while storytelling by clan members communicates unique ways of perceiving and reacting to the world (e.g., a focus on long-term return and continuity versus a focus on immediate reward) (Peng, 2010). These values and behavioral norms are reinforced by school education (Zhang, 2018) and social expectations. From an early age to adulthood, clan members are continuously exposed to and interact with others of similar cultural experience (e.g., via schools, neighborhoods, and work institutions). Furthermore, the expression of a clan culture imprint requires

stimulation, cues, and opportunities in the current environment (Tilcsik, 2014).

Therefore, we investigate the moderating role of three environmental factors that correspond to the three types of imprint–environment fit, namely, CEO working location (i.e., supplementary fit), market competition intensity (i.e., demand–ability fit), and economic policy uncertainty (i.e., need–supply fit). The complete theoretical framework is shown in Figure 1.

INSERT FIGURE 1 ABOUT HERE

3. Hypothesis development

3.1. CEO clan culture background and firm internationalization

Internationalization is a strategy that comes with long-term benefits but also short-term risks (Sun et al., 2019; Lin et al., 2020), and the subjective trade-off between these two is made based on CEO values and preferences. We argue that clan culture can have a persistent imprinting impact on CEO's long-term values and, therefore, influence their decisions to expand their business to foreign markets. Specifically, we propose that firms with CEOs who have a more pronounced clan culture background are more likely to internationalize for three reasons.

First, the value of long-term orientation imprinted by a clan culture background leads CEOs to seek for future returns and realize the potential long-term benefits of internationalization. International expansion can bring long-term returns for firms by obtaining experience and technologies, strengthening competitive advantages (Sun et

al., 2019), and spreading risks by diversifying the market portfolio (Tihanyi et al., 2003; Wiersema and Bowen, 2008; Wang et al., 2022). However, it is crucial to note that CEOs with strong clan culture background value long-term orientation, which does not mean they are more risk taking. Instead, they may conduct internationalization as a way to sacrifice short-term risk in exchange for long-term risk reduction. Studies have confirmed that internationalization benefits firms' long-term performance (Sun et al., 2019). In addition, CEO with clan culture background may be more proactive in strategic analysis and strategic defenses (Chuang et al., 2012), which can help firms gain the long-term benefits in the future. For example, Wanxiang Group's founder and CEO, Lu Guanqiu¹, who has a clan culture background, recognized in the early 1980s that "In the long run, companies will end up facing international markets and engaging in international competition" (Lu et al., 2013, p.805). Under his leadership with long-term strategic vision, Wanxiang Group became a major supplier of components to the global market.

Second, CEOs with a stronger clan culture background are more likely to be committed in persisting in the internationalization strategy and improving the resilience of their internationalization operations (Zheng et al., 2020).

Internationalization involves complex activities that require a persistent effort to

¹ Lu Guanqiu, who was born in Hangzhou city, Zhejiang Province, has a clan culture background. For example, he selected his son as his successor and arranged for clan members to work within the Group. He established the largest charitable trust in China to give back to his hometown and society. William Kirby, a Harvard professor, attributes having a clan as one of Lu Guanqiu's success formula. Information was collected manually by the authors, and further details can be found on the following four websites: https://en.wikipedia.org/wiki/Lu_Guanqiu; https://www.sohu.com/a/200165368_123753; <http://www.lgqtrust.com/en/>; <http://ncfr.gsm.pku.edu.cn/zt/Pdf/pdf1.pdf>.

understand dynamic international markets and address difficult challenges (e.g., the liability of foreignness) (Lu et al., 2009; Li and Fleury, 2020; Gao et al., 2022). CEOs with clan culture imprint highly value long-term orientation and believe that results typically take time to manifest (Lumpkin and Brigham, 2011; Brigham et al., 2013). They exhibit patience in anticipation of future rewards and recognize the need of perseverance and sustained work (Brigham et al., 2013). As a result, CEOs with greater clan culture background tend to be more committed to putting in the required time and resources to enable the international activities to be successful (López - Navarro et al., 2013). In contrast, those who have a short-term orientation and often disrupt, delay, or even terminate international efforts (López - Navarro et al., 2013). For example, Midea Group founded by He Xiangjian² and Wanxiang Group founded by Lu Guanqiu encountered a high level of challenges from the liability of foreignness during the process of internationalization. In response, their CEOs with clan culture background led firms to persist in learning and self-revolution to develop innovative and managerial capabilities, which became the foundation for their success (Wu et al., 2009).

Third, CEOs with a greater clan culture background are more likely to secure support from stakeholders, including shareholders, upstream suppliers, and

² He Xiangjian was born in Shunde District, Foshan City in Guangdong Province, a place famous for its strong clan culture. He made donations to the clan and established the “Shunde Community Charitable Trust” with 500 million Yuan (about 73 million USD). He also actively participated in the construction of his hometown, donating 300 million Yuan to build a garden and another 300 million Yuan to the Hetai Nursing Center in Shunde. Information was collected manually by the authors, and more details can be found on the following three websites: https://en.wikipedia.org/wiki/He_Xiangjian; <https://www.163.com/dy/article/DQIB6KRD055004XG.html>; <https://fs.focus.cn/zixun/413855bd54d8a605.html>.

downstream distributors, which can help their firms to overcome the liability of foreignness and thus ensure the success of internationalization. Shareholders are more likely to support CEOs with a clan culture background due to their long-term orientation and attention to future rewards rather than immediate potential losses (Lu et al., 2009). This alignment between CEOs and shareholders enables more efficient communication and discussion of international marketing affairs (Lu et al., 2022), and pooling of shareholder power to secure foreign market information (Tihanyi et al., 2003), thus improving firms' ability to cope with foreign market conditions. Such information exchange based on trust and cooperation helps firms better tackle the challenges of foreign market operations (Costa e Silva et al., 2012).

Furthermore, CEOs with a stronger clan culture background are more likely to build and maintain a long-term relationship with other stakeholders such as suppliers and distributors, which are beneficial for overcoming the liability of foreignness in international operations (Cao and Alon, 2021). Their tendency for long-term collaboration offers stability and reliability to their partners (Lee et al., 2018; Jia et al., 2020). In turn, their partners are more likely to provide support such as useful market intelligence and flexible international marketing channels, which are essential for dealing with liability of foreignness (Johanson and Vahlne, 2003; Cao and Alon,

2021). For example, Fuyao Glass, led by Cho Tak Wong³, with a strong clan culture background, emphasizes the development of long-standing relationship with stakeholders in the global supply chain. This vision enabled the company to gain important market information and support from its partners, which helped it to gradually open up the international market and become one of the few major international auto glass suppliers that dominate the global market in less than ten years (Hertenstein et al., 2017).

In sum, CEOs with a more pronounced clan culture background are more inclined to internationalize their businesses, persist in making international efforts and secure support from stakeholders because of their longer-term orientation. Therefore, we have the following:

Hypothesis 1: CEO clan culture background is positively related to the degree of firm internationalization.

3.2. Moderating effects

3.2.1. CEO working location

CEO working location describes whether a CEO is working in his/her birthplace. We label those CEOs whose working location is local to their birthplace as *local CEOs*,

³ Cho Tak Wong, who was born in Fuqing city, Fujian Province, a place characterized with strong clan culture. Cho comes from the most prominent clan in Fuqing, and his great-grandfather was the wealthiest man in the city. Deeply influenced by clan culture, Cho made it clear that only his eldest son, Cao Hui, would take over his business. Additionally, four of Fuyao's six directors are members of the Cho family. He is also a well-known philanthropist with a fund worth 100 billion Yuan, which he used to donate a brand-new university, care for employee welfare, and even help suppliers overcome the crisis of slow sales during the Asian financial crisis. Information was collected manually by the authors, and more details can be found on the following four websites: https://en.wikipedia.org/wiki/Cao_Dewang; https://www.sohu.com/a/480473024_121014217; https://www.sohu.com/a/561113754_121333318; <https://baijiahao.baidu.com/s?id=1723439268346188426&wfr=spider&for=pc>.

while those who work outside their birthplace as *nonlocal CEOs*. Local CEOs may demonstrate a high degree of similarity between their individual attributes and external environments in terms of values, goals and interactive patterns, representing a supplementary fit (Edwards, 2008). These similarities contribute to their ability to access clan culture and their identification with it, which can strengthen the persistence of the clan culture imprint.

Specifically, we argue that when the CEO works locally, the positive relationship between CEO clan culture background and firm internationalization is strengthened. Local CEOs tend to have longer residential duration in their birthplace (Kwon and Ruef, 2017). The longer they stay in the initial clan culture imprinting environment, the longer is their period of exposure to interactive actors who have also been influenced by clan culture (Kwon and Ruef, 2017). During such social interactions, the focal clan culture imprint can be stimulated and reinforced repeatedly. Moreover, for those individuals who tend to locate where they have deep roots (Ren et al., 2022), the role of their birthplace as a social category is further strengthened (Kwon and Ruef, 2017), enabling them to establish their identification with in-group members (fellow townspeople), and define their actions in a particular situation. As a result, when the CEOs work in their birthplaces, they are more likely to pursue the future benefits of internationalization and persist in internationalization strategy.

Moreover, local CEOs are more likely to have long-term goals and commitments with key stakeholders because of their strong identification with their birthplaces (Ren

et al., 2022). Likewise, when CEOs work in their birthplaces, stakeholders tend to perceive them as more trusted and reliable, and are more likely to maintain trust-based communication and cooperation (Bertrand et al., 2021), which can enlarge the advantages of the clan culture on overcoming liability of foreignness. In contrast, CEOs working outside their birthplaces may come out to stakeholders as being footloose and lacking a long-term commitment to the community as well as other partners (Bertrand et al., 2021). Therefore, we propose the following:

Hypothesis 2: The positive effect of CEO clan culture background on the firm's degree of internationalization is strengthened when the CEO works in his or her birthplace.

3.2.2. Market competition intensity

Firms operating in highly competitive markets face immense pressure to create and maintain a sustainable competitive advantage (Wiersema and Bowen, 2008; Abdoh and Liu, 2021). CEOs with a more pronounced clan culture background demonstrate the ability to handle adverse external competition (Krammer et al., 2018; Weis and Klarner, 2022). Under more intensive market competition, the complementary demands–abilities fit is stronger, and thus, the associated imprinting is more persistent.

Specifically, we argue that the positive relationship between CEOs clan culture background and firm's internationalization is strengthened when facing more intensive domestic market competition for three reasons. First, highly competitive market environment at home poses a greater threat to a firm's market share, market

position, and financial performance (Adomako et al., 2021). Increased market competition intensity is often characterized by more rivalry among incumbents, which can be manifested in price wars, provision of added services, and increased advertising (Boso et al., 2012). When competition intensified at home, CEOs with a heavy clan culture imprint may develop a stronger sense of crisis and consciousness of the pressure on the firm's long-term survival and growth than their nonclan counterparts (Boso et al., 2012). They may be more likely to engage in internationalization to diversify potential risks, develop new markets, and accumulate long-term competitive advantages (Luo and Tung, 2007; Krammer et al., 2018). Prior studies also suggest that firms led by longer-term-oriented leaders have better performance under competitive pressure (Nguyen et al., 2018).

Second, under a competitive environment, CEOs with a clan culture background are more likely to persist in making international efforts. A firm's resources and capabilities are inherently limited and cannot be built quickly. When deciding how to allocate these scarce resources, a firm faces a tradeoff (Abdoh and Liu, 2021). High competition in the domestic market puts pressure on a firm's persistence of profitability (Glen et al., 2001), and a strategic response can be to preserve and strengthen its core competitive advantages by seeking opportunities via internationalization (Bowen and Wiersema, 2005; Sun et al., 2019). Therefore, we would expect that when faced with higher competitive pressure in domestic markets, CEOs with a greater clan culture background, who are long-term oriented, are more likely to persist in operating in foreign markets through tackling the liability of

foreignness.

Third, in a competitive environment, CEOs with a clan culture background are more likely to secure more support from stakeholders to overcome the liability of foreignness and thus promote international expansion. On the one hand, shareholders will be more willing to support business leaders who have the long-term vision and persistence to diversify the markets by internationalizing the business and tackling problems from the liability of foreignness, which are crucial during turbulent times (Tihanyi et al., 2003; Weis and Klarner, 2022). On the other hand, when market competition intensifies, securing success opportunities is no longer determined by a single transaction, but instead by continuous cooperation and a strong supply chain network (Spekman et al., 1998). Under such circumstances, the interdependence and linkage between focus firms and other stakeholders in the supply chain would be strengthened, allowing them to solidate together to overcome market challenges (Arora et al., 2016). Stakeholders can offer more support to businesses that are more long-term oriented because such businesses are more reliable and trustworthy in intensive market competition (Spekman et al., 1998; Qu and Yang, 2015). Therefore, we would expect that CEOs with a clan culture background can find it easier to secure support from stakeholders for their international activities. Thus, we have the following:

Hypothesis 3: The positive effect of CEO clan culture background on the firm's degree of internationalization is strengthened when market competition is more intensive.

3.2.3. Economic policy uncertainty

Economic policy uncertainty (EPU) refers to the economic risk posed by undefined future government policies and regulatory frameworks (Al-Thaqeb and Algharabali, 2019). In our study, we focus on economic policy uncertainty in the home country (i.e., China) to represent the domestic institutional environment. Specifically, dynamically changing economic policy may cause extra costs and confusion for firms' long-term investment activities (Kang et al., 2014; Liu and Zhang, 2015). Under a more uncertain economic policy environment, the complementary needs–supply fit (that between organizational needs and environmental supply) is lower, diluting the persistence of imprinting.

Specifically, we argue that the persistence of the CEO clan culture imprint can be reduced when economic policy in the home country (i.e., China) is highly uncertain. First, under such circumstances, it is difficult for managers to accurately estimate and balance the risks and benefits of specific investment decisions, particularly risky ones such as internationalization (Deng and Zhang, 2018; Zhang et al., 2022). Therefore, even CEOs with a clan culture background may be hesitant to deepen their firms' international outreach, instead choosing a cautious wait-and-see attitude toward investment projects, including internationalization, particularly when these investments have low reversibility (Kang et al., 2014).

Second, when the economic policy at home is uncertain, it is difficult for managers to make persistent efforts into international activities. This is because economic policy uncertainty reduces the reliability and predictability of the

institutional support which is important for internationalization (Kang et al., 2014). For example, the certainty of tax credits and budget adjustment encourages firms' investment, whereas the uncertainty of them have significantly adverse effects on firms' internationalization activities (Fernández-Villaverde et al., 2015). Therefore, under economic policy uncertainty, puzzled by both domestic uncertainty and foreign operation risks, even CEOs with a clan culture background will feel reluctant to show high commitment and persistence in international activities.

Third, economic policy uncertainty in the home country can also affect the support that CEOs with a clan culture background can secure from stakeholders to overcome international challenges. Under such circumstances, shareholders may find it difficult to predict the future benefits of investment and thus turn to less active gesture to encourage commitment in international expansion (Zhang et al., 2022). Similarly, other stakeholders may be more conservative in the supply chain collaboration due to the unpredictable economic policy environment (Al-Thaqeb and Algharabali, 2019; Luo et al., 2022). Moreover, when the environment becomes highly uncertain, information flows sharing which is beneficial for firms to overcome the liability of foreignness can become inefficient or even useless (Liu and Zhang, 2015). Therefore, we expect that CEOs with clan culture background may face difficulties in securing useful support from stakeholders for their internationalization ventures when the economic policy is highly uncertain. Based on the above argument, we propose the following:

Hypothesis 4: The positive effect of CEO clan culture background on the

firm's degree of internationalization is weakened when economic policy uncertainty is high.

4. Methods

4.1. Sample and data sources

We tested the predictions derived from our theoretical framework using a sample of publicly listed Chinese firms from 2012 to 2018. The selection of Chinese listed firms allowed for data availability, representativeness, and comparability with prior research. The Chinese context enabled us to capture the clan culture as a profoundly important and persistent institutions (Greif and Tabellini, 2017) and its leading role in internationalization. We restrict the time span from 2012 to 2018 because government international trade policy stabilized after the global financial crisis, and Chinese listed firms entered a new period of vibrance at this time, providing a pool of high-quality, heterogeneous observations.

We collected data from various sources. First, we collected the CEO birthplace based on executives' personal information disclosed by the China Stock Market & Accounting Research Database (CSMAR) database. Other CEO individual information were obtained from the CSMAR database as well. Missing values were manually added by collecting information from corporate annual reports, websites, and the Chinese Research Data Services Platform (CNRDS) database. Second, the genealogy data were obtained from The General Catalog of Chinese Genealogy, compiled by the Shanghai Library and published in 2008. This catalog includes approximately 51,200 observations regarding 38,429 clans and is the largest existing

collection of Chinese genealogies. Third, we gathered overseas income data, corporate financial information, and corporate governance structure data from the CSMAR database.

We excluded observations in the following categories: (1) special treatment companies, (2) banking, insurance and financial firms, and (3) key variables have missing values (Huang et al., 2022). The final sample was an unbalanced panel consisting of 285 firms with 1,267 firm–year observations.

4.2. Measures

Degree of internationalization is measured as the proportion of overseas income relative to total firm income by a firm in a specific year, based on Sullivan (1994) and data availability considerations. This measurement is among the most commonly used indicators of a firm’s degree of internationalization (Xiao et al., 2013; Kiss et al., 2018; Nuruzzaman et al., 2020).

CEO clan culture background is measured as the number of genealogies compiled in CEOs’ birthplace (at the city-region level) per 1,000,000 people in log, following Greif and Tabellini (2017), Zhang (2019) and Chen et al. (2020).

Genealogies are a good measure of the strength of clan culture, as compiling a genealogy is a typical activity that brings together clan members and enhances social interactions in clans (Feng, 2013). The higher this ratio, the more pronounced is a CEO’s clan culture background.

Working location is captured with a dummy variable coded 1 when the CEO works in his or her birthplace and 0 otherwise.

Market competition intensity is operationalized using the well-known Herfindahl index, a widely used indicator of competitive intensity that captures the number and market share distribution of firms in an industry (Kotha and Nair, 1995). In order to make the interpretation of the data more understandable, we employ the negative Herfindahl index, where a larger value denotes greater competition.

Economic policy uncertainty is measured using the economic policy uncertainty (EPU) index for China developed by Davis et al. (2019). We use the yearly EPU index of China by calculating the mean of the original monthly EPU index data and dividing it by 100 (Kang et al., 2014; Liu and Zhang, 2015).

To rule out alternative explanations, we included control variables at two levels. At the individual CEO and top management level, we controlled for *CEO age*, *gender*, *educational level*, *tenure*, *shareholdings* and *overseas experience*, as these factors may influence a firm's international activities. In addition, *CEO duality* was controlled for as a dummy variable coded 1 when duality is present. The *ratio of independent directors* was also controlled for because more independent directors can provide more effective monitoring and thus affect the CEO's influence.

At firm-level, *firm age*, *firm size*, and *ROA* were controlled for first. Additionally, we also controlled for *firm leverage* (the ratio of debt to assets), *asset turnover rate* (the ratio of total income to total assets), *marketing effort* (META, the ratio of marketing expenses to total assets), and *foreign ownership* (the proportion of foreign capital shares in total equity). Free trade zones (FTZs) could provide policy support and cluster advantages for firms. Thus, we controlled for *free trade zone*, coded as 1

when the firm is situated in an FTZ and 0 otherwise. We also created a binary variable to control for firm's *prior export experience*, where a "1" denoted having prior internationalization experience and a "0" denoted failing to have such experience. *R&D intensity* served as a proxy for firm-specific advantage and was measured as the ratio of R&D expenses to firm total revenue. The *property plant and equipment (PPE)* of firms was controlled for which is measured by using the percentage of fixed assets including property, plants, machines, and equipment to the total revenues according to Boustanifar et al. (2022). Besides, *state ownership (SOE)* was controlled for with a binary variable to indicate whether the firm is state-owned.

Furthermore, year and industry fixed effects were included. Detailed variable measurements can be found in Table I.

INSERT TABLE I ABOUT HERE

4.3. Estimation methods

We use generalized estimating equations (GEEs), which derive maximum likelihood estimates and control for nonindependent observations (Liang and Zeger, 1986).

Fixed effects models are not suitable for analyzing time-invariant variables, such as CEO clan culture background; hence, we use GEE models, which are commonly used in longitudinal research on such characteristics (Campbell et al., 2019). Specifically, we use the "xtgee" command in Stata 15.0. We specify a Gaussian (normal) distribution with an identity link function, autocorrelated dependent variables. Robust variance estimators (White, 1980) are used for all regressions in our models.

5. Results

5.1. Descriptive statistics

Table II presents the descriptive statistics and correlations for all variables. The average degree of internationalization is 20.7%. The correlation coefficients show a positive correlation between clan culture and firm internationalization.

INSERT TABLE II ABOUT HERE

5.2. Hypothesis testing

Table III presents the GEE results for the tests of our hypotheses. All model results are highly significant according to the Wald χ^2 test. Model 1 includes all control variables. In Model 2, the positive effect of CEO clan culture background on firm degree of internationalization is significant ($\beta = 0.012$, $p < 0.01$), supporting H1.

Model 3 represents that the moderating effect of CEO working location on the relationship between CEO clan culture background and degree of internationalization is positive and significant ($\beta = 0.016$, $p < 0.05$), supporting H2.

Model 4 shows that the coefficient of the interaction of competition intensity and CEO clan culture background is positive and significant ($\beta = 0.082$, $p < 0.01$), supporting H3.

Model 5 tests the moderating effect of economic policy uncertainty. The coefficient of the interaction of EPU and CEO clan culture background is negative and significant ($\beta = -0.007$, $p < 0.01$), supporting H4.

Model 6 includes all the independent variables, interaction terms and control variables. The signs and significance levels of our independent variable and interaction terms remain largely unchanged in this full model.

INSERT TABLE III ABOUT HERE

5.3. Robustness tests

To ensure the reliability of our results, we conduct several additional analyses. First, we follow Morgan et al. (2021) and use total revenue (in log) to measure firm size, given its importance on firms' internationalization (Krammer et al., 2018). The results are shown in Table IV.

INSERT TABLE IV ABOUT HERE

Second, we replace the measurement of Davis's (2019) EPU index for China with Baker's (2016). The results are reported in the Panel A in Table V. In addition, to further verify the robustness of our findings, we use the Trade Policy Uncertainty (TPU) index constructed by Davis et al. (2019) for China as an alternative measurement of EPU. The TPU index reflects the uncertainty in trade policies and can impact the decision-making of firms regarding their internationalization strategy (Feng et al., 2017). Accordingly, we calculate the yearly TPU index for China and use it as an alternative measurement of EPU. The results are reported in the Panel B in Table V. Our findings are consistent after using two alternative EPU measures.

INSERT TABLE V ABOUT HERE

Third, we run a regression model using export sales volume (EV) as a complementary measurement of the dependent variable, following Wang and Ma (2018). The results are reported in Table VI. Our results remain entirely consistent with the baseline.

INSERT TABLE VI ABOUT HERE

Fourth, taking into account the possibility that the unobservable factors determining whether firms involve in international activities are correlated with the unobservable factors determining the degree of firm's internationalization, we employ the Heckman's (1979) two-stage estimation procedure to deal with potential sample selection bias. In the first stage, we use probit estimation to predict a firm's internationalization decision in each year based on the control variables and instrumental variables and calculate the inverse Mills ratio (IMR). Following Xiao et al. (2013), we select the degree of industry-level internationalization as an instrumental variable, which is measured as the ratio of foreign sales to total sales in each three-digit standard industrial classification industry. In the main second-stage model, we include the IMR into the GEE model to predict the degree of internationalization only among the internationalized firms.

Panel A of Table VII reports the first-stage estimates of the propensity of internationalization. Panel B of Table VII reports the results of the second stage after correcting for internationalized firm selection. The estimated coefficient of the IMR is not significant, indicating that the sample selection bias is not a serious problem in the

original model. After adding the IMR in the second-stage model, the results remain robust.

INSERT TABLE VII ABOUT HERE

Finally, we use an instrumental variable (IV) and two-stage least squares estimation (2SLS) to rule out concerns over endogeneity of potential measurement error of CEO clan culture and the omitted variables. Following Xiong et al. (2021), we select the city-level terrain slope as an suitable instrumental variable for clan culture based on the following reasons. Firstly, people residing in regions with steep terrain slopes face a more challenging natural environment, such as less arable land and frequent invasions by bandits and wild animals. Thus, these people may live closely to defend against external threats. Secondly, since the Song Dynasty, people from the north have migrated to mountainous areas multiple times to avoid military invasions. Thirdly, the lack of transportation access in mountainous areas makes it difficult for people to migrate to better habitats, leading to the formation of close-knit communities. Therefore, the steeper the terrain slope, the more uneven the topography is, and the more likely clan culture is to form. The terrain slope is predetermined by geographic factors and uncorrelated with the corporate internationalization decisions. We obtain the regional terrain slope data from the Resource and Environmental Science Data Center of the Chinese Academy of Sciences, and further process the data for each city using ArcGIS (version 10.2.2) software.

Table VIII presents the results of the 2SLS regression. In Model 1, the first-stage

regression results show that the coefficient of the instrumental variable (i.e., terrain slope) is positive and significant ($\beta = 0.608$, $p < 0.01$), which indicates that slope is a predictor of CEO clan culture background. The F value of the weak instrumental variable test is 893.48 greater than 10, which rejects the null hypothesis of the existence of weak instrumental variables. In Model 2, the second-stage regression results indicate that the coefficient of clan culture on a firm's degree of internationalization is positive and significant ($\beta = 0.074$, $p < 0.01$). These results provide evidence that CEO clan culture background facilitates firms' international expansion even after endogeneity issues are addressed.

INSERT TABLE VIII ABOUT HERE

6. Discussion and conclusion

The clan culture, a unique native culture with a long history of development, is prevalent in China and many other Asian countries (Xiong et al., 2021) and continues to play a significant role in contemporary activities (Peng, 2004). Despite its prevalence and significance, the impact of clan culture on businesses remains under-researched. While some emerging studies have started to investigate the role of clan culture in firms' initial establishment and final outcomes (Peng, 2004; Zhang, 2019; Xiong et al., 2021), little is known about how it influences firms' strategic decisions of internationalization.

In this study, anchored in upper echelons theory and imprinting theory, we focus on the impact of CEO clan culture background on firm internationalization. Based on

data for Chinese publicly listed firms from 2012 to 2018, we find that CEOs with a clan culture background lead firms with a significantly higher degree of internationalization. We argue that this is because clan culture can imprint CEOs, making them more long-term oriented. Furthermore, from the perspective of imprint–environment fit, we find that the effect of CEO clan culture background on firm internationalization is stronger when the CEO works in his or her birthplace, or the domestic market competition is more intense, but weaker when economic policy is more uncertain.

6.1. Theoretical implications

This study contributes to prior theoretical and empirical work in several areas. First, we offer new insights into the determinants of firms' engagement in international expansion by focusing on CEO cultural background. Unlike prior studies examining the impact of industrial or environmental factors on internationalization, our study contributes to highlighting the micro cognitive foundation of corporate decisions such as internationalization (Chittoor et al., 2019; Boustanifar et al., 2022). Coviello et al. (2017) also call for more research to explore decision-makers' micro-level characteristics and their impact on firm internationalization. In response, we have drawn on upper echelons theory and imprinting theory to illustrate the implications of CEO clan culture background for firm internationalization. Our findings suggest that CEOs with a clan culture background tend to have a longer-term orientation and place more weight on the long-term implications of international expansion.

Second, our paper contributes to upper echelons theory by paying attention to

individual early-life cultural background. Prior studies focus mainly on individual physiology, events, and experiences, overlooking the impact of the cultural environment. Culture is a collective program of cognition. The cultural environment of one's birthplace is a fundamental and enduring source of influence, as it is instilled early in life and is typically not chosen (Pan et al., 2020). However, this aspect has received little attention in the literature on upper echelons theory and corporate decisions. By focusing on a specific subnational culture, clan culture, our study highlights that elements of individuals' early life environment, such as their innate cultural background, play a role as a fundamental source of variation in CEOs' managerial style and decisions.

Third, while cultural environment during childhood imprints individual values, the strength of the imprint can decay or be strengthened by subsequent experiences and environments. By highlighting the significance of imprint dynamics, our study contributes theoretically to the field of imprinting research (Marquis and Tilcsik, 2013). Our findings demonstrate that early-life cultural background leaves an imprint on people and that the persistence of this imprint relies on imprint–environment fit. Our theoretical distinction of the current environment into three types of imprint–environment fit allows us to systematically examine the complex conditions that influence the effect of clan culture imprint. Specifically, our results support the notion that working location and intensive market competition in congruence with the focal imprint of clan culture serves to intensify the imprint effect, while economic policy uncertainty, which does not align well with the cognitive style associated with the

focal imprint, weakens the imprint effect.

6.2. Practical implications

Our findings provide insightful implications for firms, boards, and policy makers.

First, firms should attach importance to the influence of individual cultural imprints on corporate strategic decisions. Specifically, firms' boards of directors should take individual clan culture background into account when selecting executives. Our study suggests that CEOs with a clan culture background are more likely to pursue international expansion as they place more weight on the long-term implications of international strategy. Thus, it is important for the board to select a proper CEO whose managerial style matches the corporate culture and strategic target.

Second, firms' boards of directors should be mindful that leveraging CEOs' values of long-term orientation requires a fit between micro-cognitive factors and macro-environments. Selecting a CEO with clan culture background who values long-term orientation can be an effective way for the strategic aim for higher international revenue, particularly when the domestic market competition is stiff, the economic policy is not uncertain, and the CEO is local with clan identification.

Third, for policy makers, our findings can provide innovative ways to encourage Chinese's firms to go abroad. On the one hand, it is important to realize the significant and positive role of traditional culture, such as clan culture, in corporate international activities. On the other hand, governments can anticipate the volume of international trade to be higher by creating a proper environment. For example, providing a predictable and reliable environment may help CEOs with stronger clan

culture background to make international efforts.

6.3. Limitations and directions for future research

This study is not free from limitations, which provide opportunities for future research. First, clan culture exists not only in China but also in other Asian countries (i.e., Singapore, Korea and Thailand). As such, future research could expand upon this study and explore the generalizability of our findings to other empirical settings, particularly those Asian countries whose formal institutional environments are distinct from China's.

Second, future research could employ alternative research methods such as surveys and qualitative comparative analysis (QCA) to examine the underlying micro cognitive mechanisms that mediate the effect of our findings.

Third, our measurement of CEO clan culture background based on genealogy records, while largely objective, is inevitably imprecise. Therefore, we encourage future researchers to improve our measurement or use additional data sources to retest our findings.

Fourth, considering the potential role of traditional clan culture on individuals' mindsets and behaviors, it is worthwhile to further explore how clan culture leaves a persistent role in other social and economic activities.

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Table I. Details for all variables included in the study

<i>Variable</i>	<i>Description</i>
1 Degree of internationalization	The proportion of overseas income relative to the total income of the firm.
2 CEO clan culture background	The number of genealogies compiled in a CEO's birthplace (at the city-region level) per 1000000 persons in log.
3 Working location	A dummy variable coded 1 when the CEO works in his or her birthplace and 0 otherwise.
4 Competition intensity	Herfindahl index.
5 EPU	Economic policy uncertainty index of each year divided by 100.
6 CEO age	The difference between the present year and the CEO's birth year.
7 CEO gender	A dummy variable coded 1 if the CEO is male and 0 otherwise.
8 CEO education level	A dummy variable coded 1 when the CEO has a bachelor's degree or above and 0 otherwise.
9 CEO tenure	Number of months since appointment to the position of CEO.
10 CEO shareholdings	The ratio of the CEO's holding shares to total shares.
11 CEO duality	A dummy variable coded 1 when duality is present and 0 otherwise.
12 Overseas experience	A dummy variable coded as 1 if the CEO has been employed outside China and 0 otherwise.
13 Firm age	The number of years since the firm's foundation.
14 Firm size	The firm's total assets with a logarithm transformation.
15 Independent directors	The ratio of the number of independent directors to the total board size.
16 Firm leverage	The ratio of debt to total assets.
17 Asset turnover rate	The ratio of total income to total assets.
18 Marketing effort	The ratio of marketing expenses to total assets.
19 Foreign ownership	The proportion of foreign capital shares in total equity.
20 ROA	The ratio of revenues to total assets.
21 Free trade zone	A dummy variable coded 1 when the firm is located in a free trade zone and 0 otherwise.
22 Prior export experience	A dummy variable coded as 1 indicating prior internationalization experience and 0 indicating failing to have such experience.
23 R&D intensity	The ratio of R&D expenses to firm total revenue.
24 PPE	The percentage of fixed assets including property, plants, machines, and equipment to the total revenues
25 SOE	A dummy variable to indicate whether the firm is a state-owned enterprise or not.

Table II. Descriptive statistics and correlation matrix (N = 1267)

Variable	Mean	SD.	1	2	3	4	5	6	7	8	9	10	11	12
1 Degree of internationalization	0.207	0.217	1											
2 CEO Clan culture background	3.598	1.596	0.1865*	1										
3 Working location	0.396	0.489	0.1632*	0.0959*	1									
4 Competition intensity	-0.112	0.0910	0.1300*	0.0508	-0.0501	1								
5 EPU	1.435	0.606	-0.0137	-0.0160	-0.0121	0.0179	1							
6 CEO age	50.25	6.856	-0.0924*	-0.0685*	-0.1488*	0.0370	0.0477	1						
7 CEO gender	0.946	0.225	-0.0248	-0.1269*	-0.0219	-0.0502	-0.00850	0.0301	1					
8 CEO education level	0.578	0.494	-0.0638*	-0.0924*	-0.1765*	0.1084*	0.0182	-0.0152	0.00910	1				
9 CEO tenure	66.20	44.28	0.0643*	-0.0142	0.0729*	0.0552*	0.0923*	0.2934*	-0.0289	0.0152	1			
10 CEO shareholdings	8.700	15.07	0.1578*	0.0323	0.0842*	0.1379*	0.00590	-0.0597*	0.0351	0.0841*	0.1194*	1		
11 CEO duality	0.489	0.500	0.0559*	0.0603*	0.0799*	0.1350*	0.00390	0.2283*	0.1137*	0.0843*	0.2374*	0.4728*	1	
12 Overseas experiences	0.0500	0.217	0.0782*	0.0481	-0.0443	-0.0522	0.0266	0.0664*	0.0545	0.1367*	0.0741*	0.0946*	0.0597*	1
13 Firm age	15.96	5.061	0.0267	0.0610*	0.0527	0.0394	0.2467*	0.1139*	-0.0204	-0.0791*	0.0807*	-0.1336*	-0.0879*	0.0153
14 Firm size	22.28	1.234	-0.1167*	-0.1389*	-0.1472*	-0.1374*	0.1437*	0.1927*	0.0485	0.0629*	0.0647*	-0.3138*	-0.2027*	-0.0167
15 Independent directors	0.383	0.0600	0.0251	0.0490	-0.00830	-0.00220	-0.00330	-0.0638*	-0.0150	0.1504*	0.00500	0.0643*	0.1707*	0.00100
16 Firm leverage	0.429	0.200	-0.0598*	-0.0582*	-0.0747*	-0.1239*	0.0294	0.1089*	0.0585*	0.0444	-0.0168	-0.2944*	-0.1599*	-0.0455
17 Asset turnover rate	0.640	0.408	-0.0320	0.0217	-0.0509	-0.0932*	0.00440	0.0515	0.0562*	-0.0666*	-0.0958*	-0.1660*	-0.1342*	-0.0452
18 Marketing effort	0.0410	0.0460	-0.0850*	-0.0448	-0.0703*	0.0359	0.0316	0.0132	0.0152	0.1790*	0.1024*	0.1170*	0.0597*	0.0136
19 Foreign ownership	0.0150	0.0960	0.0116	0.0605*	-0.00920	0.00320	-0.00160	0.0175	0.00920	-0.00260	-0.0757*	-0.0529	0.00700	0.0394
20 ROA	0.0420	0.0570	-0.0351	0.0308	0.000200	0.00750	0.000900	-0.0708*	-0.0487	-0.0317	-0.0266	0.0774*	0.0773*	-0.0297
21 free trade zone	0.271	0.445	0.0362	0.0590*	-0.0941*	-0.0142	-0.0300	0.0414	-0.00470	0.0785*	0.1277*	0.1149*	0.1650*	-0.0250
22 Prior export experience	0.397	0.489	0.0874*	-0.0214	0.00230	-0.0113	0.3015*	0.1203*	-0.0573*	0.0144	0.1960*	-0.00870	-0.00890	-0.0520
23 RD intensity	0.0440	0.0430	0.0568*	-0.0437	-0.0831*	0.1950*	0.0835*	0.0123	0.0960*	0.1435*	0.1014*	0.2510*	0.1050*	0.1198*
24 PPE	0.211	0.140	0.1419*	0.0505	0.1514*	0.1468*	-0.0764*	0.0711*	-0.0517	-0.1798*	-0.0271	-0.0722*	-0.0276	-0.0227
25 SOE	0.300	0.458	-0.0674*	-0.2064*	-0.1781*	-0.0859*	-0.0364	0.1803*	0.0336	0.0504	-0.1208*	-0.3411*	-0.3985*	-0.0229
Variable	13	14	15	16	17	18	19	20	21	22	23	24	25	
13 Firm age	1													
14 Firm size	0.1816*	1												
15 Independent directors	-0.0782*	-0.00650	1											
16 Firm leverage	0.2286*	0.5728*	0.0180	1										
17 Asset turnover rate	0.0774*	0.2241*	0.0199	0.2922*	1									
18 Marketing effort	-0.0519	-0.0404	0.0393	-0.0906*	0.2598*	1								
19 Foreign ownership	-0.0996*	-0.0531	-0.00250	-0.0753*	-0.0116	0.1512*	1							
20 ROA	-0.0792*	-0.00850	0.00930	-0.3448*	0.1382*	0.2375*	0.0632*	1						
21 free trade zone	-0.0715*	-0.0221	0.0829*	-0.0723*	-0.0336	0.0838*	0.00400	0.0701*	1					
22 Prior export experience	0.2026*	0.0958*	-0.0335	0.0375	-0.0310	-0.0498	-0.0908*	-0.0386	-0.00430	1				
23 RD intensity	-0.1092*	-0.2103*	-0.0297	-0.3494*	-0.2940*	0.1270*	0.00660	0.0353	0.0310	0.0352	1			
24 PPE	0.0244	-0.000900	-0.0884*	0.0960*	-0.0104	-0.2130*	-0.0331	-0.2388*	-0.1987*	0.00770	-0.1083*	1		
25 SOE	0.2219*	0.3832*	-0.0941*	0.3663*	0.1629*	-0.1021*	-0.1008*	-0.2129*	-0.1391*	-0.0101	-0.1613*	0.0412	1	

Table III. GEE models for hypotheses tests

	<i>Model 1</i>	<i>Model 2</i>	<i>Model 3</i>	<i>Model 4</i>	<i>Model 5</i>	<i>Model 6</i>
Clan		0.012^{**} (0.004)	0.014^{**} (0.005)	0.013^{**} (0.004)	0.013^{**} (0.004)	0.016^{**} (0.005)
Localceo × Clan			0.016^{**} (0.008)			0.014[*] (0.008)
HHI × Clan				0.082^{**} (0.030)		0.075^{**} (0.032)
EPU × Clan					-0.007^{**} (0.003)	-0.007^{**} (0.003)
Localceo	0.038 ^{**} (0.015)	0.032 ^{**} (0.016)	0.033 ^{**} (0.016)	0.031 [*] (0.016)	0.031 [*] (0.016)	0.031 [*] (0.017)
HHI	-0.043 (0.089)	-0.045 (0.089)	-0.046 (0.089)	-0.017 (0.078)	-0.038 (0.091)	-0.013 (0.079)
EPU	-0.023 (0.016)	-0.022 (0.016)	-0.023 (0.016)	-0.024 (0.016)	-0.022 (0.015)	-0.025 (0.016)
Ceogage	0.000 (0.001)	0.000 (0.001)	0.000 (0.001)	0.000 (0.001)	0.000 (0.001)	0.000 (0.001)
Ceogender	-0.003 (0.021)	-0.003 (0.023)	0.002 (0.022)	-0.011 (0.024)	-0.002 (0.023)	-0.006 (0.023)
Edu	0.010 (0.011)	0.009 (0.011)	0.009 (0.011)	0.012 (0.011)	0.010 (0.011)	0.012 (0.011)
Tenure	-0.000 (0.000)	-0.000 (0.000)	-0.000 (0.000)	-0.000 (0.000)	-0.000 (0.000)	-0.000 (0.000)
Shareholdings	0.000 (0.001)	0.000 (0.001)	0.000 (0.001)	0.000 (0.001)	0.000 (0.001)	0.000 (0.001)
CEOduality	0.008 (0.014)	0.008 (0.014)	0.006 (0.014)	0.008 (0.014)	0.008 (0.014)	0.006 (0.014)
OverseasEx	0.007 (0.035)	0.006 (0.034)	0.008 (0.034)	0.007 (0.035)	0.005 (0.034)	0.006 (0.034)
Firmage	0.001 (0.002)	0.001 (0.002)	0.001 (0.002)	0.001 (0.002)	0.001 (0.002)	0.001 (0.002)
Firmsize	0.005 (0.009)	0.005 (0.009)	0.005 (0.009)	0.006 (0.009)	0.005 (0.009)	0.005 (0.009)
Indirectors	0.079 (0.094)	0.074 (0.094)	0.075 (0.093)	0.076 (0.093)	0.075 (0.093)	0.079 (0.093)
Leverage	0.001 (0.042)	0.001 (0.042)	0.006 (0.042)	0.002 (0.042)	-0.000 (0.041)	0.004 (0.041)
Assetturnover	-0.011 (0.023)	-0.011 (0.023)	-0.012 (0.023)	-0.010 (0.023)	-0.010 (0.023)	-0.010 (0.023)
META	-0.080 (0.212)	-0.065 (0.211)	-0.057 (0.212)	-0.070 (0.209)	-0.068 (0.213)	-0.065 (0.211)
Foreignown	-0.032 [*] (0.017)	-0.033 [*] (0.017)	-0.033 [*] (0.017)	-0.034 ^{**} (0.017)	-0.034 ^{**} (0.017)	-0.034 ^{**} (0.017)
ROA	-0.151 (0.098)	-0.150 (0.097)	-0.148 (0.097)	-0.154 (0.097)	-0.153 (0.098)	-0.155 (0.098)
Tradezone	0.004 (0.024)	0.001 (0.024)	0.004 (0.024)	-0.000 (0.024)	0.000 (0.024)	0.002 (0.024)
Exportexp	0.007 (0.009)	0.007 (0.009)	0.007 (0.009)	0.008 (0.009)	0.007 (0.009)	0.007 (0.009)
RDintensity	-0.163 (0.181)	-0.153 (0.181)	-0.143 (0.181)	-0.135 (0.178)	-0.148 (0.181)	-0.124 (0.179)
PPE	0.099 (0.074)	0.100 (0.074)	0.105 (0.073)	0.098 (0.073)	0.099 (0.073)	0.102 (0.072)
SOE	-0.007 (0.026)	-0.003 (0.026)	-0.001 (0.026)	-0.000 (0.025)	-0.003 (0.026)	0.000 (0.025)
Year	Yes	Yes	Yes	Yes	Yes	Yes
Industry	Yes	Yes	Yes	Yes	Yes	Yes
N	1267	1267	1267	1267	1267	1267
Wald χ^2	12731.26 ^{***}	3.3e+05 ^{***}	56894.08 ^{***}	3.5e+05 ^{***}	1.9e+05 ^{***}	22671.59 ^{***}

Note: The robust standard errors reported in parentheses.

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table IV. Regression results of robustness check (alternative measurement of firm size)

	<i>Model 1</i>	<i>Model 2</i>	<i>Model 3</i>	<i>Model 4</i>	<i>Model 5</i>	<i>Model 6</i>
Clan		0.012^{***} (0.004)	0.014^{***} (0.004)	0.013^{***} (0.004)	0.013^{***} (0.004)	0.016^{***} (0.005)
Localceo × Clan			0.016^{**} (0.008)			0.014[*] (0.008)
HHI × Clan				0.084^{***} (0.030)		0.077^{**} (0.031)
EPU × Clan					-0.007^{***} (0.003)	-0.007^{***} (0.003)
Localceo	0.039 ^{***} (0.015)	0.032 ^{**} (0.015)	0.033 ^{**} (0.016)	0.031 ^{**} (0.016)	0.031 ^{**} (0.016)	0.031 [*] (0.016)
HHI	-0.048 (0.089)	-0.050 (0.088)	-0.051 (0.088)	-0.022 (0.078)	-0.043 (0.090)	-0.017 (0.079)
EPU	-0.023 (0.016)	-0.023 (0.015)	-0.023 (0.015)	-0.025 (0.015)	-0.022 (0.015)	-0.025 (0.015)
Firmsize	0.021 ^{**} (0.010)	0.021 ^{**} (0.010)	0.021 ^{**} (0.010)	0.021 ^{**} (0.010)	0.021 ^{**} (0.010)	0.021 ^{**} (0.010)
Other Controls	Yes	Yes	Yes	Yes	Yes	Yes
Year	Yes	Yes	Yes	Yes	Yes	Yes
Industry	Yes	Yes	Yes	Yes	Yes	Yes
N	1267	1267	1267	1267	1267	1267
Wald χ^2	13909.50 ^{***}	1.1e+05 ^{***}	46316.10 ^{***}	18585.66 ^{***}	2.1e+05 ^{***}	21684.27 ^{***}

Note: The robust standard errors reported in parentheses.

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table V. Regression results of robustness check (alternative measurement of EPU)

Panel A. Using the Baker's EPU index for China as an alternative measurement of EPU

	<i>Model 1</i>	<i>Model 2</i>	<i>Model 3</i>	<i>Model 4</i>	<i>Model 5</i>	<i>Model 6</i>
Clan		0.012*** (0.004)	0.014*** (0.005)	0.013*** (0.004)	0.013*** (0.004)	0.016*** (0.005)
Localceo × Clan			0.016** (0.008)			0.014* (0.008)
HHI × Clan				0.082*** (0.030)		0.072** (0.032)
EPU (Baker's) × Clan					-0.003** (0.001)	-0.003** (0.001)
Localceo	0.038** (0.015)	0.032** (0.016)	0.033** (0.016)	0.031* (0.016)	0.032** (0.016)	0.032* (0.017)
HHI	-0.043 (0.089)	-0.045 (0.089)	-0.046 (0.089)	-0.017 (0.078)	-0.042 (0.090)	-0.018 (0.079)
EPU (Baker's)	-0.016 (0.011)	-0.016 (0.011)	-0.016 (0.011)	-0.017 (0.011)	-0.016 (0.011)	-0.018 (0.011)
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Year	Yes	Yes	Yes	Yes	Yes	Yes
Industry	Yes	Yes	Yes	Yes	Yes	Yes
N	1267	1267	1267	1267	1267	1267
Wald χ^2	9.3e+13***	25103.70***	57550.01***	27325.99***	3.0e+05***	24093.70***

Note: The robust standard errors reported in parentheses.

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Panel B. Using the Davis's TPU index for China as an alternative measurement of EPU

	<i>Model 1</i>	<i>Model 2</i>	<i>Model 3</i>	<i>Model 4</i>	<i>Model 5</i>	<i>Model 6</i>
Clan		0.012*** (0.004)	0.014*** (0.005)	0.013*** (0.004)	0.013*** (0.004)	0.016*** (0.005)
Localceo × Clan			0.016** (0.008)			0.014* (0.008)
HHI × Clan				0.082*** (0.030)		0.076** (0.032)
TPU (Davis's) × Clan					-0.003*** (0.001)	-0.003*** (0.001)
Localceo	0.038** (0.015)	0.032** (0.016)	0.033** (0.016)	0.031* (0.016)	0.030* (0.016)	0.030* (0.017)
HHI	-0.043 (0.089)	-0.045 (0.089)	-0.046 (0.089)	-0.017 (0.078)	-0.038 (0.091)	-0.013 (0.079)
TPU (Davis's)	-0.009 (0.006)	-0.008 (0.006)	-0.009 (0.006)	-0.009 (0.006)	-0.008 (0.006)	-0.009 (0.006)
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Year	Yes	Yes	Yes	Yes	Yes	Yes
Industry	Yes	Yes	Yes	Yes	Yes	Yes
N	1267	1267	1267	1267	1267	1267
Wald χ^2	64577.75***	60766.74***	61806.28***	64323.07***	9.4e+12***	3.6e+05***

Note: The robust standard errors reported in parentheses.

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table VI. Regression results of robustness check (alternative measurement of the dependent variable)

	<i>Model 1</i>	<i>Model 2</i>	<i>Model 3</i>	<i>Model 4</i>	<i>Model 5</i>	<i>Model 6</i>
Clan		0.157*** (0.044)	0.177*** (0.046)	0.159*** (0.044)	0.166*** (0.044)	0.186*** (0.046)
Localceo × Clan			0.175* (0.097)			0.162* (0.097)
HHI × Clan				0.682** (0.321)		0.611* (0.318)
EPU × Clan					-0.061* (0.035)	-0.061* (0.035)
Localceo	0.481*** (0.151)	0.421*** (0.159)	0.432** (0.168)	0.411*** (0.159)	0.417*** (0.159)	0.418** (0.168)
HHI	-0.172 (0.696)	-0.216 (0.703)	-0.224 (0.705)	0.034 (0.651)	-0.159 (0.711)	0.059 (0.657)
EPU	-0.277** (0.137)	-0.271** (0.136)	-0.280** (0.136)	-0.289** (0.136)	-0.269** (0.135)	-0.294** (0.135)
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Year	Yes	Yes	Yes	Yes	Yes	Yes
Industry	Yes	Yes	Yes	Yes	Yes	Yes
N	1267	1267	1267	1267	1267	1267
Wald χ^2	49937.99***	83939.72***	1.5e+06***	87354.10***	4.9e+05***	1.5e+05***

Note: The robust standard errors reported in parentheses.

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table VII. Heckman two-stage model

Panel A: First-stage results

	<i>Propensity of Internationalization</i>
Industry foreign sales ratio	4.218*** (0.515)
Ceoage	-0.010* (0.006)
Ceogender	0.238 (0.173)
Edu	-0.142* (0.074)
Tenure	-0.003*** (0.001)
Shareholdings	-0.002 (0.003)
CEOduality	0.139 (0.094)
OverseasEx	0.307 (0.200)
Firmage	-0.026*** (0.008)
Firmsize	0.179*** (0.034)
Indirectors	-0.387 (0.626)
Leverage	-0.358 (0.247)
Assetturnover	0.370*** (0.085)
META	-1.336* (0.692)
Foreignown	0.448 (0.359)
ROA	-2.323*** (0.845)
Tradezone	-0.119 (0.090)
Exportexp	2.439*** (0.095)
RDintensity	1.131 (0.903)
PPE	-0.339 (0.228)
SOE	-0.372*** (0.094)
_cons	-3.074*** (0.812)
N	2311
Pseudo R ²	0.527

Panel B: Second-stage results

	<i>Model 1</i>	<i>Model 2</i>	<i>Model 3</i>	<i>Model 4</i>	<i>Model 5</i>
Clan	0.012*** (0.004)	0.014*** (0.005)	0.012*** (0.004)	0.013*** (0.004)	0.014*** (0.004)
IMR	-0.004 (0.024)	-0.004 (0.024)	-0.006 (0.024)	-0.004 (0.024)	-0.005 (0.024)
Localceo × Clan		0.016** (0.008)			0.014* (0.008)
HHI × Clan			0.078** (0.031)		0.072** (0.032)
EPU × Clan				-0.007*** (0.003)	-0.008*** (0.003)
_cons	0.083 (0.221)	0.070 (0.220)	0.069 (0.220)	0.091 (0.219)	0.065 (0.217)
Controls	Yes	Yes	Yes	Yes	Yes
Year	Yes	Yes	Yes	Yes	Yes
Industry	Yes	Yes	Yes	Yes	Yes
N	1267	1267	1267	1267	1267

Wald χ^2	33199.94**	7936.02***	34580.51***	29718.28***	22459.89***
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Note: The robust standard errors reported in parentheses.

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table VIII. 2SLS results for the instrumental variable

Variable	First stage <i>Clan culture</i>	Second stage <i>DOI</i>
Slope	0.608*** (0.072)	
Clan		0.074*** (0.017)
Controls	Yes	Yes
Year	Yes	Yes
Industry	Yes	Yes
_cons	1.873 (1.316)	-0.018 (0.184)
N	1267	1267
r2_a	0.339	0.293

Note: The robust standard errors reported in parentheses.

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Figure 1. Theoretical framework

