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Public sentiment is everything: Host-country public sentiment toward home country and acquisition ownership during institutional transition

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Abstract
Under strict scrutiny of public governance primed by international relation tensions, geopolitics, and the rise of social movements and public activism in the globalized economy, public sentiment is exerting increasing pressure on multinational corporations (MNCs). Utilizing the context of inward acquisition, a sensitive cross-border action that often triggers sentiment of host-country nationals, we theorize from the public sentiment perspective and the public thermostat analogy that foreign acquirers will adjust their ownership levels in target firms according to how they perceive to be acceptable and legitimate as expressed by host-country nationals' public sentiment toward their home country. Using a sample of 410 acquisition deals from 22 foreign countries/economies into China during 2010–2017 and a sentiment analysis of 100,902 blog posts, we find that a host country's public sentiment toward the acquiring firm's home country is positively related to acquisition ownership levels, and has a mutualistic symbiotic interaction with the host region's marketization level. Our study contributes to the study of informal institutions by proposing public sentiment as a new form of informal institution that is normative-cognitive whilst affective, and can be mobilized and communicated broadly and timely via a public sphere to confer social, political, and cognitive legitimacy to MNCs.
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"… public sentiment is everything. With it, nothing can fail; against it, nothing can succeed. Whoever molds public sentiment goes deeper than he who enacts statutes, or pronounces judicial decisions."
Abraham Lincoln[1]

Public sentiment is "*normative background assumptions that constrain action by limiting the range of alternatives that elites are likely to perceive as acceptable and legitimate to the public*" (Campbell,

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1998: 385). Back to the *Complete Lincoln-Douglas Debates* in 1858, Lincoln stressed that public sentiment is an enduring view, thought, opinion, and preference that touches deeper roots in an individual's system of beliefs and values springing from the nexus of cultures and traditions, religious and ethical conviction, and intellectual principle and reason (Zarefsky, 1994). The idea of public sentiment is intimately related to the notion of a public sphere that is a social space where citizens gather to discuss public affairs and form public opinions, and is regarded as a central arena for societal communication (Habermas, 1989). Mass media and social media often represent such an arena (Benkler, Roberts, Faris, Solow-Niederman, & Etling, 2015; Reese & Shoemaker, 2016). Such public sphere communication can mobilize public sentiment quickly to exert influence over policy makers. Viewed in this way, public sentiment is a source of people's power and a form of informal institutions (Kunčič & Jaklič, 2014; Rosillo-LóPez, 2017; Verbeke, Van Tulder, & Lundan, 2014). While formal institutions are regarded as 'rule of law,' informal institutions are regarded as 'rule of man' belonging to civil society (Rosillo-LóPez, 2017). Public sentiment contains a dynamic element that provides certain levels of flexibility and participation in the institutional system that formal institutions do not and possibly cannot possess and offer (Rosillo-LóPez, 2017).

Most importantly, public sentiment is a source of legitimacy. According to Lincoln, public sentiment is a source of legitimacy that can mold and govern, or even make statutes and decisions possible or impossible to be executed. As Zarefsky (1994: 39) commented, "Congress could legislate, courts could adjudicate, but the outcomes were not self-executing. Only the force of public sentiment sustained them." What is often most important is how decision makers perceive public sentiment, rather than public sentiment per se, in making a choice among a limited range of options (Campbell, 1998; Zarefsky, 1994). Wlezien (1995) describes the influence of public sentiment as being like a "public thermostat," where a departure from the favored policy temperature produces a signal to policy makers to adjust. Public sentiment, thus, poses an appropriate constraint on advocacy with bounds of permissible action set by the public who are active participants in a civic dialogue. Taken together, public sentiment meets Scott's (1995) normative conception of informal institutions that emphasizes how values and normative frameworks structure choices, and how actors conform because they are obliged to adopt appropriate means to particular ends. Given the uniqueness and importance of this informal institution, it is surprising that the examination of public sentiment in the international business literatures remains scant.

Our study fills this gap and extends this deeply rooted informal institution concept from political science to international business. While public sentiment can be influential to policy makers under uncertain conditions (Campbell, 1998), it also exerts increasing pressures to multinational corporations (MNCs) that is under strict scrutiny of public governance primed by international relation tensions, geopolitics, and the rise of social movements and public activism (Van Laer & Van Aelst, 2010). Our study aims to highlight the salient role of public sentiment in shaping MNCs' strategic decisions when they enter a host country – a scenario that is full of uncertainty (Anderson & Gatignon, 1986; Dixit, 1989). Among MNCs' strategic decisions, the ownership level is of great strategic importance because such a decision can have a significant impact on post-acquisition integration and synergistic benefits (Grøgaard, Rygh, & Benito, 2019). In particular, inward acquisition is a sensitive cross-border action that can potentially trigger sentiment of host-country nationals. Theorized from the public sentiment perspective, the ownership level obtained reflects the level of legitimacy granted by the host country (Li, Yang, & Yue, 2007; Yiu & Makino, 2002), and so, examining acquisition ownership obtained in the host country serves as an ideal empirical setting for our purpose. Our research question is: what is the effect of host-country public sentiment (representing a kind of informal institution) on cross-border acquisition ownership levels and how does it interact with marketization (representing a kind of formal institution)?

Building on the institutional theory logic that both formal and informal institutions pose constraints on organizational actions (North, 1990; Scott, 1995) as well as using the public thermostat analogy (Wlezien, 1995), we posit that foreign acquirers will adjust their ownership levels in target firms according to how they perceive to be acceptable and legitimate by the host country's nationals as expressed by the public sentiment toward their home countries. The more positive the public sentiment toward the acquirer's home country, the higher the levels of ownership stakes that can be obtained in the target firm. Furthermore, past literature on institutional change tends to advocate that formal and informal institutions are substitutive (North, 1990; Peng, 2003), which implies that the effects of informal institutions will fade out when market development is complete. However, researchers on institutional transition tend to conclude that institutional substitution is far from automatic and complete (Raiser, 1997). They point out that informal institutions continue to profoundly condition the outcome of institutional change long after economic coordination has taken place predominantly through formal institutions. Building on Smith (1759) and others (e.g., Tsai, 2006; Wight, 2009), we propose that some forms of informal institutions, like public sentiment, can play an even more prominent role when formal institutions continue to advance. This is because it is through improved technology for information dissemination and socialization, facilitated by the development of formal institutions, that the public sphere instills a generalized morality, fosters informal learning, urges for collective instincts and emotions, and inspires other creative, adaptive informal institutions to cope with and shape formal institutional change (Wight, 2009). Nowadays, the power of public sentiment increases remarkably as the reach and breadth of information dissemination, or the public sphere, are enhanced by digitalization and technological advancement with more developed formal institutions such as intellectual property protection. Therefore, we further posit that the positive effects of a host country's public sentiment on the acquisition ownership level are stronger as the marketization levels of the host-country region progress.

To test our theoretical premise, we compiled a sample of 410 acquisitions made by firms originating from 22 overseas countries/economies in the transition economy of China between 2010 and 2017. In addition, because a blog is a highly popular social media type in the world, including in China, we therefore focus on blogs in this study and crawled a collection of 100,902 blog posts from the most established and popular social media and investment blogs between 2009 and 2016, and conduct sentiment analysis (Liu, 2012), an advanced textual analytics, to measure public sentiment.

Our focus on public sentiment provides a new perspective to the study of informal institutions. First, we contribute to the informal institution literature by introducing public sentiment, as a new informal institution, that is particularly relevant to current international business. As highlighted in this Focused Issue's Call for Papers, so far, much attention in the studies of international business has been given to formal institutions while researchers are beginning to shift the focus to informal institutions recently (Helmke & Levitsky, 2004; Sartor & Beamish, 2014). We introduce public sentiment, which has been mainly studied in the fields of political science, mass communication, and sociology, as a particularly relevant informal institution to be focused on in international business when cross-border activities are under strong scrutiny of politicians and policy makers, global activists, and home- and host-country nationals (Kunčič & Jaklič, 2014; Verbeke et al., 2014). Unlike formal institutions such as public policy, the reach of public sentiment is not confined by national borders but can be diffused quickly via the Internet to influence the corporate sphere in a globalized economy (Vallentin, 2009). With the growing influence of online social media, investor sentiment and consumer sentiment have been introduced in other business disciplines (e.g., Meire, Hewett, Ballings, Kumar, & Van den Poel, 2019; Renault, 2017). We bring in public sentiment that is yet formally theorized and examined in IB studies despite its particular relevance to MNCs' stakeholder responsiveness and enactment.

Second, we contribute to the informal institution literature by introducing public sentiment, as a new informal institution, that is distinguished from other informal institutional concepts such as trust, cultures, and social capital (Barkema, Bell, & Pennings, 1996; Brouthers & Brouthers, 2000; Lin, Peng, Yang, & Sun, 2009; Zaheer & Zaheer, 2006). Instead of being a static embedded feature or a historical legacy, public sentiment is a distinctive informal institution that is normative-cognitive as well as affective, and can be mobilized or manipulated, crystallized, and communicated broadly and timely via a public sphere to confer social, political, and cognitive legitimacy to organizations. Originating from political science, communication, and social psychology theories such as symbolic interactionism theory (Blumer, 1986), spiral of silence theory (Noelle-Neumann, 1984) and social theory (Thompson, 1995), public sentiment is a reflection of the opinions and interests of the general public or mobilized public. It possesses a symbolic, mobilizable, and manipulatable character that is highly amenable to domination by the powerful elites to legitimate arguments and actions. These attributes clearly make public sentiment distinguished from other previously studied informal institutions. Therefore, our study on this under-examined but powerful informal institution contributes to the study of informal institutions. In addition, online social media is widely regarded as a digital public sphere where citizens can come together to discuss and form public opinions. Capturing public sentiment through blog posts is therefore a widely adopted approach in both research and practice. Our study also showcases an advanced way to measure informal institution, thus making an empirical contribution as well to the studies on informal institutions.

Finally, we contribute to the informal institution literature by introducing public sentiment, as a new informal institution, that interacts with formal institution in a distinct way in the process of institutional transition. We depart from the predominant views of the relationship between formal and informal institutions (substitutive, complementary, accommodative, competing) (Aoki, 2001; Helmke & Levitsky, 2004; Khanna & Palepu, 2000; Verbeke & Kano, 2013) and highlight that some informal institutions like public sentiment can be enabled by formal institutions, and their effects on organizations become amplified when formal institutions become more developed. This new conceptualization of interactions between informal and formal institutions is akin to "symbiotic mutualism" that denotes a relation in which the two types of institutions co-exist, co-evolve, and are interdependent and engaged in a mutually advantageous arrangement (Von Jacobi, 2018; Schanze, 1993). While existing views on institutional substitutability or complementarity treat formal and informal institutions ex ante with the strength of one type of institution being manifested by, or aligned with, the absence/presence of the other type, the symbiotic view proposed in this study highlights that some informal institutions, like public sentiment, can be enabled by formal institutions to become more salient and powerful. These interactive dynamics can broaden our perspective of institutional change.

THEORY BACKGROUND AND HYPOTHESES DEVELOPMENT

Informal Institutions

Institutions are defined as the "*rules of the game*," or "*humanly-devised constraints that shape human interaction*" (North, 1990: 3). Institutions consist of formal institutions that refer to laws, regulations, constitutions, contracts, property rights, and formal agreements, and informal institutions such as conventions, norms, conventions, and moral values. Both formal and informal institutions work together to regulate economic exchange and constrain or facilitate individuals and organizations in pursuit of their interests. While institutional environment is one of the most dominant aspects in the study of international business, attention has been drawn primarily to formal institutions while informal institutions have not been understood extensively and deeply.

Helmke and Levitsky (2004) define informal institutions as "socially shared rules, usually unwritten, that are created, communicated, and enforced outside of officially sanctioned channels." (Helmke & Levitsky, 2004: 727). Being generally not codified, informal institutions are regarded as 'rules in operation' or 'rules in force' (Ostrom, 2005). Pejovich (1999) describe informal institutions as the old ethos embodying the community's prevailing assumptions about the world, the accumulated wisdom of the past, and the current set of values. Another feature of informal institutions is that the enforcement of informal rules relies on social obligations and social sanctions such as expulsion from the community, ostracism by friends and neighbors, or loss of reputation.

It is conventional to refer informal institutions to norms and moral values, which are fundamental to institutional reform and economic development by reducing transaction costs and supporting efficient third-party enforcement (Putnam, 1993). But where do norms and moral predispositions come from? An important process in the formation and enforcement of informal institutions is socialization and ongoing communication and informal learning among members in a community, in which individuals' affection and instinctual feelings are interacted to form generalized morality and moral conscience for mutual cooperation and governance, an idea in line with Adam Smith (1759) (Platteau, 1994). It is important to note that these kinds of social instincts and affections are the building blocks for reaching social stability equilibrium by providing a tool of seeing things from the vantage point of others and preventing injustice. Also, through linguistic, visual, or musical metaphors that generate emotional hooks, individuals share collective feelings and ideas about right and wrong, acceptable and legitimate, and consequently a moral institution is formed (Wight, 2009). Taken together, affective sharing through socialization and communication are important for the formation of normative and cognitive institutions. However, little is known about other forms of invisible hands that are more normative-cognitive as well as affective, emotional, moral, and judgmental.

Besides, the role of informal institutions is usually tied with its interaction with formal institutions in the process of institutional change. Helmke and Levitsky (2004) propose that informal institutions interact with formal institutions in four stylized ways, including complementary, accommodating, substitutive, and competing. Nonetheless, variations of institutional transition outcomes in different transition economies show that the substitution of informal institutions by formal institutions is far from automatic and complete in the course of economic development, and institutional performance continues to be influenced by informal institutions long after economic coordination has taken place predominantly through formal rules. In particular, current views take informal institutions as embedded, substitutive, accommodative, or complementary with formal institutions. How specific informal institutions are at work during institutional transition and its relationship with formal institutions remain under-studied.

In this study, we propose a new informal institution – public sentiment – that fills the above research gaps in the studies on informal institutions, that is, an informal institution that captures not only normative-cognitive but also affective and moral elements, that is not static and embedded but can be mobilized quickly to exert immediate impact, and that its relationship with formal institutions is mutually symbiotic. To examine the effects of public sentiment in international business, we find the strategic decision on ownership level in cross-border acquisitions as an appropriate context.

Cross-Border Acquisitions

Past studies on cross-border acquisitions mainly focused on acquisitions as one of the foreign entry modes and compared it with other modes of entry such as greenfield or joint ventures (e.g., Chari & Chang, 2009; Lebedev, Peng, Xie, & Stevens, 2015; Xie, Reddy, & Liang, 2017), while the perspectives are predominantly drawn from economics, institutional distance, or spatial geography arguments (e.g., Contractor, Lahiri, Elango, & Kundu, 2014; Malhotra & Gaur, 2014). Such an argument views equity stakes in cross-border acquisitions as control over the foreign subsidiaries and usually compares the options between full and partial ownership mode (i.e., joint ventures). Our study echoes a few cross-border acquisition studies that also consider equity stakes as legitimacy bestowment and need for complementary resources in the acquisition (e.g., Chari & Chang, 2009). In addition, our study responds to the importance of examining foreign firms' home-country effects as exemplified in Ertug and colleagues' study (2013).

From an informal institution perspective, the success in acquiring a higher level of ownership stakes represents a social approval and legitimacy granted by the public in the host country (Li et al., 2007; Yiu & Makino, 2002). Legitimacy is defined as a "generalized perception" that "the actions of an entity are desirable, proper, or appropriate within some socially constructed system of norms, values, beliefs, and definitions" (Suchman, 1995: 574). When undertaking acquisitions, the prospective acquiring firm often encounters the legitimacy concern related to the extent with which its ownership decisions are perceived as appropriate and desirable by the relevant stakeholders (Li et al., 2017). In fact, a unique feature of cross-border acquisitions that accentuates acquisition challenges is that such an aggressive strategic move may trigger public sentiment of host-country nationals, which in turn pose legitimate threats to the foreign acquiring firm's decision on ownership levels. Nonetheless, such an important informal institutional factor of host-country nationals has not been studied in the literature.

Our study examines the effect of host-country public sentiment, as an informal institution, on acquisition ownership in a transition economy context. Using the institutional theory logic (North, 1990; Scott, 1995), we posit that foreign acquirers decide on the levels of equity stakes in the host country–acquired unit subject to both formal and informal institutional constraints. Thus, the ultimate ownership level represents the strategic efforts of foreign acquirers to reduce uncertainty in the *formal institutional sphere* (represented by regional marketization level), while obtaining legitimacy from local society, or the *informal institutional sphere* of the host country (represented by public sentiment of host-country nationals). To highlight the effects of public sentiment, we first formulate a baseline hypothesis, in line with extant findings, that demonstrates the relationship between regional marketization and acquisition ownership level. This is followed by the main effect of public sentiment on acquisition ownership and its interaction effect with regional marketization. In this way, public sentiment's comparable and interactive effects with marketization can be clearly illustrated.

Regional Marketization and Acquisition Ownership

Transition economies liberalize markets by changing from the central planning system to the market system at an unprecedented pace, scale, and scope. Such marketization effort is a type of institutional reform that seeks to restructure the formal institutional environment to achieve more efficient market functioning (Cuervo-Cazurra & Dau, 2009; Fan, Wang, & Zhu, 2007). A myriad of government initiatives to privatize state-owned enterprises (SOEs), induce market competition, and limit price controls, among others, are often implemented in order to promote rapid economic development. Despite these efforts by the state, however, the levels of marketization oftentimes vary significantly across regions in a transition economy mostly due to reform decentralization policy or each region's institutional readiness (Monaghan, Gunnigle, & Lavelle, 2014; Park, Li, & Tse, 2006). In this regard, it is likely that foreign firms would consider the levels of regional marketization in deciding the levels of ownership when acquiring firms in a transition economy.

Our logic is drawn from North's (1990) institutional theory that formal institutions are rules (e.g., constitutions, laws, property rights) to create order and reduce uncertainty in economic exchange by improving the security of property rights and enforcement of contracts. When formal institutions are not yet adequately developed, internalization of a firm's assets is the preferred choice. By organizations, North referred it as an "institutional environment" in which the firm makes possible the conscious and deliberate coordination of activities within identifiable boundaries (Davis & North, 1971; Ménard, 1995; Williamson, 1975). Such organizing within hierarchy incurs coordination and administrative costs. Therefore, when the formal institutional framework becomes more developed, externalizing costly organizing activities becomes the optimal choice instead.

Extending these arguments, we posit that acquisition ownership represents the level of control held by the foreign owner to mitigate risks and uncertainty borne by the formal institutional environment of the host country. When the levels of regional marketization are lower, indicating a weaker formal institutional environment, foreign acquirers would prefer higher levels of ownership in their acquisition targets for three reasons. First, internalization can safeguard the foreign acquirers' assets in the host country. A higher acquisition ownership can ensure greater control of the target firm's assets, resources, and operations (Anderson & Gatignon, 1986; Mjoen & Tallman, 1997), which mitigates uncertainties arising from institutional inadequacy. Lower levels of ownership run the risk of dealing with complex control rights and coordination costs with existing local equity owners. Second, internalization facilitates the transfer of knowledge and resources. Higher levels of ownership allow the foreign acquirer to foster desired organizational culture and practices, facilitate post-acquisition integration, and achieve synergistic benefits more efficiently (Capron & Guillen, 2009). Past studies also found that transferring sensitive technology to foreign operations can be safeguarded through a higher control ownership mode (Gaur & Lu, 2007; Gomes-Casseres, 1990). Third, as mentioned above, internalization incurs high coordination and administrative costs. In this regard, the decision for ownership levels in cross-border acquisition also represents a trade-off between the foreign acquirer's control rights and access to local partner's resources and assets (Contractor et al., 2014). Therefore, when the foreign acquirer can enjoy the protection of their investments and assets in regions with higher levels of marketization, it is willing to trade off its ownership rights for making use of the local partner's benefits and access to more local resources (Meyer, Estrin, Bhaumik, & Peng, 2009). Accordingly, we expect that the foreign acquirer would prefer a lower ownership level when the level of regional marketization is higher. In line with extant research and theorizing from the institutional perspective, we put forward the baseline hypothesis:

Hypothesis 1: The levels of marketization of the host-country regions are negatively related to the levels of acquisition ownership by a foreign acquirer.

Public Sentiment and Acquisition Ownership

Cross-border acquisitions always raise legitimacy concerns in the host country. Deeply rooted in the informal institution literatures, legitimacy is "a social judgment of acceptance, appropriateness, and desirability" (Zimmerman & Zeitz, 2002: 414). When entering a foreign country, the foreign entity always faces an entry barrier of obtaining local legitimacy that is by host-country audiences that assess its conformity to a set of social codes and can use collective action or sanctions to foster such cognitive and sociopolitical legitimacy (Deephouse, 1996; Ruef & Scott, 1998). As such, ownership acquired in the host-country entity is conceptualized as the perceived legitimacy granted by the host country (Li et al., 2007; Yiu & Makino, 2002). To the extent that social approval and legitimacy is granted by the host-country nationals, foreign acquirers would feel more at ease to invest in the host environment (Seyoum, 2014). One source of legitimating influences in a host country is public opinion (Li et al., 2007). In this study, we introduce this new informal institution in cross-border acquisition ownership decision, and theorize that host-country nationals' public sentiment confers legitimacy to the foreign acquirer such that the foreign acquirer will adjust the acquisition ownership levels according to the perceived legitimacy obtained in the host country.

By and large, public sentiment consists of broad-based attitudes and assumptions about what is desirable or not in the society (Campbell, 1998). It is regarded as "*the result of psychological and social processes that lead to a situation in which the behavior of each member of a public in regard to an issue is conditioned by his expectation that other members of the public hold similar attitudes on the same issue*" (Davison, 1958: 91). Public sentiment is expressed in the public sphere, which has a long tradition in philosophy and the social sciences, and was introduced in Habermas's (1989) seminal work, *The Structural Transformation of the Public Sphere*, published in German in 1962. The public sphere can be a physical venue (e.g., coffee houses, town hall) or a communication infrastructure (e.g., online social media) where citizens gather to express and form public opinions (Breese, 2011). Nowadays, the notion of the public sphere is conceptualized in terms of the mass media and increasingly the online social media (Benkler et al., 2015). The rise of the Internet is widely regarded as providing a highly useful and relevant venue where a large number of citizens from diverse background can converge to form public sentiment (Reese & Shoemaker, 2016). Due to the group opinion processes and inter-group communication, and informal learning via traditional and social media nowadays, public sentiment is conceived as a social construction for shared attitudes, beliefs, and behaviors (Gleason, 2013; Glynn, Herbst, Lindeman, O'Keefe, & Shapiro, 2018). In particular, for social media – from creating, tagging, and sharing content to reading, watching, and following a hashtag – it can now facilitate the public learners in becoming well-informed, collective, and engaged social actors (Gleason, 2013). Such public space for societal communication and informal learning can mobilize public sentiment quickly to exert power, influence, and sanctions. Given that public sentiment poses an appropriate constraint on advocacy with bounds of permissible action set by the public, it is a source of legitimacy like a "public thermostat" where a departure from the favored policy temperature produces a signal to policy makers to adjust (Wlezien, 1995). The effects of public sentiment are well documented in the political science and mass communication/journalism literatures. A typical example is polling that is often adopted by legislators and politicians to shed light on policy debates (Glynn et al., 2018).

Extending the above logic, public sentiment is a distinctive informal institution that is normative-cognitive as well as affective, and can be mobilized, crystallized, and communicated broadly and timely to exert influence, by conferring social, political, and cognitive legitimacy, on organizational decision making. With the facilitation of social media, including blogs, there is increasing empirical evidence and calls that social media has been exerting increasing influence on corporate decisions such as corporate social responsibility (Flammer, Hong, & Minor, 2019), corporate philanthropy (Luo, Zhang, & Marquis, 2016), R&D and technological innovations (Seidel, Hannigan, & Phillips, 2020). In our study context, with the rise of national security, economic protectionism, and social movement, FDI decisions are also increasingly affected by public sentiment as they often involve taking the prevalent attitudes and preferences of the host society into consideration. Although not being extensively studied, the influence of public sentiment in cross-border activities has been highlighted in some past research. Jakobsen and Jakobsen (2011) highlight that an immense host-country risk faced by foreign investors, which is generally absent from FDI studies, is attitudes and preferences or public opinions. Wang and Shoemaker (2011) find that more positive news coverage is related to more favorable American opinions toward China. Solt (2011) shows that nationals have more positive sentiment toward countries with more bilateral treaties and more mutual president visits, but more negative sentiment toward countries with national conflicts such as territory disputes. Other studies also find that past national conflicts influence the formation and type of cross-border alliances, FDI location choices, and performance (Arikan & Shenkar, 2013; Gao, Wang, & Che, 2018).

Given the aggressive and sentiment-sensitive nature of inward acquisitions, we expect that acquisition ownership decision by the foreign acquirer is influenced by the host country's public sentiment. Drawing from informal institutional arguments, MNCs are vulnerable to the liability of foreignness and newness (Zaheer, 1995). So, they constantly attempt to make sense of legitimacy requirements conveyed by social actors in the host country, particularly at the early stage of the foreign entry in deciding organizational form and ownership levels (Li et al., 2007). Such "sensemaking" involves perceiving, learning, and interpreting the assumptions and heuristics of local social actors, which can be expressed, socially constructed, and massively communicated in public sphere to form public sentiment. When public sentiment is positive, this signifies that the host country is hospitable to the foreign acquirer who is conferred the legitimacy to safeguard their interests in the form of acquisition ownership in the host country (Kostova & Zaheer, 1999; Li et al., 2007). We posit that having such a greenlight, according to the public thermostat analogy (Wlezien, 1995), a foreign acquirer will adjust its ownership levels upward in the acquisition target as it is perceived to be acceptable and legitimate to do so. In contrast, when public sentiment is negative, it will pose a threat to the foreign acquirer to hold stakes in the target firm because the economic nationalist policies demanded by the public will lengthen the process of getting licenses and coordinating with stakeholders, among others, thereby increasing investment uncertainty and raising operating costs (Jakobsen & Jakobsen, 2011).

In addition, anecdotal evidence shows how firms make use of information about public sentiment, especially from social media, in making important strategic decisions related to acquisitions. In a survey conducted by Deloitte titled "*Corporate development 2013: Pushing boundaries in M&A*", 56% of the respondents stated that they used social media primarily for identification of a target company (Deloitte, 2013). In the acquisition of Kuka, a listed German robotics manufacturer, by Midea Group, a Chinese-listed home appliances company, Midea expressed that they had to be very careful in its acquisition strategy to deal with unfavorable public opinion so as to prevent the deal from being blocked.[2] In 2009, the regulator in China demanded Coca-Cola to relinquish the Huiyuan brand, the largest juice maker in China, after the acquisition. This was due to the fierce public opposition to a foreign company taking over a leading brand. Sina.com conducted an online poll and revealed that 80% of the Chinese were against the acquisition. Together with other online repercussions in blogs and discussion forums, Coca-Cola learned a hard lesson about the importance of appeasing the public sentiment from populist Chinese websites before making a major acquisition deal in China.[3] Taken together, we hypothesize that:

> **Hypothesis 2:** A host country's public sentiment toward the acquiring firm's home country is positively related to acquisition ownership by a foreign acquirer.

Interaction Effects between Public Sentiment and Regional Marketization

The role of informal institutions is usually tied to its interaction with formal institutions in the trajectories of institutional change (North, 1990). To further examine the effects of public sentiment, we explore the interaction effect between public sentiment and regional marketization on acquisition ownership. Past literature on institutional change tends to advocate that formal and informal institutions are substitutive (North, 1990; Peng, 2003), which implies that the effects of informal institutions will fade out when market development is complete. However, researchers on institutional transition tend to conclude that institutional substitution is far from automatic and complete (Holmes Jr, Miller, Hitt, & Salmador, 2013; Raiser, 1997; Zenger, Lazzarini, & Poppo, 2002). They pointed out that informal institutions continue to profoundly condition the outcome of institutional change long after economic coordination has taken place, predominantly through formal institutions.

Building on Adam Smith (1759) and others (e.g., Tsai, 2006; Wight, 2009), we advocate that some informal institutions like public sentiment can coexist with the development of formal institutions, with their effects on organizations becoming amplified when formal institutions are more developed, which in turn further enhances the development of formal institutions due to a public learning process. This kind of interactive dynamics between informal and formal institutions is akin to "symbiotic mutualism" that denotes a relation in which the two types of institutions co-exist, co-evolve, and are engaged in a mutually advantageous arrangement (Von Jacobi, 2018; Schanze, 1993). In biology and ecology, a symbiotic relationship describes any long-term, intimate interaction between two species and various symbiotic relationships exist depending on the beneficial or harmful impact on the organisms. By and large, a symbiotic relationship significantly contributes to interdependent co-evolution of both species. Past studies in international business and management have drawn upon the insights from symbiotic relationships to describe and account for relationships within or between organizations (e.g., Elango & Pattnalk, 2007; Perryman & Combs, 2012). The mutualistic symbiotic view suggests that formal and informal institutions are not in isolation but their changes are concomitant, symmetric, tightly connected, and interdependent with each other (Von Jacobi, 2018).

We posit that public sentiment can play a more prominent role when the marketization process of the region in which the foreign acquirer enters continues to advance. As market development continues, digitalization and technological advancement begins to grow and expedite both the reach and breadth of information dissemination and societal communication. This further opens up the public sphere to foster social construction of meanings and informal public learning, instill and reinforce a generalized morality, and urge for collective instincts and emotions (Glynn et al., 2018; Wight, 2009). As a consequence, the effects of public sentiment are further strengthened. Such a mutualistic symbiotic view has important implications to the context of this study when we consider the interactive effects of public sentiment and regional marketization on acquisition ownership level. It is likely that even the foreign acquirer desires to hold more equity stakes in the target firm when marketization level is lower – the likelihood of this happening will be much lower if public sentiment is unfavorable. By the same token, the positive effects of a host country's public sentiment on the acquisition ownership level are likely stronger as the marketization levels of the host-country region progress.

Hypothesis 3: A host country's public sentiment interacts with regional marketization levels to influence acquisition ownership by a foreign acquirer, such that the positive effect of public sentiment on acquisition ownership becomes stronger when the regional marketization level increases.

METHODS

Empirical Context

We choose China as our focal host-country setting. As China is transitioning from state planning to a market-based economy, the levels of marketization among provinces have large variance due to factors such as location characteristics and different government policies and investments (Heilig, 2006). Hence, China represents a good empirical setting to study the impact of marketization. Besides, after joining the Word Trade Organization (WTO), the Chinese government has enacted a series of policies to facilitate inward foreign direct investments (Huang & Tang, 2012), and Chinese firms are increasingly involved as targets in cross-border acquisition deals (Tarzi, 2009).

Data and Sample of Acquisitions

We drew the study sample from Thomson's SDC Platinum database, the most widely used data source for acquisitions in the literature. We focused on acquisition transactions of target firms located in China made by firms from other countries/economies with at least five acquisition deals between 2010 and 2017, representing 98.3% of all inward acquisitions in China during the period. Offshore financial havens (i.e., Cayman Islands and British Virgin Islands) are dropped from the sample. After deleting observations with missing values, our final sample consists of 410 inward acquisitions from 22 countries/economies.[4]

Textual Data of Public Sentiment

Our study made use of a large amount of textual data for the public sentiment variable. The textual documents were extracted from social media. As open platforms for social interaction and opinion sharing, social media sites provide useful, appropriate sources to directly capture opinions as well as affect- and emotion-based constructs (Bollen, Mao, & Zeng, 2011). According to King, Pan, and Roberts (2013), public sentiment on the Internet about another country is generally not in the list of events with high censorship magnitude in China. Furthermore, while traditional media in China is typically controlled by the state, many social media platforms are privately owned. Wang, Wong, and Zhang (2019) found evidence that social media in China relies on the wisdom of the crowd and can correct the bias of state-controlled traditional media by providing less optimistically biased information. These studies are also in line with the argument that the development of the digital public sphere in China has provided an unprecedented avenue for Chinese citizens to express their opinions, influence public policy, and demand accountability from the government (Hassid, 2012; Lei, 2019; Lei & Zhou, 2015). As such, the use of social media represents the most optimal way to capture public sentiment in China especially in relation to the research topic of this study.

With data crawling software or customized computer codes, one can download information from websites with much less time and cost (Braun, Kuljanin, & DeShon, 2017). Our textual documents were blogs obtained from three sources: Sina Blog, Xueqiu.com and Eastmoney. In China, Sina is one of the earliest and most established social media sites, while Xueqiu.com and Eastmoney are two popular investment-oriented blogs (Huang, Qiu, & Wu, 2016; Jin, Zhu, & Huang, 2019). Sina is a much larger site and so serves as the primary blog source, whereas the other two offer additional, supplementary data. Having one general-purpose site and two investment-specific sites helps capture diverse opinions for the study. For blogs, users can write up to 10,000 words, which allows us to analyze users' deep, detailed thoughts and opinions. Because the three social media websites only show the most recent blogs, we conducted our search via a widely used search engine in China (Baidu) to retrieve the links of blogs between 2009 and 2016 (lagging 1 year of the dependent variable). To make sure every blog is highly relevant to the country/economy and originated from a single website, we set the search keyword to each country/economy name and the specific site to each social media website.[5] After obtaining the searching results from Baidu, we crawled and processed their detailed contents of all the blogs using customized Java codes. We obtained a total of 100,902 blogs, with 89,618 blogs from Sina Blog, 4577 blogs from Xueqiu.com, and 6707 blogs from Eastmoney. The annual number of blogs between 2009 and 2016 are 2765, 5158, 7986, 10,693, 9699, 14,211, 18,941, and 31,449, respectively. The average number of words for each blog obtained for analysis is 2934.

Dependent Variable

Acquisition ownership

This is measured as the percentage of ownership the foreign firm acquires in the target firm in China (Chari & Chang, 2009; Cuypers, Ertug, & Hennart, 2015).

Independent Variables

Marketization of local province

We adopt the marketization index developed by NERI (National Economic Research Institute in China) to measure the level of marketization of each province in China. The index measures the extent of marketization in regard to the government–market relationship, development of non-state-owned economy, development of product markets, development of factor markets, as well as the development of market intermediary organizations and legal system environments. It is the most widely used index for such purpose in the literature (e.g., Lu, Song, & Shan, 2018). For each acquisition in our study, we assign values to marketization of the province corresponding to the year before the acquisition deal and the province of the target firm.

Public sentiment

We employ sentiment analysis to analyze social media textual data and measure public sentiment toward each foreign country based on our collected set of blogs made by the Chinese public. With its basis primarily in computer science and computational linguistics, sentiment analysis is a sophisticated type of textual analytics. It relies on a number of analytic techniques such as natural language processing (NLP) and machine learning for intelligent processing and analysis of textual information (Pang & Lee, 2008). The analytic process includes extracting information and discovering knowledge, summarizing documents, grouping documents, and assessing opinions (Chakraborty, Pagolu, & Garla, 2013). Generally, textual information consists of two main types: facts and opinions (Liu, 2012). Facts are objective expressions about an entity or event, whereas opinions are subjective expressions that describe people's sentiment, appraisals, or feelings toward an entity or event. Prior researchers have conducted many studies on "facts" (Miller & Sardais, 2011), but opinions are generally left out. With sentiment analysis, we can efficiently and reliably capture opinions from large amounts of archival textual sources, and transform unstructured textual data into structured statistical data.

Three main steps are involved in the sentiment analysis. In the first step (pretreatment process), because the language of our raw corpus[6] is Chinese, we converted the plain text files from ANSI encoding into utf-8 encoding to make them correctly recognized in the subsequent processes. In the second step, we used machine learning approach, also called statistical-based approach, to train the algorithm and obtain the predictive sentiment classifiers. In this step, researchers import a well-classified training corpus to a software tool, and the operator iteratively configures, adjusts, and optimizes the algorithm routines and parameters for the computer to build machine learning algorithms to build the best-performing sentiment classifiers from the training corpus. The predictive classifiers are then applied to a well-classified testing corpus (the hold-out sample) to assess the overall performance (reliability) of the classifiers. In our study, the software tool we employed is *Tsinghua University Chinese Text Classification* (THUCTC)[7] (Guo, Zhao, Zheng, Si, Liu, & Sun, 2016), and the machine learning algorithm we employed is *support-vector machine* (SVM), which is a gold-standard algorithm in machine-learning and yielded more accurate results than most other classification algorithms (Homburg, Ehm, & Artz, 2015; Lee, Hosanagar, & Nair, 2018). The well-classified corpus we employed is *Ren-CECps* (Quan & Ren, 2010), which contains 1500 blog posts (11,000 paragraphs, 35,000 sentences). We configured the count of potential features as the default setting (5000), and trained the classifiers on sentence level, with 80% of *Ren-CECps* blog sentences used as the training corpus and 20% used as the testing corpus. The accuracy is 0.7,[8] which is comparable to that in extant studies using text mining and sentiment analysis. In the third step, the classifiers were applied to calculate the sentiment polarities of the blog posts we crawled from Sina, Xueqiu.com, and Eastmoney. The sentiment polarities of documents are values ranging from − 1 to 1, with a score of 1 (− 1) indicating the blogger has the most positive (negative) sentiment. Specifically, the SVM algorithm generated a classification result, that is, a raw probability value (ranging from 0.5 to 1) representing the likelihood of being positive or negative. For example, if this raw probability value is 0.6 and its sentiment tag from machine learning based method is – 1, it means there is a 60% chance as negative and 40% as positive. Using the formula [(raw probability score−0.5)×2×sentiment tag], we obtained each blog's sentiment polarities. In our example, the resulting score is −0.2 accordingly [(0.6−0.5)×2×(−1)]. We then aggregate the sentiment polarities of blogs at the country-year level to generate the variable of public sentiment toward the acquirer's home country.

Control Variables

Acquirer controls

Previous studies have shown that firm size could affect the acquisition process and outcomes (e.g., Marquis & Huang, 2010). We measured *acquirer size* as the log transformation of acquirer's number of employees in the year before the acquisition. *Acquirer leverage* may affect its ability to raise fund to finance acquisitions (Almazan, Motta, Titman, & Uysal, 2010), so we controlled for acquirer leverage and measured it using acquirer's total liabilities divided by total assets in the year before the acquisition. Publicly listed firms have advantages in aspects such as financing capability and bargaining power (Pagano, Panetta, & Zingales, 1998), and may differ from private firms in acquisition activities. Therefore, we controlled for *acquirer listing status*, and measured it using a dummy variable with a value of 1 indicating a publicly listed acquirer and a value of 0 otherwise. *Acquirer diversification* is an important antecedent of acquisition decisions (King, Dalton, Daily, & Covin, 2004). The variable is measured as the number of industries in which the acquirer firm operates (at the four-digit SIC industry code level) (Cuypers et al., 2015). Acquirers with more experience are more likely to participate in acquisition activities and have better performance after acquisition (McDonald, Westphal, & Graebner, 2008). We measured *acquirer prior acquisition experience* as a dummy variable indicating whether the acquirer had undertaken any acquisition during the previous 5 years in China prior to the acquisition.

Target controls

Acquirers make different choices between private versus public targets under different circumstances (Capron & Shen, 2007). We controlled for *target listing status* and assigned it a value of 1 if a target firm is publicly listed and 0 otherwise. *Target diversification* has been found to have a negative impact on acquisition decisions due to integration difficulties. We measured target diversification as the number of industries (four-digit SIC codes) in which the target firm operates (Cuypers et al., 2015). Previous literature shows that acquiring a state-owned target can be beneficial in aspects such as political support, but it can also be challenging in terms of acquisition cost and government interference (Jory & Ngo, 2014). We obtained firm ownership information from Tianyancha,[9] which is a professional data service company (Wang & Hu, 2017). We checked whether the ultimate beneficiaries of a target firm include government agencies. If it is, *state-owned target* is assigned a value of 1, otherwise a value of 0. Acquiring subsidiaries of other firms usually costs less and creates higher shareholder value (Faccio, McConnell, & Stolin, 2006). We controlled for whether the target is a subsidiary or not before the acquisition deal, and assigned the *target as subsidiary* a value of 1 if it is and 0 otherwise. Moreover, since acquisition can be a form of strategic action to transfer rights and gain control over resources that generate dependencies (Casciaro & Piskorski, 2005), we controlled for *target industry concentration*, and measured it using total revenue of the five largest listed firms divided by the total revenues of all listed firms in each industry.

Dyadic acquirer–target controls

An acquirer with prior acquisition ownership of a target may reduce the resistance of target managers (Díaz, Azofra, & Gutiérrez, 2009). *Acquirer prior ownership in target* is measured using the percentage of ownership by an acquirer before acquisition transaction. We also controlled for *acquirer–target alliance relationship* because firms could build social ties in former alliances, which may influence acquisition decisions (Ishii & Xuan, 2014). If the acquirer had an alliance with the target firm before, we assigned a value of 1, and 0 otherwise.

Provincial-level controls

Province GDP in host country, as a proxy for market demand, affects foreign direct investment (Gao et al., 2018). *Target province GDP* is measured using the natural log of GDP (in USD) of each province. Following Lu, Song, and Shan (2018), *target province social trust* is taken from the Chinese General Social Survey (CGSS) that asked, "Generally speaking, would you say that most people can be trusted?" (Strongly disagree=1, Disagree=2, Neither agree nor disagree=3, Agree=4, Strongly agree=5). It is a weighted average of all respondents in a focal province.

Country-level controls

We controlled for the acquirer's *home-country financial market development*, which affects the acquirers' resources for undertaking cross-border acquisitions (Di Giovanni, 2005). It is measured as the rank of each country's financial market development according to the Global Competitiveness Report. We reverse-coded this variable for ease of interpretation. *Home–host country dyadic trade* is measured as the natural log of the amount of exports and imports (in USD) between each acquirer nation and target province. We obtained the data from Easy Professional Superior (EPS) China Data. In addition, we control for *home–host country cultural distance* and *home–host country economic distance*, which are dyadic country/economy-level factors when making foreign investment decisions. We measured cultural distance between China and acquirer nations by using Kogut & Singh's (1988) cultural distance index. We used the natural log of absolute difference of GDP per capita (in USD) between China and the acquirer country to measure economic distance (Campbell, Eden, & Miller, 2012). In addition, we included *acquirer industry dummies, target industry dummies*, *acquirer location dummies* (the country/economy to which the acquirer belongs), *target location dummies* (the economic zone of target province), and *year dummies* in our estimation models.

Analysis and estimation model

Because the dependent variable is a proportion bounded between 0 and 1, standard linear models such as OLS may not provide an accurate picture of the effects of independent variables throughout their ranges, in that the predictions could fall outside of those intervals. Hence, we use fractional probit regression models to test our hypotheses (Papke & Wooldridge, 2008). Such models avoid model misspecification and questionable statistical validity. Recent studies have adopted this method when the dependent variable is a percentage or proportion (e.g., Chatterji, Delecourt, Hasan, & Koning, 2019).

Potential sample selection biases may exist in our analysis because acquisition ownership decisions can be influenced by unobservable factors that also affect the likelihood of observing the acquisitions in our sample. We focus on two sample selection biases – country and sub-national location choices. First, acquirers that choose to invest in China may systemically differ from those that do not. To deal with this potential selection bias, we adopted the Heckman two-stage approach. In the first-stage selection model, acquirers may face polychotomous choice of countries. We constructed a country choice set for each acquisition by including the top 30 largest target countries (countries with the largest number of target firms) (Ahern, Daminelli, & Fracassi, 2015). Following extant studies (e.g., Vasudeva, Nachum, & Say, 2018), we estimated the first-stage probit model as a function of acquirer and target country characteristics.[10] Using the probit model has an advantage over alternative approaches, such as conditional logit model, because one can generate inverse Mill's ratios for inclusion in the second-stage model to correct for potential sample selection bias (Hernandez, 2014). Besides, when the choice set is large, the possible bias of using the probit model relative to conditional logit model becomes neglectable (Coupé, 2005; Katz, 2001). Second, the decision of an acquirer to enter a province may be influenced by the characteristics of such a province, and so our sample may not represent a random sample of cross-border acquisitions in China. Similarly, we used Heckman's two-stage model to deal with this potential selection bias.[11] Following previous studies (e.g., Kanuri & Andrews, 2019; Rutherford, Springer, & Yavas, 2005), we included these two inverse Mill's ratios in the second-stage model.

RESULTS

Table 1 shows the descriptive statistics. Table 2 presents the main results of the effects of marketization and public sentiment on acquisition ownership. Hypothesis 1 predicts that regional marketization level has a negative relationship with acquisition ownership. The coefficient of marketization in model 4 is – 0.334 (p=0.006), with the 95% confidence interval between – 0.570 and −0.098. Thus, marketization has a negative and significant effect on acquisition ownership, supporting Hypothesis 1. In addition, the average marginal effect of marketization is – 0.063, indicating that when marketization index of a province increases by one standard deviation, acquisition ownership will decrease by approximately by 8.5% on average. Hypothesis 2 predicts that public sentiment has a positive effect on acquisition ownership. The coefficient of public sentiment in model 4 is 4.028 (p=0.001), with the 95% confidence interval between 1.759 and 6.297. Thus, Hypothesis 2 is strongly supported. Regarding the effect of public sentiment, the average marginal effect of public sentiment is 0.760, indicating that when public sentiment increases by one standard deviation, acquisition ownership will increase by approximately 12.8% on average.

Model 5 presents the results for the interaction effect between marketization and public sentiment. We mean-centered the independent variables before creating the interaction terms to avoid collinearity. The coefficient of the interaction term between marketization and public sentiment is 0.701 (p=0.004), with the 95% confidence interval between 0.230 and 1.171. It indicates that marketization and public sentiment has a positive interaction effect on acquisition ownership by a foreign acquirer. Figure 1 shows the interaction effect of marketization and public sentiment on acquisition ownership by a foreign acquirer. We can see from this figure that when public sentiment changes from −0.161 to 0.597, acquisition ownership increases by 5.3% at lower level of marketization, as compared to 87.3% increase at higher level of marketization. Figure 2 depicts the average marginal effect of public sentiment on acquisition ownership by a foreign acquirer at different levels of marketization. When the level of marketization is the highest at 10, the average marginal effect of public sentiment is 1.672, indicating that an increase in one standard deviation of the public sentiment level is associated with 28.3% increase in acquisition ownership. This marginal effect decreases significantly and becomes close to zero when the value of marketization decreases. We can see from the figures that the positive effect of public sentiment accelerates when marketization level increases, supporting Hypothesis 3. To summarize, the results provide strong support to all three hypotheses.

Robustness Tests

Excluding Hong Kong acquirers from the sample

Although Hong Kong is different from mainland China in various aspects, one may argue that acquirers from Hong Kong may share certain Chinese characteristics as compared to acquirers from other countries. We checked if the results remain consistent if we excluded these acquirers. As shown in Table 3, all findings remain consistent when acquirers from Hong Kong were excluded

Table 1 Descriptive statistics and correlations

Variables	1	2	3	4	5	6	7	8	9	10
1. Acquisition ownership										
2. Marketization	−0.059									
3. Public sentiment	−0.017	−0.147								
4. Acquirer size	0.008	−0.055	0.249							
5. Acquirer leverage	0.114	−0.053	0.169	0.300						
6. Acquirer listing status	0.055	−0.014	0.104	−0.022	−0.074					
7. Acquirer diversification	−0.030	0.017	0.162	0.317	−0.103	0.123				
8. Acquirer prior acquisition experience	0.081	−0.040	0.001	0.238	0.056	0.010	0.092			
9. Target listing status	−0.268	0.014	−0.107	0.149	0.014	−0.024	−0.117	0.073		
10. Target diversification	−0.125	−0.077	0.125	0.164	−0.022	0.013	0.037	0.055	0.084	
11. State-owned target	−0.006	−0.072	−0.132	0.038	−0.076	−0.035	−0.016	0.045	−0.009	−0.008
12.Target as a subsidiary	0.235	−0.032	0.021	−0.011	−0.140	−0.013	0.029	0.032	−0.239	−0.053
13. Target industry concentration	−0.070	−0.071	−0.017	−0.011	−0.059	−0.058	−0.070	0.049	0.119	0.065
14. Acquirer prior ownership in target	0.146	−0.018	−0.003	0.047	−0.128	−0.020	0.109	0.122	0.029	0.045
15. Acquirer–target alliance relationship	−0.105	0.004	0.017	0.076	0.092	0.016	−0.024	0.036	0.076	0.033
16. Target province GDP	−0.019	0.518	−0.127	−0.055	−0.181	−0.078	0.043	−0.067	0.031	−0.057
17. Target province social trust	−0.056	0.276	0.139	0.012	−0.059	0.060	0.070	−0.089	−0.066	0.074
18. Home-country financial market development	0.118	0.021	−0.349	−0.042	−0.070	0.035	−0.104	0.123	0.015	−0.008
19. Home–host country dyadic trade	−0.060	0.596	−0.319	−0.141	−0.233	−0.062	0.065	−0.057	−0.009	−0.044
20. Home–host country cultural distance	−0.037	−0.047	0.310	0.331	0.405	0.014	0.250	−0.122	−0.074	0.004
21. Home–host country economic distance	0.060	−0.031	−0.110	0.191	0.359	−0.014	0.079	0.039	−0.062	−0.097
Mean	0.748	8.127	0.184	8.499	0.306	0.976	5.902	0.329	0.063	2.651
SD	0.312	1.347	0.169	2.311	0.377	0.154	3.735	0.471	0.244	1.804
Min	0.037	3.590	−0.161	0.000	0.000	0.000	1.000	0.000	0.000	1.000
Max	1.000	10.000	0.597	14.604	2.000	1.000	19.000	1.000	1.000	17.000

Variables	11	12	13	14	15	16	17	18	19	20	21
1. Acquisition ownership											
2. Marketization											
3. Public sentiment											
4. Acquirer size											
5. Acquirer leverage											
6. Acquirer listing status											
7. Acquirer diversification											
8. Acquirer prior acquisition experience											
9. Target listing status											
10. Target diversification											
11. State-owned target											
12.Target as a subsidiary	0.179										
13. Target industry concentration	0.119	0.081									
14. Acquirer prior ownership in target	−0.045	0.037	0.108								
15. Acquirer–target alliance relationship	0.037	−0.042	0.017	0.025							

Table 1 (*Continued*)

Variables	11	12	13	14	15	16	17	18	19	20	21
16. Target province GDP	−0.072	0.037	−0.180	0.080	−0.010						
17. Target province social trust	−0.139	−0.037	−0.064	0.001	−0.054	0.141					
18. Home-country financial market development	0.176	0.116	0.134	−0.028	−0.099	0.003	−0.142				
19. Home–host country dyadic trade	−0.036	0.000	−0.125	0.103	0.026	0.602	0.388	−0.084			
20. Home–host country cultural distance	−0.225	−0.205	−0.148	−0.027	0.052	−0.050	0.060	−0.439	−0.025		
21. Home–host country economic distance	−0.015	−0.104	−0.009	−0.098	0.042	−0.066	−0.083	0.285	−0.120	0.356	
Mean	0.127	0.459	0.624	8.543	0.010	26.713	3.449	111.259	23.000	2.005	10.464
SD	0.333	0.499	0.231	21.082	0.098	0.594	0.495	20.030	1.844	1.365	0.358
Min	0.000	0.000	0.232	0.000	0.000	25.158	2.615	16.000	17.728	0.132	8.148
Max	1.000	1.000	1.000	96.000	1.000	27.810	4.154	130.000	26.374	4.658	11.324

N=410. Absolute values greater than or equal to 0.10 are significant at the 0.05 level.

from the sample. Furthermore, the results still hold when only round-tripping Hong Kong deals were dropped.

Instrumental variable regression analysis to mitigate endogeneity concern for public sentiment

Although we have controlled a large set of observable factors, the relationship between public sentiment and acquisition ownership could be driven by some unobservable factors, resulting in omitted variable bias (Hamilton & Nickerson, 2003). We identified two instrumental variables (Semadeni, Withers, & Certo, 2014). The first instrument is *travel flow*, measured as the natural log of the number of Chinese tourists visiting acquirers' home countries. Because tourists tend to have a positive attitude towards the places they have visited (Liu, Huang, Bao, & Chen, 2019), Chinese public sentiment toward another country can increase by travel flow (Li & Stepchenkova, 2012). Although travel flow may affect Chinese people's public sentiment toward that country, it is unlikely to have a direct effect on a foreign firm's acquisition ownership level. The second instrument is terrorist attack history of the acquirer's country, measured as natural log of the number of terrorist attacks (bombings and armed attacks). Evidence shows that terrorist attacks have an adverse impact on investor sentiment (e.g., Nikkinen & Vähämaa, 2010). With globalization, terrorist attacks are widely covered and discussed across countries, and hurt a country's image and weaken tourists' intentions to visit (Alvarez & Campo, 2014). Although it is the acquirer country being attacked, such an event may still trigger concern, anxiety, and even fear that may negatively affect the target country's public sentiment toward the acquirer country, but would not directly affect the level of acquisition ownership. We collected terrorist attack information from the Global Terrorism Database. In the first stage, we regressed public sentiment on travel flow, terrorist attack history, and other explanatory variables in our model. F test (F=79.593, p=0.000) of instrument strength is above the critical thresholds (Stock & Yogo, 2005), suggesting that the two instruments strongly influence our endogenous variable. The non-significant Sargan test (p=0.436) for overidentifying restrictions suggests that our instruments are exogenous. Table 4 presents the results. The coefficients of marketization, public sentiment, as well as their

Table 2 Fractional probit regression analysis of public sentiment and acquisition ownership

DV: Acquisition ownership	Model 1	Model 2	Model 3	Model 4	Model 5
Explanatory variables					
Marketization		−0.324 (0.120)		−0.334 (0.120)	−0.385 (0.121)
		0.007		*0.006*	*0.001*
Public sentiment			3.934 (1.216)	4.028 (1.158)	3.540 (1.141)
			0.001	*0.001*	*0.002*
Marketization×public sentiment					0.701 (0.240)
					0.004
Control variables					
Acquirer size	0.034 (0.036)	0.034 (0.036)	0.086 (0.038)	0.088 (0.038)	0.095 (0.038)
	0.333	*0.335*	*0.024*	*0.019*	*0.012*
Acquirer leverage	−0.251 (0.480)	−0.149 (0.465)	−1.437 (0.635)	−1.371 (0.613)	−1.401 (0.604)
	0.601	*0.749*	*0.024*	*0.025*	*0.020*
Acquirer listing status	0.310 (0.331)	0.263 (0.304)	−0.148 (0.360)	−0.211 (0.336)	−0.193 (0.323)
	0.349	*0.387*	*0.680*	*0.529*	*0.551*
Acquirer diversification	−0.014 (0.020)	−0.012 (0.020)	−0.012 (0.020)	−0.011 (0.020)	−0.016 (0.020)
	0.500	*0.540*	*0.538*	*0.586*	*0.426*
Acquirer prior acquisition experience	0.127 (0.125)	0.116 (0.123)	0.160 (0.126)	0.149 (0.124)	0.150 (0.123)
	0.307	*0.346*	*0.204*	*0.230*	*0.220*
Target listing status	−1.162 (0.288)	−1.174 (0.285)	−1.266 (0.294)	−1.281 (0.293)	−1.304 (0.299)
	0.000	*0.000*	*0.000*	*0.000*	*0.000*
Target diversification	−0.088 (0.036)	−0.079 (0.037)	−0.084 (0.035)	−0.074 (0.036)	−0.063 (0.036)
	0.015	*0.032*	*0.017*	*0.039*	*0.076*
State-owned target	0.123 (0.156)	0.097 (0.162)	0.133 (0.153)	0.104 (0.159)	0.110 (0.162)
	0.430	*0.548*	*0.385*	*0.514*	*0.495*
Target as a subsidiary	0.594 (0.131)	0.607 (0.132)	0.587 (0.132)	0.601 (0.132)	0.600 (0.132)
	0.000	*0.000*	*0.000*	*0.000*	*0.000*
Target industry concentration	−0.806 (1.291)	−0.658 (1.275)	0.266 (1.470)	0.438 (1.441)	0.288 (1.408)
	0.533	*0.605*	*0.857*	*0.761*	*0.838*
Acquirer prior ownership in target	0.013 (0.003)	0.013 (0.003)	0.013 (0.003)	0.013 (0.003)	0.013 (0.003)
	0.000	*0.000*	*0.000*	*0.000*	*0.000*
Acquirer–target alliance relationship	−1.477 (0.341)	−1.551 (0.345)	−1.530 (0.370)	−1.614 (0.377)	−1.617 (0.398)
	0.000	*0.000*	*0.000*	*0.000*	*0.000*
Target province GDP	0.104 (0.152)	0.133 (0.157)	0.144 (0.150)	0.173 (0.152)	0.171 (0.156)
	0.495	*0.394*	*0.335*	*0.256*	*0.274*
Target province social trust	0.043 (0.161)	0.228 (0.181)	0.020 (0.160)	0.208 (0.178)	0.215 (0.176)
	0.789	*0.209*	*0.899*	*0.242*	*0.223*
Home-country financial market development	0.037 (0.010)	0.038 (0.010)	0.028 (0.010)	0.028 (0.010)	0.033 (0.010)
	0.000	*0.000*	*0.007*	*0.006*	*0.002*
Home–host country dyadic trade	−0.187 (0.086)	−0.251 (0.092)	−0.188 (0.086)	−0.250 (0.090)	−0.258 (0.092)
	0.030	*0.006*	*0.029*	*0.005*	*0.005*
Home–host country cultural distance	19.695 (6.971)	21.301 (6.789)	19.864 (7.143)	21.361 (6.986)	24.428 (7.265)
	0.005	*0.002*	*0.005*	*0.002*	*0.001*
Home–host country economic distance	0.747 (0.655)	0.963 (0.654)	3.276 (1.009)	3.565 (0.972)	3.755 (0.981)
	0.254	*0.141*	*0.001*	*0.000*	*0.000*
Inverse Mills ratio (country selection)	−0.415 (0.757)	−0.469 (0.748)	2.394 (1.243)	2.428 (1.197)	2.337 (1.174)
	0.583	*0.531*	*0.054*	*0.042*	*0.047*
Inverse Mills ratio (province selection)	−0.687 (0.290)	−1.539 (0.470)	−0.744 (0.287)	−1.615 (0.461)	−1.667 (0.461)
	0.018	*0.001*	*0.009*	*0.000*	*0.000*
Constant	−10.607 (8.792)	−11.807 (8.798)	−37.823 (12.171)	−39.775 (11.750)	−42.564 (12.012)
	0.228	*0.180*	*0.002*	*0.001*	*0.000*
Log likelihood	−165.506	−164.261	−163.818	−162.519	−161.554

N=410. Standard errors in parentheses; *P* values in italics. Parent and target industry, parent and target location, and year dummies are included in the model.

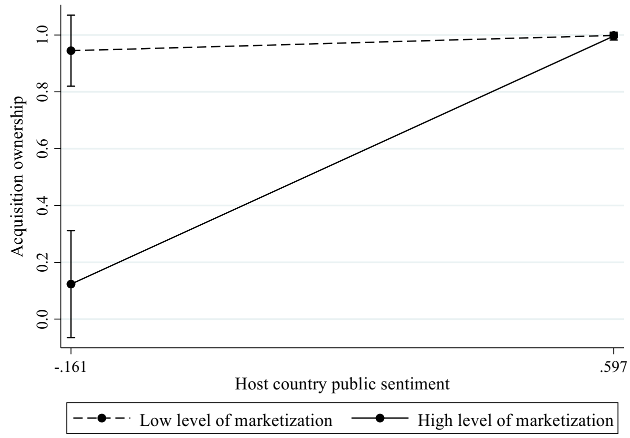

Figure 1 Interaction effect between public sentiment and marketization on acquisition ownership. The *dashed line* shows the effect of public sentiment on acquisition ownership by a foreign acquirer under the condition of a low level of marketization, which is two standard deviations below the mean. Acquisition ownership increases by 5.3% when public sentiment changes from −0.161 to 0.597 under the condition of low level of marketization. The *solid line* shows the effect of public sentiment on acquisition ownership by a foreign acquirer under the condition of high level of marketization, which is the maximum value (two standard deviations above the mean is larger than the maximum value). Acquisition ownership increases by 87.3% when public sentiment changes from −0.161 to 0.597 under the condition of a high level of marketization. Therefore, the positive effect of public sentiment on acquisition ownership is stronger as the marketization level increases.

interaction term remain significant at the 0.05 level in the predicted directions in the second stage of two-stage instrumental variable regression.

Other robustness tests

First, we checked whether our results are robust using the Tobit model. The Tobit analysis shows that all of our hypothesized effects are significant at the 0.05 level in the predicted directions. Second, there are 70 acquisitions in our sample having the acquirers holding prior ownership stake in the target firms. We excluded these deals and re-ran the analysis, and find that all of our hypothesized effects remain statistically significant in the predicted directions. Third, marketization may have a U-shaped relationship with the dependent variable; however, we did not find such a relationship in our study context. Finally, another affect-based construct that is close to public sentiment and previously studied in cross-border acquisition research is political affinity, which is defined as "the similarity of national interests in global affairs" (Bertrand,

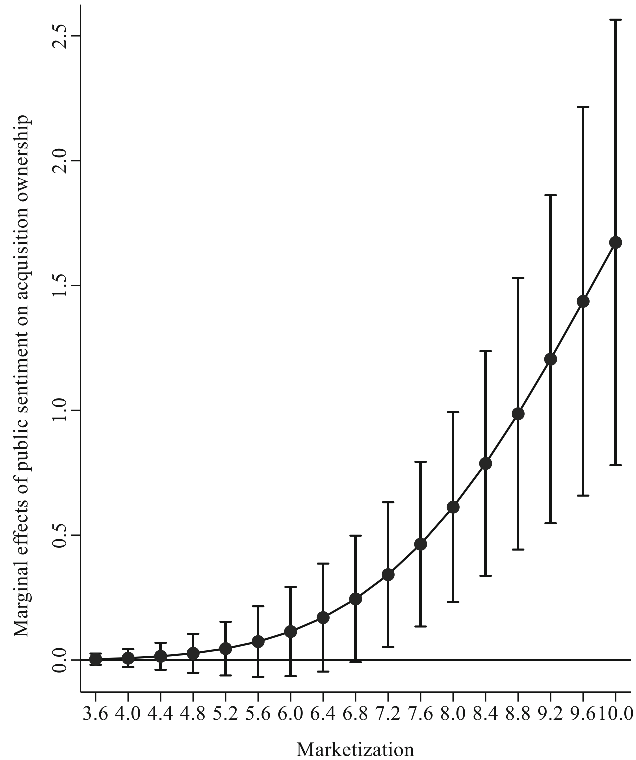

Figure 2 Relationship between public sentiment and acquisition ownership as a function of marketization level. The *Y*-axis represents the average marginal effect of public sentiment on acquisition ownership by a foreign acquirer and the *X*-axis shows the value of marketization level. Confidence intervals are two-tailed, at 95% confidence level. This figure shows that the marginal effect of public sentiment on acquisition ownership by a foreign acquirer ranges between 0 and 1.672, and the marginal effect of public sentiment loses its statistical significance when marketization is less than 6.8.

Betschinger, & Settles, 2015: 2071). In addition to conceptual distinction, we checked if public sentiment is distinct from political affinity by controlling for political affinity in our model. Our results show that the effect of public sentiment is positive and significant (b=5.004, p=0.004), supporting its distinct effect.

Supplementary analysis

Sub-topics of public sentiment

To have a deeper understanding of public sentiment, we further conducted a sub-topic analysis to check if there is divergence among the sub-dimensions of public sentiment. Based on the subtopic categorization technique, seven subtopics were identified: economy, education, entertainment, politics, society, sports, and technology. Table 5 presents the results. As shown in model 1, we find

Table 3 Fractional probit regression analysis of public sentiment and acquisition ownership (excluding acquirers from Hong Kong)

DV: Acquisition ownership	Model 1	Model 2	Model 3	Model 4	Model 5
Explanatory variables					
Marketization		−0.315 (0.130) *0.015*		−0.329 (0.130) *0.011*	−0.398 (0.129) *0.002*
Public sentiment			4.293 (1.664) *0.010*	4.454 (1.556) *0.004*	4.329 (1.567) *0.006*
Marketization public sentiment					1.059 (0.322) *0.001*
Control variables					
Acquirer size	0.077 (0.049) *0.114*	0.079 (0.049) *0.108*	0.127 (0.053) *0.016*	0.130 (0.052) *0.012*	0.156 (0.052) *0.003*
Acquirer leverage	−0.976 (0.525) *0.063*	−0.930 (0.513) *0.070*	−2.034 (0.707) *0.004*	−2.033 (0.673) *0.003*	−2.306 (0.663) *0.001*
Acquirer listing status	0.072 (0.335) *0.830*	0.028 (0.324) *0.931*	−0.390 (0.390) *0.318*	−0.451 (0.376) *0.230*	−0.538 (0.387) *0.164*
Acquirer diversification	−0.024 (0.023) *0.302*	−0.020 (0.022) *0.377*	−0.022 (0.023) *0.328*	−0.017 (0.022) *0.430*	−0.026 (0.022) *0.242*
Acquirer prior acquisition experience	0.011 (0.157) *0.942*	−0.006 (0.155) *0.967*	0.028 (0.158) *0.858*	0.012 (0.155) *0.941*	0.029 (0.156) *0.853*
Target listing status	−1.294 (0.418) *0.002*	−1.369 (0.405) *0.001*	−1.457 (0.430) *0.001*	−1.537 (0.415) *0.000*	−1.558 (0.440) *0.000*
Target diversification	−0.003 (0.042) *0.944*	0.013 (0.043) *0.763*	−0.010 (0.041) *0.811*	0.007 (0.042) *0.867*	0.025 (0.041) *0.541*
State-owned target	−0.638 (0.212) *0.003*	−0.677 (0.217) *0.002*	−0.528 (0.213) *0.013*	−0.564 (0.219) *0.010*	−0.570 (0.213) *0.008*
Target as a subsidiary	0.400 (0.147) *0.006*	0.387 (0.145) *0.008*	0.427 (0.148) *0.004*	0.417 (0.145) *0.004*	0.443 (0.146) *0.002*
Target industry concentration	−2.184 (1.499) *0.145*	−2.196 (1.472) *0.136*	−1.579 (1.578) *0.317*	−1.550 (1.532) *0.312*	−1.910 (1.507) *0.205*
Acquirer prior ownership in target	0.015 (0.004) *0.000*	0.015 (0.004) *0.000*	0.016 (0.004) *0.000*	0.015 (0.004) *0.000*	0.016 (0.004) *0.000*
Acquirer–target alliance relationship	−1.192 (0.313) *0.000*	−1.290 (0.335) *0.000*	−1.275 (0.336) *0.000*	−1.388 (0.353) *0.000*	−1.409 (0.379) *0.000*
Target province GDP	−0.071 (0.180) *0.693*	−0.053 (0.184) *0.772*	−0.038 (0.181) *0.832*	−0.016 (0.184) *0.929*	−0.012 (0.190) *0.951*
Target province social trust	−0.023 (0.202) *0.911*	0.142 (0.224) *0.527*	−0.059 (0.200) *0.768*	0.111 (0.222) *0.618*	0.122 (0.218) *0.575*
Home-country financial market development	0.023 (0.011) *0.040*	0.023 (0.011) *0.041*	0.024 (0.011) *0.030*	0.024 (0.011) *0.034*	0.031 (0.012) *0.011*
Home–host country dyadic trade	−0.026 (0.161) *0.870*	−0.061 (0.166) *0.713*	0.017 (0.161) *0.915*	−0.014 (0.167) *0.931*	−0.030 (0.164) *0.855*
Home–host country cultural distance	23.455 (155.793) *0.880*	19.778 (150.698) *0.896*	−0.857 (154.743) *0.996*	−5.960 (150.782) *0.968*	2.026 (156.088) *0.990*
Home–host country economic distance	0.891 (0.803) *0.267*	1.133 (0.809) *0.162*	2.716 (1.085) *0.012*	3.046 (1.045) *0.004*	3.311 (1.051) *0.002*
Inverse Mills ratio (country selection)	0.724 (0.842) *0.390*	0.820 (0.842) *0.330*	3.023 (1.373) *0.028*	3.222 (1.324) *0.015*	3.402 (1.268) *0.007*
Inverse Mills ratio (province selection)	−0.220 (0.429) *0.609*	−1.029 (0.588) *0.080*	−0.189 (0.423) *0.654*	−1.025 (0.576) *0.075*	−0.956 (0.573) *0.095*
Constant	−15.741 (70.409) *0.823*	−15.449 (68.085) *0.820*	−26.517 (68.324) *0.698*	−26.690 (66.343) *0.687*	−32.539 (69.757) *0.641*
Log likelihood	−118.444	−117.608	−117.544	−116.643	−115.400

N=288. Standard errors in parentheses; *P* values in italics. Parent and target industry, parent and target location, and year dummies are included in the model.

that five out of seven sub-topics of public sentiments toward acquirer country are significant with different strengths: economy (b=0.630, p=0.080), education (b=1.789, p=0.006), entertainment (b=1.131, p=0.032), politics (b=0.889, p=0.092), and society (b=1.123, p=0.044). The two insignificant sub-topics are sports and technology. As for the interaction effects, model 2 shows that marketization has different significant interaction effects with the subtopics of technology (b=0.786, p=0.005) and sports (b=−0.340, p=0.004). Albeit still preliminary, the results provide interesting insights that public sentiment has different sub-topics that are diverse and exhibit differential effects on the outcome variable.

DISCUSSION AND CONCLUSION

Our study represents an early attempt to introduce a new informal institution concept, public sentiment, to the IB literature. We contribute to the informal institution literature by theorizing how public sentiment, as a new form of informal institution, affects MNC's decision on acquisition ownership level in a host country via online social media. The study also pioneers to employ a large amount of textual data from online social media, with the aid of machine learning and sentiment analysis, to capture normative-cognitive elements in the IB literature. The textual expressions of human thoughts, opinions, and affective emotions serve as an enriched measure of normative-cognitive and affective

Table 4 Instrumental variable regression analysis of public sentiment and acquisition ownership

DV: Acquisition ownership	First stage	Second stage	
		Model 1	Model 2
Explanatory variables			
Marketization	0.005 (0.004) *0.293*	−0.317 (0.121) *0.009*	−0.367 (0.122) *0.003*
Public sentiment		4.413 (1.717) *0.010*	3.871 (1.718) *0.024*
Marketization×public sentiment			0.637 (0.242) *0.008*
Control variables			
Acquirer size	−0.015 (0.001) *0.000*	0.093 (0.043) *0.033*	0.098 (0.044) *0.025*
Acquirer leverage	0.320 (0.020) *0.000*	−1.461 (0.727) *0.044*	−1.464 (0.731) *0.045*
Acquirer listing status	0.107 (0.014) *0.000*	−0.216 (0.368) *0.557*	−0.199 (0.363) *0.584*
Acquirer diversification	−0.001 (0.001) *0.341*	−0.015 (0.021) *0.458*	−0.019 (0.021) *0.375*
Acquirer prior acquisition experience	0.003 (0.004) *0.498*	0.133 (0.125) *0.289*	0.134 (0.124) *0.281*
Target listing status	0.016 (0.009) *0.067*	−1.296 (0.293) *0.000*	−1.310 (0.298) *0.000*
Target diversification	0.000 (0.001) *0.705*	−0.076 (0.040) *0.054*	−0.065 (0.039) *0.099*
State-owned target	−0.004 (0.007) *0.607*	0.115 (0.162) *0.478*	0.122 (0.164) *0.456*
Target as a subsidiary	0.002 (0.005) *0.612*	0.592 (0.133) *0.000*	0.592 (0.133) *0.000*
Target industry concentration	−0.101 (0.056) *0.070*	0.346 (1.431) *0.809*	0.233 (1.400) *0.868*
Acquirer prior ownership in target	0.000 (0.000) *0.639*	0.013 (0.003) *0.000*	0.013 (0.003) *0.000*
Acquirer–target alliance relationship	−0.017 (0.012) *0.163*	−1.608 (0.384) *0.000*	−1.617 (0.400) *0.000*
Target province GDP	−0.014 (0.006) *0.009*	0.147 (0.159) *0.353*	0.145 (0.162) *0.372*
Target province social trust	−0.001 (0.005) *0.836*	0.179 (0.176) *0.311*	0.190 (0.175) *0.278*
Home-country financial market development	0.001 (0.001) *0.047*	0.026 (0.011) *0.019*	0.031 (0.011) *0.006*
Home–host country dyadic trade	0.007 (0.003) *0.036*	−0.236 (0.092) *0.010*	−0.243 (0.093) *0.009*
Home–host country cultural distance	1.698 (0.361) *0.000*	20.950 (6.998) *0.003*	23.799 (7.271) *0.001*
Home–host country economic distance	−0.554 (0.030) *0.000*	3.770 (1.296) *0.004*	3.887 (1.313) *0.003*
Travel flow	0.148 (0.012) *0.000*		
Terrorist attack history	−0.016 (0.004) *0.000*		
Inverse Mills ratio (country selection)	−0.747 (0.033) *0.000*	2.610 (1.560) *0.094*	2.479 (1.560) *0.112*
Inverse Mills ratio (province selection)	0.030 (0.018) *0.099*	−1.583 (0.466) *0.001*	−1.627 (0.465) *0.000*
Constant	3.504 (0.541) *0.000*	−41.254 (14.967) *0.006*	−43.271 (15.195) *0.004*
Log likelihood		675.100	675.871

N=401. Standard errors in parentheses; P values in italics. Parent and target industry, parent and target location, and year dummies are included in the model. Travel flow and terrorist attack history are identified as instrumental variables that affect host-country nationals' public sentiment but not acquisition ownership level.

informal institutions like public sentiment, thus making significant empirical contributions to the studies on informal institutions while also offering practical implications to managers about gathering and analyzing public stakeholders' opinions in more efficient and effective means.

The results of the main analysis and robustness tests lend strong and rigorous support to all our three hypotheses. In regard to Hypothesis 1, we find that the foreign acquirer prefers a higher (lower) ownership control when the venture is located in regions that are less (more) marketized, and vice versa. This finding provides a different perspective and evidence to extant literature on MNE entry and ownership that foreign investors tend to need more local partners to reduce risks when the institutional environment of the host-country market is underdeveloped (Brouthers & Hennart, 2007). Such an argument views equity stakes in cross-border acquisitions as control over the foreign subsidiaries and usually compares the options between full and partial ownership mode (i.e., joint ventures). Our study echoes a few cross-border acquisition studies that also consider equity stakes as resource commitment and need for complementary resources in the acquisition (Chari & Chang, 2009). This result is aligned with previous studies' findings and provides useful implications to practitioners and stakeholders in the host transition economies that inward foreign acquisitions can be taken in more collaborative and complementary form when the host-country formal institutional environment is more developed.

With respect to the effects of public sentiment (Hypothesis 2 and Hypothesis 3), which is the main focus of this study, we find strong support that public sentiment of host-country nationals is positively related to foreign firms' acquisition ownership levels. This finding remains robust and strong as demonstrated in our series of robustness tests. The current evidence that the foreign acquirer does prefer higher ownership levels when they perceive that local legitimacy is granted and expressed in more favorable public sentiment echoes the previous study that wholly owned subsidiary is preferred to a joint venture when local legitimacy is obtained (Chang, Chung, & Moon, 2013). Our study highlights that public sentiment should be explored further in international business research, given that cross-border business activities often entail national sentiment both in the home and host countries, and negative attitudes toward foreign trade, national animosity, and liability of foreignness are keen concerns of multinational firms (Arikan & Shenkar, 2013). Our robustness test also illustrates that public sentiment is distinguished from political affinity and has an additional effect on the acquirer's ownership decision. In all, it is also important to note that our focus on public sentiment departs from the focus of past studies on informal institutions. We distinguished public sentiment from extensively studied informal

Table 5 Supplementary analysis of public sentiment sub-topics

DV: Acquisition ownership	Model 1	Model 2
Explanatory variables		
Marketization	−0.391 (0.125) *0.002*	−0.427 (0.126) *0.001*
Public sentiment_economy	0.630 (0.360) *0.080*	0.675 (0.380) *0.076*
Public sentiment_education	1.789 (0.653) *0.006*	1.579 (0.641) *0.014*
Public sentiment_entertainment	1.131 (0.528) *0.032*	0.593 (0.500) *0.235*
Public sentiment_politics	0.889 (0.528) *0.092*	0.851 (0.499) *0.088*
Public sentiment_society	1.123 (0.558) *0.044*	0.855 (0.579) *0.140*
Public sentiment_sports	0.162 (0.180) *0.370*	0.184 (0.177) *0.299*
Public sentiment_technology	−0.191 (0.586) *0.744*	−0.111 (0.579) *0.848*
Marketization×public sentiment_economy		0.229 (0.250) *0.359*
Marketization×public sentiment_education		0.243 (0.336) *0.469*
Marketization×public sentiment_entertainment		−0.278 (0.337) *0.409*
Marketization×public sentiment_politics		0.353 (0.298) *0.237*
Marketization×public sentiment_society		0.030 (0.387) *0.938*
Marketization×public sentiment_sports		−0.340 (0.118) *0.004*
Marketization×public sentiment_technology		0.786 (0.282) *0.005*
Constant	−41.088 (14.445) *0.004*	−42.972 (14.218) *0.003*
Log likelihood	−148.522	−145.632

N=386. Standard errors in parentheses; *P* values in italics. All the control variables are included in the models but not reported here due to space limit.

institutions like national cultures, norms, and social capital, which are rather stagnant and in place because their effectiveness in bringing about change depends on the political and societal context in which they operate (Davison, 1958; Glynn et al., 2018). On the other hand, public sentiment contains a dynamic element that provides certain levels of flexibility and can be mobilized quickly to exert constraints on permissible strategic actions. In addition, past studies have treated informal institutions as generally invariant for a sustained period of time, or the so-called "rules in operation" or "rules in force" (Ostrom, 2005). In contrast, public sentiment that embodies the community's prevailing assumptions about the world, the accumulated wisdom of the past, and the current set of values (Pejovich, 1999), can be triggered by specific events that lead to ups and downs, and can be vastly disseminated with the presence of massive communication channels nowadays. As such, our study presents a new "facelift" of informal institutions that can be explored further in future research. Future studies may explore the dynamics of different informal institutions. From our robustness test, it would be interesting to study further the interactions between political affinity and public sentiment.

The finding of the interaction effects of public sentiments also offers a novel perspective of the role of informal institutions in the institutional transition process. Our results provide supporting evidence that the power of public sentiment becomes stronger when regional marketization is more developed. We explained that it is through improved technology for information dissemination and socialization, as facilitated by the development of formal institutions, that instills and reinforces a generalized morality, facilitates informal learning, urges for collective instincts and emotions, and inspires other creative adaptive informal institutions to cope with and shape formal institutional change (Wight, 2009). In other words, informal institutions play an even more prominent role as formal institutions continue to advance in a country. Our findings shed new light on the interplay between formal and informal institutions, in that past studies predominantly advocated a substitutive or complementary relationship between formal and informal institutions (Helmke & Levitsky 2004; Khanna & Palepu, 2000). Nonetheless, we advocate that the interplay between formal and informal institutions is mutualistic symbiotic, that is, some informal institutions like public sentiments are enabled by formal institutional development to exert stronger impacts on firms, and the relationship between informal and formal institutions are interdependent and both would co-evolve to develop further.

Another highlight related to our findings on public sentiment is that our sub-analysis on the various sub-topics of public sentiment discovers and shows that public sentiment does not necessarily constitute a coherent and consistent set of issue positions. This corresponds to the notion that public sentiment can cover a wide range of issues (Campbell, 1998), which will add further variations and diversity in the examination of informal institutions like public sentiment. Future research may further explore if broad-based sentiment in one topical area may contradict that of another.

In addition to the above insights for future research, another avenue to explore further is a bilateral study of a home country's and host country's public sentiment toward cross-border acquisitions. The scope of our current study focuses on public sentiments toward multiple home countries of foreign acquirers in a single host country. When the availability and reliability of social media data sources are further enhanced and the difficulties in analyzing text data in different languages are mitigated in the future, researchers can continue to pursue this line of inquiry and explore 2×2 types of public sentiments toward cross-border business activities.

To conclude, our study advances the understanding of informal institutions by introducing a new informal institution, public sentiment, to the cross-border acquisition literature in specific, and the international business literature in general. Such focus on the opinions and interests of the general public or mobilized public reveals the building block of social norms and moral conscience, which has not been systematically theorized and examined in the past. Our textual analysis also demonstrates an effective way to directly measure socially constructed meanings and symbolic sentiment toward an international business issue, which represents a methodological advance in informal institution studies. More importantly, our study makes significant contributions to research on informal institution by shifting the focus from the embedded and prevailing informal institutions that may be in conflict with newly developed formal institutions, which are thus regarded as constraints for institutional development, to the informal institutions that are enabled by, and co-evolved with, formal institutional development to provide opportunities to further institutional and economic development. In a nutshell, "public sentiment is everything!"

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NOTES

[1]Abraham Lincoln, notes prepared for speeches after the Dred Scott decision, [Aug. 21, 1858], in *The Collected Works of Abraham Lincoln*, ed. Roy P. Basler (9 vols. New Brunswick, 1953–1955), II, 553.

[2]https://www.freshfields.com/en-gb/what-we-do/case-studies/midea-kuka-case-study/.

[3]https://www.ft.com/content/5c645830-1391-11de-9e32-0000779fd2ac. https://www.strategy-business.com/article/00011?gko=85e1c.

[4]The 22 countries/economies are (in alphabetical order): Australia, Austria, Belgium, Canada, Finland, France, Germany, Hong Kong, India, Indonesia, Ireland-Rep, Italy, Japan, Netherlands, Singapore, South Korea, Spain, Sweden, Switzerland, Taiwan, the United Kingdom, and the United States.

[5]For example, to get Sina blogs about America, we type "site:blog.sina.com.cn 美国" in a search engine (Baidu).

[6]Corpus means a set of documents.

[7]The link of THUCTC is: http://thuctc.thunlp.org.

[8]Accuracy is the total percentage of correctly classified documents. The formula to calculate accuracy is:

$$\text{Accuracy} = \frac{\text{TP} + \text{TN}}{\text{TP} + \text{FP} + \text{TN} + \text{FN}}$$

where TP is the number of true-positive documents, FP is the number of false-positive documents, TN is the number of true-negative documents, and FN is the number of false-negative documents.

[9]The link of Tianyancha is: https://www.tianyancha.com/.

[10]The predictors include acquirer size, acquirer leverage, acquirer listing status, public sentiment, home–host country economic distance, home–host country cultural distance, and year dummies. We also add target country risk as the unique predictor. This variable is shown to affect the choice of country (Garcia-Canal & Guillen, 2008) but less likely to be a direct determinant of the equity ownership level.

[11]The predictors include acquirer size, acquirer leverage, acquirer listing status, marketization, target province GDP, target province social trust, home–host country dyadic trade, and year dummies. We add the number of foreign companies, measured as natural log of the number of foreign companies in a province in a certain year, as the unique predictor. This variable is relevant for the decision on province choice but is less likely to be a critical determinant for equity ownership levels.

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