



Dynamics of pro-market institutions and firm performance

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Abstract

We analyze how pro-market institutions affect firm performance in emerging markets. Integrating transaction costs and signaling theory, we advance three arguments. First, we separate four dynamic components of pro-market institutions: intensifying and fading pro-market reforms and intensifying and fading pro-market reversals. Second, we propose an asymmetric dynamic view whereby not only intensifying reforms but also fading reversals improve firm performance, while not only fading reforms but also intensifying reversals reduce performance. Finally, we argue that more efficient firms perform better under each of the dynamics. We test these arguments on a sample of 1092 firms from 34 emerging markets during 1998–2011.

Journal of International Business Studies (2018).

<https://doi.org/10.1057/s41267-018-0155-7>

Keywords: pro-market institutions; pro-market reversals; pro-market reforms; institutional economics; transaction costs; signaling theory; efficiency; performance; emerging markets

INTRODUCTION

The implementation of pro-market institutions – policies that support market relationships in the economy – have proliferated since the late 1980s. Socialist economies in Eastern Europe, the Soviet Union, and other countries like China and Vietnam transitioned to capitalism. Countries in Latin America, South Asia, and Africa moved away from import substitution and liberalized their economies. Advanced economies also deregulated industries and privatized firms (for an overview of all these changes, see Yergin & Stanislaw, 1998).

Received wisdom in country-level research has been that these pro-market institutions have been beneficial for countries (e.g., Babetskii & Campos, 2007; Campos & Horvath, 2012a, b; Merlevede, 2003; Sahay & Goyal, 2006). However, firm-level research has disagreed over the effect of pro-market institutions on firm performance. Some have proposed that pro-market institutions improve firm performance (e.g., Banalieva, Eddleston, & Zellweger, 2015; Chacar, Newburry, & Vissa, 2010; Cuervo-Cazurra & Dau, 2009a; Kim, Kim, & Hoskisson, 2010; Majumdar & Bhattacharjee, 2014; Park, Li, & Tse, 2006), while others have argued the reverse (e.g., Chacar et al., 2010; Chari & David, 2012). Some researchers have underlined that not all pro-market institutions that are



typically considered “good” for countries are equally beneficial for companies (e.g., Bhaumik & Dimova, 2014).

We offer one solution to this disagreement in the literature by arguing that these pro-market institutions have asymmetric dynamic effects on firm performance. We do so by integrating institutional economics and its analysis of institutional arrangements and transaction costs (Coase, 1937; Meyer, Estrin, Bhaumik, & Peng, 2009; Meyer & Peng, 2016; North, 1990, 1992; Peng, Wang, & Jiang, 2008; Williamson, 1975, 1990), with signaling theory and its study of how economic agents interpret changes in institutions (Connelly, Certo, Ireland, & Reutzel, 2011; Huang, 2013; Spence, 1973; Walsh, 2007).

Specifically, we present three ideas. First, we propose four distinct pro-market institutional dynamics. We distinguish pro-market reforms (improvement in pro-market institutions over time) from reversals (deterioration in pro-market institutions over time). We further differentiate between intensifying (continuing at an increasing pace over time) and fading (continuing, but at a decreasing pace over time) reforms and reversals. These distinctions are vital because reforms and reversals are not just a mirror image of each other; we propose that the varying conditions affect firm performance through different mechanisms.

Second, we introduce an asymmetric dynamic view, arguing that not only intensifying reforms but also fading reversals improve firm performance, while not only fading reforms but also intensifying reversals reduce it. This argument challenges the literature’s current implicit assumption that all reforms are good, while all reversals are bad. Instead, we propose the novel idea that reforms and reversals have asymmetric effects on firm performance: some types of reforms and reversals can be beneficial, while other types of reversals and reforms can be detrimental.

Finally, we posit that more efficient firms perform better under each of these institutional dynamics. This argument challenges managers’ natural inclination to ‘wait and see’ when reversals occur. Instead, we propose that managers continue focusing on efficiency, as it bolsters managers’ ability to have their firms respond to institutional dynamics and improve performance.

We test these ideas on an unbalanced panel of 1092 publicly traded firms from 34 emerging markets during 1998–2011. Our findings hint at a pecking order regarding how pro-market

institutions affect firm performance. Performance, measured as return on assets, increases the most, by 0.5%, under intensifying reforms and fading reversals. Performance declines the most, by a negative 0.6%, under intensifying reversals. Additionally, a one standard deviation increase in efficiency can enhance performance by 0.4% under intensifying reforms and by 0.6% under intensifying reversals.

In broader terms, of the four domains of international business (host country impact on multinationals; host country impact on domestic firms; home country impact on multinationals; and home country impact on domestic firms), we contribute to the fourth domain. Specifically, we go beyond the traditional focus of prior research on how the level of pro-market institutions affects firm behavior (Chari & Banalieva, 2015; Chari & David, 2012; Cuervo-Cazurra & Dau, 2009a, b; Djankov, La Porta, Lopez-de-Silanes, & Shleifer, 2002; Klapper, Amit, Guillen, & Quesada, 2010; Peng, Ahlstrom, Carraher, & Shi, 2017). Instead, we propose the importance of using an asymmetric dynamic view of institutions, because the dynamics differ in their impact on firm performance.

THEORETICAL BASIS, LITERATURE REVIEW, AND KEY CONCEPTS

Theoretical Basis

We integrate insights from transaction costs in institutional economics with insights from signaling theory to explain the impact of pro-market institutions on firm performance. We adopt this approach because institutional economics argues that institutions “affect economic performance by determining transaction and transformation (production) costs” (North, 1992: 9). Similarly, signaling theory argues that “[m]arket institutions ... are social structures reproduced through signaling” (Nee & Matthews, 1996: 411) as “[t]he rate at which the reform is introduced may serve to convey the government’s *future* intentions, and hence act as a ‘signal’” (Rodrik, 1989: 758).

Institutional economics

Institutional economics has focused on understanding how the regulatory and governance contexts of operations affect transactions undertaken by economic actors (Coase, 1937; North, 1990, 1992; Williamson, 1975). From this point of view, the role of the government is to provide the



supporting framework, in the form of pro-market institutions that help individuals and firms reduce transaction costs. Pro-market institutions facilitate market-based transactions by the introduction of supply and demand-based exchanges, price clearing mechanisms, and autonomous adaptation to environmental changes. Pro-market institutions provide rules, regulations, property rights protection, and contract dispute resolution mechanisms that reduce exchange hazards. Pro-market institutions further enable the entry and operation of additional economic actors, improving the quality of potential exchange partners. Profit incentives, and contract enforcement under market arrangements, motivate exchange partners to fulfill exchange agreements, increasing the firm's assurance of a fair exchange relationship. This, in turn, helps firms adapt their strategic response and improve performance.

Signaling theory

Signaling theory proposes that governments signal credibility of their reform efforts by the policies they implement in favor of or against liberalization (e.g., Huang, 2013; Walsh, 2007). Government signals are the cumulative consensus of competing coalitions of interest groups, with the eventual signal reflecting the outcome of which coalition prevails (Rajan & Zingales, 2003). Governments send credible signals of their resolve to implement certain policies to avoid "expos[ing] themselves to 'domestic audience costs'" through the electoral processes (Fearon, 1994). Governments also send credible signals to avoid external monitoring costs from multilateral institutions that publicize countries' commitment to pro-market policies, when negotiating bilateral cooperation or financial assistance agreements (Fang & Owen, 2011; Simmons, 2000). Managers form their beliefs about the future macroeconomic environment by observing the state's institutional signals (Walsh, 2007), independent of the interest groups that influence government policy. As such, managers' formed beliefs, in response to the observed policy choices of the government, influence the subsequent strategies of their companies and, thus, firm performance (Walsh, 2007).

Literature Review

Emerging markets tend to suffer from weaknesses in pro-market institutions and intermediaries; these have been called institutional voids (Doh, Rodrigues, Saka-Helmhout, & Makhija, 2017; Khanna &

Palepu, 1997). Many emerging markets have been reducing these institutional voids by adopting pro-market reforms (Williamson, 1990). These encompass structural adjustment policies that liberalize industries and sectors of the economy, privatize state-owned enterprises, and remove the government's protectionist umbrella against foreign competition (Rodrik, 1996). The role of the government changes from guiding economic activity as an active participant in economic transactions, to providing a supportive market governance framework. As pro-market reforms have been studied at the country- and firm-level, we establish a macro-micro bridge between these two levels of analysis.

Country-level analyses of pro-market reforms

Country-level research has tended to show that reforms can cause adjustment costs in the short-term, but are beneficial for the country in the long-run (Babecky & Havranek, 2014; Babetskii & Campos, 2007). Recent meta-analyses have further clarified that the effect of pro-market reforms is mixed: it has been positive and significant in about one-third of existing studies, negative and significant in another one-third, and not significant in the remaining third of cases (Babetskii & Campos, 2007). For the most part, these studies find that the contemporaneous effects of reforms tend to be negative or not significant, while the lagged effects of reforms tend to be positive and significant for countries' development (e.g., Campos & Horvath, 2012b; Falcetti, Raiser, & Sanfey, 2002; Merlevede, 2003). However, "a number of studies focus on one reform and/or on one country but few which study multiple reforms in more than one country over time" (Campos & Horvath, 2012b: 228).

An important distinction made in country-level studies is between pro-market reforms and pro-market reversals, which, some authors note, may have been confounded in prior research (e.g., Campos & Horvath, 2012a, b; Falcetti et al., 2002; Merlevede, 2003; Yago & Morgan, 2008). Pro-market reforms are the policies that reduce the presence of the government in the economy to facilitate market transactions; in contrast, pro-market reversals comprise policies that move an economy away from a market system and toward government intervention in markets (Campos & Horvath, 2012a, b; Merlevede, 2003; Rajan & Zingales, 2003; Sahay & Goyal, 2006). Overall, Campos and Horvath (2012b) note that 14–20% of market-related governmental actions can be classified as pro-market reversals.



Firm-level analyses of pro-market reforms

Firm-level studies of pro-market institutions have largely equated pro-market institutions with pro-market reforms, resulting in conflicting conclusions (e.g., Banalieva, 2014; Chacar et al., 2010; Cuervo-Cazurra & Dau, 2009a, b; Djankov et al., 2002; Meyer et al., 2009; Peng et al., 2008). Some studies have found that pro-market institutions improve firm profitability. They argue that companies are less constrained in selecting strategies that support performance (e.g., Banalieva et al., 2015; Chacar et al., 2010; Cuervo-Cazurra & Dau, 2009a; Kim et al., 2010; Majumdar & Bhattacharjee, 2014; Park et al., 2006), benefiting from innovation linkages as a result of a crowding-in effect from foreign competition (Barrios, Gorg, & Strobl, 2005; Bloom, Schankerman, & Van Reenen, 2013; Narula & Dunning, 2010). Other firm-level studies have found that pro-market reforms can have a negative impact on profitability, as exposure to new and foreign competition leads to crowding-out effects (Barrios et al., 2005; Bloom et al., 2013; Narula & Dunning, 2010) that hurt domestic firms used to protected markets (e.g., Chacar et al., 2010; Chari & David, 2012).

Finance research further suggests that banks respond differently to changes in monetary policy, depending on whether the monetary policy is expansionary or contractionary (Bhaumik, Dang, & Kutun, 2011; Huang, 2003). Bhaumik and Dimova (2014) added that different types of pro-market institutions could not be uniformly classified as “good” or “bad” for firms, as they could have effects contrary to expectations.

Key Concepts

We provide additional nuance to the previous distinction between pro-market reforms and pro-market reversals by explaining the need to consider the pace of these changes, differentiating between an intensifying and a fading pace. Hence, we introduce four types of institutional dynamics, which serve as the foundation of our subsequent asymmetric dynamic view of pro-market institutions.

Intensifying pro-market reforms

Intensifying pro-market reforms occur when the government liberalizes the economy at an increasing pace. Implementing intensifying pro-market reforms signals strong perceived commitment credibility (Schelling, 1960): i.e., a stronger government endorsement of progressive market liberalization

policies that will likely reduce transaction costs further. Intensifying pro-market reforms have been the implicit case in the firm-level literature that has studied the relationship between pro-market institutions and performance (e.g., Cuervo-Cazurra & Dau, 2009a; Kim et al., 2010; Park et al., 2006).

Fading pro-market reforms

Fading pro-market reforms exist when the government liberalizes the economy at a decreasing pace. Governments can send negative signals (Connelly et al., 2011) through diminishing support for pro-market reforms, thus reducing the future ability of firms to rely on market transactions. For example, after a period of intense reforms, the government may implement fewer reforms, because of countervailing pressures from interest groups such as labor unions, or because a new government comes into power with a different mandate (Rajan & Zingales, 2003). Thus, reforms weaken over time and, as such, signal that the government has doubts about continuing the market liberalization (Connelly et al., 2011). “[A]chieving credibility will always require a *larger* policy reform than would have been dictated in the absence of the credibility problem” (Rodrik, 1989: 758).

Intensifying pro-market reversals

Intensifying pro-market reversals occur when the government expands its control over the economy at an increasing pace. Intensifying reversals are a negative signal (Connelly et al., 2011), as the government is seen as hostile to market liberalization, and progressively limits market mechanisms, raising transaction costs. In such cases, uncertainty over the direction of government policy diminishes: emerging market managers expect the institutional environment to continue deteriorating. Despite their importance for firms, pro-market reversals have been studied primarily at the country level (Campos & Horvath, 2012a, b; Falcetti et al., 2002; Merlevede, 2003; Yago & Morgan, 2008).

Fading pro-market reversals

Finally, fading pro-market reversals occur when the government maintains its control over the economy at a decreasing pace. For example, the government may have introduced price controls to curb inflation and, later, decided to relax them somewhat, but without eliminating them completely. As such, fading reversals signal some intent on the part of the government to reduce its control over the economy, even if only incrementally. This



reduces the likelihood of future increases in transaction costs and the information asymmetry for emerging market firms (Connelly et al., 2011).

AN ASYMMETRIC DYNAMIC VIEW OF PRO-MARKET INSTITUTIONS

We contribute to the literature on pro-market institutions by providing a more nuanced perspective: an asymmetric dynamic view. We propose that not only intensifying reforms but also fading reversals improve performance. The reason is that under these types of institutional changes, managers expect transaction costs to decrease, and hence are more willing to undertake profitability-enhancing actions. We further propose that not only intensifying reversals but also fading reforms reduce performance. The reason is that under these types of institutional changes, managers expect transaction costs to increase and, hence, may delay or withhold profitability-enhancing actions. Figure 1 illustrates our conceptual framework.

Asymmetric Dynamics of Pro-market Institutions and Firm Performance

We discuss the hypotheses in the order of their expected impact on firm performance: intensifying reforms, fading reversals, fading reforms, and intensifying reversals.

Intensifying pro-market reforms and firm performance

Intensifying reforms are a strong signal that would be expensive to reverse. Managers expect the current supportive institutional environment to persist. This builds considerable confidence about the future direction of the economy. Managers

assume that intensifying pro-market reforms would stimulate economic growth and demand for products, reducing uncertainty over the volume of expected demand and related transaction costs.

Under such expected progressive reduction in firms’ costs, firms would be able to undertake long-term investments that improve performance. Managers can invest in specific assets, which despite being more expensive, can now be amortized over larger volumes. A greater lifting of government-imposed restrictions enables domestic firms to enter new sectors, in which they may have been reluctant to compete, facilitating the ability of managers to take profit-enhancing actions that support firm performance (Sarathy & Banalieva, 2014). Intensifying pro-market reforms also signal the government’s continued commitment to protecting individual property rights. They reduce hold-ups and the possibility of government expropriation, which can help firms obtain a higher return on their investments.

The progressive market liberalization can cause both crowding-in and crowding-out, but the overall effect on performance is positive. The crowding-in impact occurs when new domestic and foreign competitors enter the domestic market because of the decreased barriers to entry (Narula & Dunning, 2010). The crowding-out effect occurs when some incumbents are unable to withstand the increase in the competitive intensity due to increasing market liberalization (Kumaraswamy, Mudambi, Saranga, & Tripathy, 2012). Bloom et al. (2013) have resolved the Janus-faced nature of such spillovers by separately delineating a firm’s position in the technology space (positive spillovers) and the product market space (negative spillovers), showing that knowledge spillovers take precedence over the

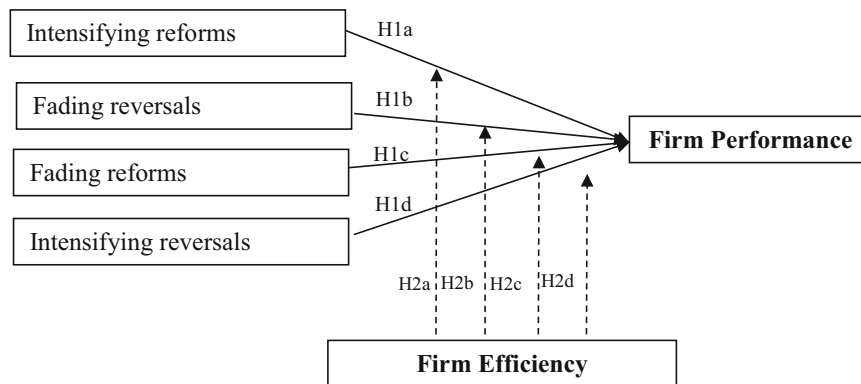


Figure 1 Theoretical framework



business-stealing R&D that occurs in product market spillovers. We summarize these ideas in the following hypothesis:

Hypothesis 1a: Intensifying pro-market reforms have a positive impact on firm performance.

Fading pro-market reversals and firm performance

Under fading pro-market reversals, the state's grip over the economy loosens from one period to the next. Managers may interpret this as a positive signal from the government. Such a weaker, but positive, signal from the government could build some confidence in emerging market managers. Firms could then make smaller-scale investments for the future, due to their managers' expectation of a progressively less hostile environment. Firms may invest in general purpose assets with a higher secondary value that could help the company improve productive efficiency and profitability.

Managers would likely focus on more certain outcomes, whereby their firms could recoup their investments sooner, and obtain short-term benefits (McMillan & Woodruff, 2003). As governments weaken their enforcement of restrictions on foreign competition, managers might seek to counter potential increased foreign competition by introducing incrementally innovated products that involve limited investments. The reduction in reversals could diminish the uncertainty around contract dispute resolution mechanisms, and thus limit opportunism by exchange partners, ultimately enhancing firm performance. These ideas support the following hypothesis:

Hypothesis 1b: Fading pro-market reversals have a positive impact on firm performance.

Fading pro-market reforms and firm performance

Fading pro-market reforms are a weak negative signal from the government. They are likely to hurt firm performance because they sap managerial confidence about future economic growth, while raising transaction costs from, e.g., attempting to renegotiate old contracts that no longer suit the changing environment. Managers' willingness to undertake appropriate strategic investments to generate future profits would then erode.

When managers form overall evaluations of their strategic alternatives, they weigh negative information more heavily than positive information,

especially under situations of uncertainty (Baumeister, Bratslavsky, Finkenauer, & Vohs, 2001). They tend to weigh the potential costs more heavily than the potential gains (Kahneman & Tversky, 1979). In the face of such uncertainty, emerging market managers might adopt a "wait-and-see" approach, with their companies reluctant to implement longer-horizon investments, such as plant and capacity expansion or new product development (Yago & Morgan, 2008). The constraints placed on investments may result in operations that are less efficient, as investments in newer equipment and improved production lines configurations are postponed. Since fading reforms raise concerns about the sustainability of reform, they also erode consumer demand and business investment (Rodrik, 1989). This increases uncertainty over future market demand, which further reduces incentives to invest in specific assets that could lower costs and confer competitive advantage. In sum, we suggest that these arguments lead to the following hypothesis:

Hypothesis 1c: Fading pro-market reforms have a negative impact on firm performance.

Intensifying pro-market reversals and firm performance

Negative events tend to be evaluated more thoroughly than positive ones, as the former signal a need for greater focus on change (Baumeister et al., 2001). Intensifying pro-market reversals are a series of progressively negative government signals about the future direction of the economy. As such, they are likely to trigger a "snowballing effect of consecutive bad outcomes" for managers (Baumeister et al., 2001: 326). Thus intensifying reversals cause the most distress and negative perception among managers, shifting the latter's attention to conservative strategies that limit investments and reduce the risk of potential future losses.

Intensifying reversals would hurt firm performance the most. They increase transaction costs the most and trigger managerial loss-avoidance strategies, since "single bad events are far stronger than even the strongest good ones" (Baumeister et al., 2001: 326). Such a continuing negative signal from the government deepens the conviction of emerging market managers about the deterioration of the economy and severely constrains their strategic investments. Intensifying reversals are also a clear signal that the government could threaten



property rights as it increases control over economic relationships. Thus firms are less willing to invest, for fear that such investments might be expropriated, limiting their ability to improve performance, as they are not upgrading their plant and equipment. Production inefficiencies ensue.

Under such deteriorating conditions, governments may force companies to sell much of their production to the state at prices below cost (Murphy, Shleifer, & Vishny, 1992), or employ more workers than needed to staff operations to meet government mandates of full employment. These policies raise firms' costs and compromise profitability. After a sustained period of intensifying price controls, emerging market firms might not be able to cover costs and would, hence, incur substantial and prolonged losses. We summarize these ideas in the following hypothesis:

Hypothesis 1d: Intensifying pro-market reversals have a negative impact on firm performance.

The Moderating Role of Firm Efficiency on the Relationship Between the Asymmetries of Institutional Dynamics and Firm Performance

We next extend our previous arguments by proposing that more efficient firms – i.e., those achieving higher output from the same level of input (Koopmans, 1951) – can perform better under each of these institutional dynamics. The principal reason is that they would be better positioned to manage the changes in uncertainty and to control transaction costs that accompany these institutional dynamics.

Firm efficiency and the relationship between intensifying pro-market reforms and firm performance

Under intensifying pro-market reforms, more efficient firms would be better able to withstand the entry of new foreign and domestic rivals, by being able to lower their costs and, thus, prices, if desired (Dedrick, Kraemer, Palacios, & Tigre, 2001). Newly entering foreign and domestic companies would incur establishment costs to set up shop. More efficient incumbents could outmaneuver the new entrants on price and product features, obtaining superior margins, despite the increase in competition. Thus, more efficient firms could improve profitability under intensifying reforms, relying on their incumbency advantage. These arguments advance the following moderation hypothesis:

Hypothesis 2a: Firm efficiency enhances the positive effect of intensifying pro-market reforms on firm performance.

Firm efficiency and the relationship between fading pro-market reversals and firm performance

Under fading pro-market reversals, more efficient firms can better react to declining government restrictions and, thus, improve performance. These firms can use their efficiency cushion of lower costs or discretionary cash flow to react quicker to fading statist policies, as well as aggressively target weaker competitors who may resort to “retreat and follower strategies” (Kotler & Caslione, 2009: 187). As the government is not tightening constraints as much as before, this could help reduce transaction costs (Karhunen & Kosonen, 2013). This reduction further helps more efficient firms improve their performance, as they can leverage existing firm-specific assets and points of differentiation, without having to make significant additional investments. By cutting prices or offering bundle discounts, more efficient firms are also better positioned to wrest market share away from their less efficient competitors. These ideas lead to the following moderation hypothesis:

Hypothesis 2b: Firm efficiency enhances the positive effect of fading pro-market reversals on firm performance.

Firm efficiency and the relationship between fading pro-market reforms and firm performance

Under fading pro-market reforms, creeping government influence over the economy raises the search and deliberation costs of doing business (Rangan, 2000). More efficient emerging market firms can deploy greater maneuvering capability granted by their efficiency cushion, thus dampening potential profitability attrition. The more efficient firms could better assess the strategic fit of potential partners (Rangan, 2000). This may hasten a crowding-out effect as less efficient and weaker firms disappear, enabling the more efficient firms to withstand the looming negative environment (Aghion, Bloom, Blundell, Griffith, & Howitt, 2005; Narula & Dunning, 2010). The more efficient emerging market firms would also be better able to withstand impending institutional deterioration signaled by fading pro-market reforms, leveraging already established investments in specific assets



(Voss, Sirdeshmukh, & Voss, 2008). These firms may rely on slow-cycle assets to withstand possible increases in their transaction costs, imputed from the signaling of increasing future government intervention in the economy. We summarize these ideas in the following moderation hypothesis:

Hypothesis 2c: Firm efficiency attenuates the negative effect of fading pro-market reforms on firm performance.

Firm efficiency and the relationship between intensifying pro-market reversals and firm performance

We expect that more efficient firms would experience a lesser decline in performance under intensifying pro-market reversals. Such firms are better able to withstand the prolonged diversion of human and financial capital away from the private sector and into the public sector during intensifying pro-market reversals (Murphy et al., 1992). Their greater efficiency-induced additional margins provide a buffer, which allows them to withstand possible margin erosion from rising input costs or burdensome additional government regulations. More efficient firms may be better able to internalize these added costs. Their less efficient competitors, faced with similar restrictions, would have to either incur losses or raise prices, with negative effects on profitability. More efficient firms may be able to withstand an environment of capital shortages that might be expected to last under intensifying reversals, because they have a greater ability to rely on internally generated funds (Fazzari, Hubbard, & Petersen, 1988). These ideas lead to our last moderation hypothesis:

Hypothesis 2d: Firm efficiency attenuates the negative effect of intensifying pro-market reversals on firm performance.

METHODOLOGY

Data Sources and Sample

Our firm data of public firms in emerging markets came from OSIRIS (2014), a commercially provided database from Bureau Van Dijk also used in prior research (e.g., Chakrabarti, Singh, & Mahmood, 2007). The list of emerging markets excludes tax havens (EU Business, 2015) and comes from the IMF (2005), organized around the following United

Nations-based region classification (United Nations, 2017): Africa (Egypt, Ghana, Kenya, Morocco, Nigeria, South Africa, Tunisia, Zimbabwe), Americas (Brazil, Chile, Costa Rica, Jamaica, Mexico, Peru, and Trinidad and Tobago), Asia (Bahrain, Bangladesh, China, India, Iran, Indonesia, Kuwait, Malaysia, Oman, Pakistan, Qatar, Saudi Arabia, Sri Lanka, Thailand, the Philippines, Turkey, United Arab Emirates, and Vietnam), Europe (Croatia, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Russia, and Ukraine), and Oceania (Fiji). We excluded firms in the finance and insurance industries as their financials are not directly comparable to other firms' (Mehran & Stulz, 2007). We further omitted firms owned by other domestic or foreign companies, because their autonomy to set strategy might be limited. Due to the panel data requirements, we did not include firms with less than three continuous years of data, and firms in countries and two-digit SIC industry with less than ten observations. After these adjustments, we tested our hypotheses on an unbalanced panel of 1092 publicly traded firms from 34 emerging markets in five geographic regions during 1998–2011.

Our country data came from the Index of Economic Freedom (Holmes, Feulner, & O'Grady, 2008), World Development Indicators (World Bank, 2014), the legal origin database (La Porta, Lopez-de-Silanes, & Shleifer, 2008), and the POLCON database of political institutions (Henisz, 2002, 2015).

Variables and Measures

Performance

We measured firm performance with return on assets (ROA) (Bromiley & Harris, 2014), winsorized at 10% (Barnett & Lewis, 1994).

Intensifying/fading pro-market reforms/reversals

We use the Heritage Index of Economic Freedom published by the Heritage Foundation (Holmes et al., 2008) to measure pro-market reforms and reversals. This index is the average of several core sub-indexes: *rule of law* (property rights and corruption freedoms), *limited government* (tax burden and government spending freedoms), *regulatory efficiency* (business and monetary freedoms), and *open markets* (trade, investment, and financial freedoms). It has been used in prior strategic management research (e.g., Meyer et al., 2009). To ensure comparability across time, we excluded the labor



component of the regulatory efficiency sub-index, as it was available only after 2004. The Heritage Index ranges from zero to one hundred, with greater values indicating a more developed scope of pro-market institutions in a given year. We use this index to compute pro-market reforms/reversals first, using an interval of two consecutive periods, in line with the country-level literature on institutions that measures recessions as the drop in GDP over two consecutive periods (Claessens & Kose, 2009). Similarly, economists have traditionally perceived periods of institutional reversals as “a decrease in the value of a reform index in two consecutive years” (Campos & Horvath, 2012a: 218). The Online Appendix provides further details on these measures.

Figure 2 illustrates the four types of asymmetric institutional dynamics at the heart of our theoretical development. The horizontal axis captures the period over which reforms and reversals occur. The vertical axis captures the pro-market institutions in a given year. Case A illustrates intensifying reforms, as reforms achieved in the current period (t vs. $t - 1$) exceed the reforms achieved in the prior period ($t - 1$ vs. $t - 2$). Thus, reforms continue, at an increasing pace. Case B illustrates fading reforms, as reforms achieved in the current period are smaller than reforms achieved in the prior period. Thus, reforms continue, but at a decreasing pace. Case C illustrates fading reversals as reversals achieved in the current period are smaller than reversals achieved in the prior period. Reversals continue, but at a decreasing pace. Case D illustrates intensifying reversals, as reversals achieved in the current period exceed the reversals achieved in the prior period. Thus, reversals continue at an increasing pace.

The index shows reforms when there is a positive sum of its year-on-year changes over two consecutive periods: $\text{lag1} + \text{lag2} > 0$; and reversals when

there is a negative sum of its year-on-year changes over two consecutive periods: $\text{lag1} + \text{lag2} < 0$. We obtained the lag1 and lag2 year-on-year change of the Heritage Index in line with the literature definition that pro-market reforms are a “process that unfolds over time” rather than a “onetime event” (Chari & David, 2012: 218). Lag1 is $R_{j,t} = [\text{Scope of Pro-Market Institutions}_{j,t} - \text{Scope of Pro-Market Institutions}_{j,t-1}] / \text{Scope of Pro-Market Institutions}_{j,t-1}$ for country j and year t , whereby, if $R_{j,t} > 0$ then lag1 indicates reforms, and if $R_{j,t} < 0$ then lag1 indicates reversals. Division by $R_{j,t-1}$ controls for initial conditions (Campos & Horvath, 2012a, b; Merlevede, 2003; Sahay & Goyal, 2006). Lag2 is $R_{j,t-1} = [\text{Scope of Pro-Market Institutions}_{j,t-1} - \text{Scope of Pro-Market Institutions}_{j,t-2}] / \text{Scope of Pro-Market Institutions}_{j,t-2}$ whereby if $R_{j,t-1} > 0$ then lag2 indicates reforms and if $R_{j,t-1} < 0$ then lag2 indicates reversals.

We then designate the reforms (reversals) as intensifying (fading) as follows: (1) reforms are intensifying when a reform in the prior period is followed by a greater reform in the current period, equal to zero otherwise; (2) reforms are fading when a reform in the prior period is followed by a smaller reform in the current period, equal to zero otherwise; (3) reversals are fading when a reversal in the prior period is followed by a smaller reversal in the current period, equal to zero otherwise; or (4) reversals are intensifying when a reversals in the prior period is followed by a greater reversals in the current period, equal to zero otherwise (see Online Appendix for details). We multiplied fading reversals and intensifying reversals by negative one to ensure that greater values signify greater reversals.

Firm efficiency

We captured a company’s efficiency with technical efficiency, estimated from the stochastic frontier production model (e.g., Bhaumik & Dimova, 2014;

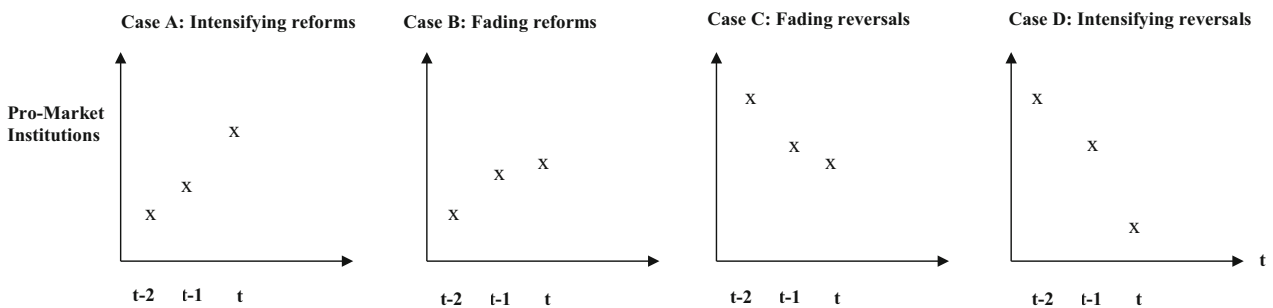


Figure 2 Dynamics of pro-market institutions



Bhaumik & Kumbhakar, 2010; Kumbhakar & Lovell, 2003). Technical efficiency is the efficiency with which firms convert inputs into output (Koopmans, 1951; Kumbhakar & Lovell, 2003). As such, technical efficiency illustrates firms' ability to avoid wasting resources. Firms that are "on the frontier" are technically efficient, and firms that fall short of the frontier are technically inefficient; the latter are using more than the minimum amount of inputs required to produce the same level of output. We used the Battese and Coelli (1995) conditional mean technical efficiency model, which allows modeling deviations in the mean of the inefficiency term: $y_{i,t} = \beta_0 + \beta_k X_{i,t} + \text{epsilon}_{i,t}$ for firm i and year t , where $y_{i,t}$ is the output of the production function, $X_{i,t}$ is the set of explanatory variables, and $\text{epsilon}_{i,t}$ is the error term equal to $(v_{i,t} - u_{i,t})$. $v_{i,t}$ is the normally distributed disturbance and $u_{i,t}$ is the positive, truncated-normal disturbance representing the technical inefficiency term, which is a function of $\delta_0 + \delta_k Z_{i,t}$. $Z_{i,t}$ includes internal and external factors (Chaffai, Kinda, & Plane, 2012). The Battese and Coelli (1995) production and inefficiency functions are estimated jointly by maximum likelihood. *Firm Efficiency* $_{i,t}$ is then obtained from $\exp(-u_{i,t})$ (Jondrow, Lovell, Materov, & Schmidt, 1982). The Online Appendix provides further details.

Control variables

We controlled for alternative influences on performance, which are summarized in Table 1. First, we controlled for firm-level influences. Older firms may be more profitable as they are more established in the market, so we controlled for *Firm Age* with the natural logarithm of the number of years since foundation plus one. Larger firms may be more profitable due to their greater access to resources, so we controlled for *Firm Size* with natural logarithm of employees, adding an Employee Inverse Mills ratio to control for missing values in the employees variable. Firms with greater debt may be more pressured to pursue shorter-term strategies with more certain payoffs to be able to cover their liabilities. Hence, we controlled for *Leverage* with total liabilities/total assets. Firms with a greater international presence may also be more adaptive, so we controlled for *Internationalization* with foreign sales/total sales. Greater business diversification across market segments may also allow firms to hedge against market risks in some of their segments. Thus, we controlled for *Business Diversification* with $\sum P_i \ln(1/P_i)$ where P_i is the share of

business segment i . Firms with more widely recognized brands may perform better. Therefore, we controlled for *Marketing Intensity* with sales, general, and administrative expenses/total sales (discarding observations outside the zero to one range). Greater absorptive capacity allows firms to learn from technical and scientific developments, spillovers, and linkages (Criscuolo & Narula, 2008; Narula & Driffield, 2012), so we controlled for it with *R&D Intensity*, measured as R&D expenses/total sales (discarding observations outside the zero to one range) (e.g., Blalock & Simon, 2009).

Second, we controlled for country-level effects. As a bigger domestic market may give more opportunities to firms, we controlled for the domestic *Market Size* with the natural logarithm of GDP (in constant 2005 US dollars), scaled by the respective country's annual inflation, to isolate effects of price changes (Griliches & Mairesse, 1984). Because pro-market reforms bring about increased competition (Barrios et al., 2005), we also controlled for such competition effects with *Net FDI Inflows*, measured as percentage of GDP. Political institutions may also affect firms' profitability, depending on whether the elected officials support more or less pro-business policies, so we controlled for *Polity*, measured as subtracting each country's autocratic score from its democratic score ranging from +10 (strongly democratic) to -10 (strongly autocratic) (Henisz, 2002, 2015). As institutions can have shorter-term (immediate) or longer-term (prior year) effects (Babecky & Havranek, 2014; Merlevede, 2003), we further controlled for the current and prior year effects of *Scope of Pro-Market Institutions*, *Simple Reversals*, and four irregularities in pro-market institutions. The scope of pro-market institutions is the average Heritage index in a given year. Simple Reversals is $(-1) * D * R_{j,t}$ if $R_{j,t}$ is negative, and zero otherwise; D equals one if $R_{j,t}$ is negative, and D equals zero otherwise (Merlevede, 2003). The irregularities of pro-market institutions included *Irregular Intensifying Reforms*, *Irregular Fading Reforms*, *Irregular Fading Reversals*, and *Irregular Intensifying Reversals* as summarized in the Online Appendix.

Statistical Analysis

The Hausman test suggested that fixed effects are preferred over random effects. We clustered the standard errors of the coefficients at the region-year level to account for region-specific heterogeneity, as region is the highest grouping variable in our data (Acemoglu & Pischke, 2003; Cameron,

**Table 1** Operationalization of the control variables in the performance analyses

Variable name	Operationalization
Firm efficiency _{t-1}	Estimated from the Battese and Coelli (1995) function
Firm age _{t-1}	Natural logarithm of the number of years since foundation plus one
Firm size _{t-1}	Natural logarithm of employees, substituting missing employee values with the average number of employees per industry (two-digit SIC), country, and year
Employee inverse mills ratio _{t-1}	Estimated from a random effects probit model (see the Online Appendix)
Leverage _{t-1}	Total liabilities/total assets
Internationalization _{t-1}	Foreign sales/total sales
Business diversification _{t-1}	$\sum P_i \ln(1/P_i)$ where P_i is the share of business segment i
Marketing intensity _{t-1}	Sales, general, and administrative expenses/total sales (discarding observations outside the zero–one range)
R&D intensity _{t-1}	R&D expenses/total sales (discarding observations outside the zero–one range)
Market size _{t-1}	Natural logarithm of GDP (in constant 2005 US dollars), scaled by the respective country's annual inflation to isolate effects of price changes
Net FDI inflows _{t-1}	Net FDI inflows as a percentage of GDP
Polity _{t-1}	Democratic minus autocratic score, ranging from + 10 (strongly democratic) to –10 (strongly autocratic)
Scope of pro-market institutions _t	Average value of the Heritage index in a given year
Simple reversals _t	Equal to $-1 * D * R_{j,t}$ if $R_{j,t}$ is negative, and zero otherwise; D equals one if $R_{j,t}$ is negative, and D equals zero otherwise
Irregular intensifying reforms _t	Equal to $R_{j,t} + R_{j,t-1}$ if this sum is positive and environment is improving from a reversal in the prior period to a reform in the current period; zero otherwise
Irregular fading reforms _t	Equal to $R_{j,t} + R_{j,t-1}$ if this sum is positive and environment is deteriorating from a reform in the prior period to a reversal in the current period; zero otherwise
Irregular fading reversals _t	Equal to $-1*(R_{j,t} + R_{j,t-1})$ if this sum is negative and environment is deteriorating from a big reversal in the prior period to a small reform in the current period; zero otherwise
Irregular intensifying reversals _t	Equal to $-1*(R_{j,t} + R_{j,t-1})$ if this sum is negative and environment is deteriorating from a small reform in the prior period to a big reversal in the current period; zero otherwise
Scope of pro-market institutions _{t-1}	Average value of the Heritage index in a given year
Simple reversals _{t-1}	Equal to $-1 * D * R_{j,t-1}$ if $R_{j,t-1}$ is negative, and zero otherwise; D equals one if $R_{j,t-1}$ is negative, and D equals zero otherwise
Irregular intensifying reforms _{t-1}	Equal to $R_{j,t-1} + R_{j,t-2}$ if this sum is positive and environment is improving from a reversal in the prior period to a reform in the current period; zero otherwise
Irregular fading reforms _{t-1}	Equal to $R_{j,t-1} + R_{j,t-2}$ if this sum is positive and environment is deteriorating from a reform in the prior period to a reversal in the current period; zero otherwise
Irregular fading reversals _{t-1}	Equal to $-1*(R_{j,t-1} + R_{j,t-2})$ if this sum is negative and environment is deteriorating from a big reversal in the prior period to a small reform in the current period, and zero otherwise
Irregular intensifying reversals _{t-1}	Equal to $-1*(R_{j,t-1} + R_{j,t-2})$ if this sum is negative and environment is deteriorating from a small reform in the prior period to a big reversal in the current period, and zero otherwise
Firm fixed effects	Firm bivariate indicators (absorbed into the -reghdfe- model)
Year fixed effects	Year bivariate indicators (absorbed into the -reghdfe- model)
Region-specific time effects	Region * year bivariate indicators (absorbed into the -reghdfe- model)

$R_{j,t} = [\text{Scope of Pro-Market Institutions}_{j,t} - \text{Scope of Pro-Market Institutions}_{j,t-1}] / \text{Scope of Pro-Market Institutions}_{j,t-1}$; $R_{j,t-1} = [\text{Scope of Pro-Market Institutions}_{j,t-1} - \text{Scope of Pro-Market Institutions}_{j,t-2}] / \text{Scope of Pro-Market Institutions}_{j,t-2}$.

Gelbach, & Miller, 2011; Du & Mickiewicz, 2016; Moulton, 1990). We further standardized the explanatory variables to facilitate the subsequent interpretation of the estimated coefficients. We proceeded by estimating the following fixed effects performance specification for firm i , country c , geographic region r , and year t :

$$\text{Performance}_{i,t} = \beta_1 * \text{Intensifying Reforms}_{c,t-1} + \beta_2 * \text{Fading Reversals}_{c,t-1} + \beta_3 * \text{Fading Reforms}_{c,t-1} + \beta_4 * \text{Intensifying Reversals}_{c,t-1} + \beta_5 * \text{Firm Efficiency}_{i,t-1} + \beta_6 * \text{Intensifying Reforms}_{c,t-1} * \text{Firm Efficiency}_{i,t-1} + \beta_7 * \text{Fading Reversals}_{c,t-1} * \text{Firm Efficiency}_{i,t-1} + \beta_8 * \text{Fading reforms}_{c,t-1} * \text{Firm Efficiency}_{i,t-1} + \beta_9 * \text{Intensifying Reversals}_{c,t-1} * \text{Firm Efficiency}_{i,t-1} + \beta_i * \text{Firm}$$



$Controls_{i,t-1} + \beta_c * Country\ Controls_{c,t-1} + \beta_c * Country\ Controls_{c,t} + f_i + \gamma_t + r_{r,t} + error_{i,t}$.

Since the equation contains various sources of unobserved heterogeneity, we used the high-dimensional fixed effects (HDFE) estimator recommended by Correia (2014) and estimated with the `reghdfe` command in Stata/SE 14.1. The advantage of the HDFE fixed effects over traditional (one-way) fixed effects is that the latter can only account for one fixed effect at a time with the within-transformation, while any additional time-varying fixed effects need to be entered directly into the equation with dummy variables, which is computationally challenging and reduces degrees of freedom (Correia, 2014; Gormley & Matsa, 2016). The HDFE estimator overcomes these hurdles and efficiently accounts for multiple sources of heterogeneity and non-nested clustered standard errors by making use of the Frisch–Waugh–Lovell theorem and by absorbing (i.e., partialing out) the high-dimensional fixed effects, rather than computing them as dummy variables directly in the regression (Correia, 2014; Guimaraes & Portugal, 2010). Given these econometric advancements, recent state of the art research in political science (e.g., Carnegie, 2014), finance (e.g., Gormley & Matsa, 2016), and entrepreneurship (e.g., Du & Mickiewicz, 2016) also rely on the HDFE estimator for high-dimensional fixed effect estimations. Thus, we too follow the HDFE approach.

RESULTS

Descriptive Statistics

Table 2 provides the descriptive statistics and correlations matrix of the raw data variables. Overall, we find that neither reforms nor reversals continue uninterruptedly. This complements prior research which indicates that there is typically a “fair amount of trial and error and experimentation which translates in the occurrence of numerous reform policy reversals” so that the reform process is, ultimately, far from “a smooth, uninterrupted process of continuous improvement” (Campos & Horvath, 2012a: 230). For further details, see the Online Appendix.

We also find that intensifying reforms are, on average, 9.85% of the data. For example, Nigeria during 2004–2006 is an illustration of intensifying reforms. The government launched a comprehensive banking reform in early 2004 (Cook, 2015). A Code of Corporate Governance was enacted by

2006. As a result, the ratio of distressed banks dropped from 14 to 4% between 2005 and 2006, and the ratio of non-performing loans fell from 28% in 2004 to just 8% within a few years (Cook, 2015). Additionally, Nigeria launched a National Economic Empowerment and Development Strategy (NEEDS) during 2004–2007, aimed at reducing poverty by enhancing the efficiency and effectiveness of government, increasing wealth through private-sector led growth, and generating employment opportunities. IMF notes that “there has been tremendous and consistent improvement in the performance of the economy since the inception of NEEDS in 2004” (IMF, 2007: 6).

In contrast, we find that intensifying reversals are 15.16% of the data, complementing prior macroeconomic research, noting that pro-market reversals are approximately between 8.9% (Merlevede, 2003) and 14–20% (Campos & Horvath, 2012a, b) of governmental policies. Zimbabwe during 2006–2008 is an illustration of intensifying reversals. The country suffered a prolonged period of hyperinflation prior to 2008, reaching 489 billion percent by September 2008 – the “first – and so far only” country to experience this in the twenty-first century (Koech, 2011: 2), leading to a 40% contraction in output as the country’s key economic sectors regressed (Kramarenko et al., 2010). The government also struggled to collect revenues from taxes, which eroded its ability to provide public services. The government imposed “significant restrictions on prices and good markets,” leading to high food and fuel prices (Kramarenko et al., 2010: 56). The 2006–2008 period was marked by a rapid increase in poverty, with real per capita income falling from \$433 in 2006 to \$338 in 2008 (African Development Bank, 2011).

Moving on to efficiency, we find that the average firm efficiency hovered around 61% during the sample period, starting and ending around 0.65 in 1998 and 2011. Firms are close to the frontier, in line with prior research: e.g., Bhaumik and Dimova (2014) found an average efficiency of 0.78. We further found that 18.2% of the sample has efficiency between 0.55 and 0.6; 39.4%: between 0.61 and 0.65; 36.4%: between 0.66 and 0.7; 3%: between 0.71 and 0.75; and 3%: between 0.76 and 0.8. In line with Bhaumik and Dimova (2014), we too found that larger countries like China, Russia, or India have a higher firm efficiency (i.e., 0.690, 0.656, and 0.584, respectively) than smaller countries like, e.g., South Africa (0.545).



Table 2 Descriptive statistics and correlation matrix

Variable	Mean	SD	1	2	3	4	5	6	7	8	9	10	11	12
1 Performance	0.04	0.05	1.00											
2 Polity	5.43	5.25	-0.10	1.00										
3 Firm age	3.19	0.65	0.10	0.17	1.00									
4 Leverage	0.57	1.40	-0.08	0.03	0.02	1.00								
5 R&D intensity	0.00	0.03	0.05	0.02	-0.08	-0.01	1.00							
6 Marketing intensity	0.11	0.12	-0.11	-0.07	-0.02	0.02	0.03	1.00						
7 Internationalization	0.11	0.23	-0.01	0.09	-0.02	-0.01	-0.01	1.00						
8 Business diversification	0.26	0.40	-0.04	0.01	0.09	-0.02	0.08	0.16	1.00					
9 Market size	$4.38 * 10^{12}$	$1.35 * 10^{14}$	-0.02	0.12	0.04	0.01	-0.03	0.05	0.01	0.04	1.00			
10 Net FDI inflows	2.83	1.74	0.02	-0.48	-0.15	0.04	-0.03	0.11	-0.03	-0.06	-0.01	1.00		
11 Firm efficiency	0.61	0.11	0.10	-0.14	-0.01	-0.03	-0.01	-0.09	0.04	0.03	-0.05	0.04	1.00	
12 Intensifying reforms	0.00	0.01	0.01	0.05	0.01	-0.02	0.01	0.08	0.00	0.00	0.02	-0.05	-0.04	1.00
13 Fading reforms	0.00	0.01	0.00	-0.13	-0.05	-0.02	-0.02	0.14	0.01	0.05	0.00	0.10	0.14	-0.07
14 Irregular intensifying reforms	0.00	0.01	-0.03	-0.15	-0.05	0.00	-0.01	0.03	-0.01	0.02	0.00	0.22	0.08	-0.07
15 Irregular fading reforms	0.00	0.01	0.03	-0.09	0.02	0.00	0.00	-0.07	-0.04	-0.08	0.02	-0.01	-0.17	-0.08
16 Fading reversals	0.00	0.01	0.03	-0.01	0.02	0.00	-0.01	0.04	-0.03	0.00	0.00	-0.04	0.14	-0.02
17 Intensifying reversals	0.00	0.01	-0.01	0.11	0.07	0.00	-0.01	-0.03	0.01	-0.03	0.02	-0.09	0.24	-0.07
18 Irregular intensifying reversals	0.00	0.01	0.09	-0.20	0.03	0.01	-0.01	0.04	-0.05	-0.01	-0.15	0.06	-0.08	-0.06
19 Irregular fading reversals	0.00	0.01	0.06	0.06	0.04	0.00	-0.01	0.04	-0.01	0.06	0.00	-0.02	-0.02	-0.06
20 Firm size	7.36	1.56	0.11	0.33	0.18	-0.02	0.06	-0.12	0.12	0.05	0.02	-0.19	-0.35	0.02
21 Scope of pro-market institutions	0.56	0.05	-0.06	-0.02	-0.06	-0.03	-0.05	0.31	0.09	0.21	0.02	0.08	0.13	0.11
22 Employees inverse mills ratio	1.64	0.42	-0.07	0.22	-0.29	0.00	-0.02	-0.05	0.10	0.06	0.14	-0.25	-0.06	0.00
23 Simple Reversals	0.01	0.01	0.04	-0.03	0.09	0.02	0.00	-0.01	-0.05	-0.03	-0.07	-0.17	0.11	-0.13
Variable	Mean	SD												
1 Performance	0.04	0.05												
2 Polity	5.43	5.25												
3 Firm age	3.19	0.65												
4 Leverage	0.57	1.40												
5 R&D intensity	0.00	0.03												
6 Marketing intensity	0.11	0.12												
7 Internationalization	0.11	0.23												
8 Business diversification	0.26	0.40												
9 Market size	$4.38 * 10^{12}$	$1.35 * 10^{14}$												
10 Net FDI inflows	2.83	1.74												
11 Firm efficiency	0.61	0.11												

Table 2 (Continued)

Variable	Mean	SD	13	14	15	16	17	18	19	20	21	22
12 Intensifying reforms	0.00	0.01										
13 Fading reforms	0.00	0.01	1.00									
14 Irregular intensifying reforms	0.00	0.01	-0.10	1.00								
15 Irregular fading reforms	0.00	0.01	-0.12	-0.13	1.00							
16 Fading reversals	0.00	0.01	-0.03	-0.04	-0.04	1.00						
17 Intensifying reversals	0.00	0.01	-0.10	-0.11	-0.13	-0.04	1.00					
18 Irregular intensifying reversals	0.00	0.01	-0.08	-0.09	-0.10	-0.03	-0.09	1.00				
19 Irregular fading reversals	0.00	0.01	-0.08	-0.09	-0.11	-0.03	-0.09	-0.07	1.00			
20 Firm size	7.36	1.56	-0.05	-0.09	0.02	-0.04	-0.06	-0.05	-0.03	1.00		
21 Scope of pro-market institutions	0.56	0.05	0.26	0.08	-0.18	0.04	-0.06	-0.04	0.07	-0.16	1.00	
22 Employees inverse mills ratio	1.64	0.42	-0.09	0.08	-0.07	0.04	-0.05	-0.10	0.06	-0.03	0.17	1.00
23 Simple Reversals	0.01	0.01	-0.18	-0.20	-0.09	0.15	0.52	0.54	-0.17	0.00	-0.12	-0.06

Bold correlations indicate significance at 5%.

Hypothesis Testing

Table 3 presents the results of the analyses. We test our hypotheses on the full model 4. In an Online Appendix, we provide additional robustness tests, finding qualitatively similar conclusions.

Supported hypotheses

We found support for the direct effects of institutional dynamics on firm performance: i.e., Hypotheses 1a, 1b, and 1d. Hypothesis 1a is supported as evidenced by the positive (+ 0.005) and significant ($p < 0.05$) coefficient of intensifying reforms. The magnitude of the coefficient is in line with previous findings: e.g., Chacar et al. (2010) found the standardized direct effects of various reforms measures on performance persistence to range between - 0.005 and 0.008; Ding, Zhang, and Zhang (2008) found the direct effect of reforms on performance (ROA) to be + 0.002. Our results suggest that a one standard deviation rise in intensifying pro-market reforms improves firm performance by 0.5%. Hypothesis 1b is supported because the coefficient of fading reversals is positive (+ 0.005) and significant ($p < 0.05$). Because there are no prior studies that have investigated this variable, we are unable to compare our results to earlier research. These findings indicate that fading pro-market reversals augment firm performance by 0.5% as a result of a one standard deviation rise. Hypothesis 1d is supported as the coefficient of intensifying reversals is negative (-0.006) and significant ($p < 0.01$). Given that other studies have not analyzed this variable, we cannot compare it with prior research. Our results suggest that a one standard deviation rise in intensifying pro-market reversals reduces firm performance by 0.6%.

Additionally, we found support for the moderating effect of efficiency on the relationship between institutional dynamics and firm performance: i.e., Hypotheses 2a and 2d. Hypothesis 2a is supported because the coefficient of the interaction between intensifying pro-market reforms and firm efficiency is positive (+ 0.004) and significant ($p < 0.01$). In practical terms, this suggests that a one standard deviation rise in firm efficiency can enhance performance by 0.4%. Hypothesis 2d is also supported as the coefficient of the interaction between intensifying pro-market reversals and firm efficiency is positive (+ 0.006) and significant ($p < 0.01$). Again, the economic implication of this finding is that a one standard deviation rise in firm efficiency can enhance performance by 0.6%.

**Table 3** The impact of the dynamics in pro-market institutions on firm performance in emerging markets

		Dependent variable: return on assets estimation method: HDFE			
		Model 1	Model 2	Model 3	Model 4
Intensifying reforms _{t-1}	H1a:		0.005** (2.68)		0.005** (2.67)
Fading reversals _{t-1}	H1b:			0.005** (2.05)	0.005** (2.13)
Fading reforms _{t-1}	H1c:		0.003*** (3.24)		0.002*** (3.09)
Intensifying reversals _{t-1}	H1d:			- 0.007*** (- 3.00)	- 0.006*** (- 3.44)
Intensifying reforms _{t-1} * firm efficiency _{t-1}	H2a:		0.004*** (3.64)		0.004*** (3.46)
Fading reversals _{t-1} * firm efficiency _{t-1}	H2b:			- 0.002 (- 1.05)	- 0.002 (- 1.09)
Fading reforms _{t-1} * firm efficiency _{t-1}	H2c:		0.001 (0.66)		0.001 (0.77)
Intensifying reversals _{t-1} * firm efficiency _{t-1}	H2d:			0.006*** (2.85)	0.006*** (2.91)
Firm efficiency _{t-1}		0.003** (2.59)	0.004*** (3.08)	0.004*** (3.70)	0.005*** (3.96)
Firm age _{t-1}		- 0.01 (- 1.25)	- 0.01 (- 1.65)	- 0.01 (- 1.23)	- 0.01* (- 1.68)
Leverage _{t-1}		0.004** (2.26)	0.004** (2.03)	0.004** (2.22)	0.004* (2.01)
R&D intensity _{t-1}		0.002*** (2.72)	0.002** (2.55)	0.002** (2.62)	0.002** (2.44)
Marketing intensity _{t-1}		- 0.003* (- 1.77)	- 0.003* (- 1.75)	- 0.003* (- 1.89)	- 0.003* (- 1.88)
Internationalization _{t-1}		- 0.003** (- 2.30)	- 0.003** (- 2.27)	- 0.003** (- 2.16)	- 0.003** (- 2.13)
Business diversification _{t-1}		0.001 (1.08)	0.001 (0.87)	0.001 (0.84)	0.0009 (0.64)
Firm size _{t-1}		- 0.003** (- 2.21)	- 0.003* (- 1.91)	- 0.002* (- 1.74)	- 0.002 (- 1.50)
Employees inverse mills ratio _{t-1}		0.001 (0.17)	- 0.003 (- 0.70)	0.002 (0.42)	- 0.002 (- 0.43)
Polity _{t-1}		0.004 (0.89)	0.005 (1.27)	0.003 (0.79)	0.004 (1.17)
Market size _{t-1}		- 0.001 (- 1.10)	- 0.001 (- 0.98)	- 0.002 (- 1.26)	- 0.001 (- 1.13)
Net FDI inflows _{t-1}		- 0.003 (- 0.79)	- 0.003 (- 0.97)	- 0.001 (- 0.39)	- 0.002 (- 0.57)
Irregular intensifying reforms _{t-1}		0.002 (1.37)	0.004** (2.02)	0.002 (1.49)	0.004** (2.03)
Irregular fading reforms _{t-1}		- 0.0009 (- 1.22)	- 0.0008 (- 0.86)	- 0.0010 (- 1.52)	- 0.0008 (- 1.04)
Irregular intensifying reversals _{t-1}		0.0006 (0.44)	0.0009 (0.61)	0.0008 (0.55)	0.001 (0.74)
Irregular fading reversals _{t-1}		0.003 (1.66)	0.005** (2.16)	0.003 (1.60)	0.005** (2.08)
Scope of pro-market institutions _{t-1}		0.006 (0.21)	- 0.006 (- 0.17)	- 0.02 (- 0.81)	- 0.03 (- 1.04)
Simple reversals _{t-1}		0.0009 (0.23)	- 0.0008 (- 0.16)	- 0.002 (- 0.53)	- 0.004 (- 0.82)
Irregular intensifying reforms _t		0.0005 (0.18)	- 0.00007 (- 0.02)	- 0.002 (- 0.87)	- 0.003 (- 0.93)
Irregular fading reforms _t		- 0.001* (- 1.89)	- 0.002** (- 2.18)	- 0.001** (- 2.03)	- 0.003** (- 2.28)
Intensifying reforms _t		0.0004 (0.12)	- 0.001 (- 0.32)	- 0.002 (- 0.69)	- 0.004 (- 0.98)
Fading reversals _t		0.002 (0.51)	0.003 (0.83)	0.003 (1.28)	0.005 (1.49)
Fading reforms _t		0.0005 (0.27)	- 0.003 (- 0.88)	0.00001 (0.01)	- 0.003 (- 1.01)
Intensifying reversals _t		0.002 (0.32)	0.004 (0.73)	0.001 (0.31)	0.004 (0.75)
Irregular intensifying reversals _t		0.006** (2.04)	0.006* (1.96)	0.007** (2.25)	0.007** (2.19)
Irregular fading reversals _t		0.001 (0.34)	0.002 (0.63)	0.003 (0.80)	0.004 (1.14)
Scope of pro-market institutions _t		- 0.004 (- 0.14)	0.005 (0.13)	0.02 (0.92)	0.03 (1.03)
Simple reversals _t		- 0.006 (- 1.30)	- 0.008* (- 1.68)	- 0.002 (- 0.41)	- 0.003 (- 0.70)
Model F		60.0***	203.7***	84.9***	125.4***

Presented are standardized coefficients with z-statistics in parentheses. All models control for firm, year, region-year effects, and region-year clustering of standard errors. The number of firms is 1092 and the number of observations is 4756.

* $p < 0.10$; ** $p < 0.05$; *** $p < 0.01$.



Unsupported hypotheses

We did not find support for the direct Hypothesis 1c as the coefficient of fading reforms – positive (+ 0.002) and significant ($p < 0.01$) – is opposite to the predicted direction. Thus, it appears that managers do not perceive fading reforms as a strong negative signal, as we initially hypothesized, and do not adopt the expected wait-and-see approach but, perhaps, shrug off the possible impact of fading reforms.

Furthermore, we did not find support for the moderation Hypotheses 2b and 2c. Hypothesis 2b is not supported because the coefficient of the interaction between fading pro-market reversals and firm efficiency is not significant. It may be that our hypothesized advantage from existing firm-specific assets is not sufficient to carry the firms through the fading reversals. Hypothesis 2c is also not supported because the coefficient of the interaction between fading pro-market reversals and firm efficiency is not significant. This finding may suggest that we may have over-estimated the maneuvering capability of their asset advantages. Taken together, these three unsupported hypotheses suggest that we need a better understanding of how managers interpret and react to government policy changes as signals, and the specific pathways by which these various policy changes affect transaction costs.

DISCUSSION AND CONCLUSION

The implementation of pro-market reforms has, overall, been beneficial for countries. Learning from the spread of pro-market reform experiences across the world (Yergin & Stanislaw, 1998), country-level research has gradually adopted the view that pro-market reforms can stimulate economic development. However, the path of pro-market reforms has not been smooth, with many governments wavering between pro-market reforms and reversals, influenced by concerns over the uneven distribution of benefits and costs from these institutional dynamics (Breslin, 2011).

In contrast, the impact of pro-market reforms on firms is less clear. Firm-level research in management and finance that studied the effects of these pro-market reforms on companies (Bhaumik & Dimova, 2014; Park et al., 2006) has yielded conflicting findings. Some analyses have found a positive influence of pro-market reforms on firm performance (e.g., Cuervo-Cazurra & Dau, 2009a), while others have found a negative effect (e.g., Chari & David, 2012). We resolve this divergence

by proposing an asymmetric dynamic view of the impact of pro-market institutions on firms, separating changes in pro-market institutions into four types. We explained how some of these changes in pro-market institutions support performance while others harm it. Specifically, we advanced the arguments that intensifying reforms and fading reversals increase firm performance, while fading reforms and intensifying reversals lower it. These ideas clarify the macro–micro bridge of how country changes in institutions affect transaction costs and firm performance via managers' interpretation of government signals and their impact on transaction costs.

Our empirical results provide support for these arguments and suggest a potential pecking order regarding how different types of pro-market institutions affect firm performance. Intensifying reforms and fading reversals have a positive and significant effect on firm performance. Conversely, intensifying reversals have the strongest, most negative impact on performance. Thus, we extend prior research with our novel conceptualization of reforms and reversals as signals, and analysis of the effect of directionality of institutional change on performance. We find that neither are all changes in reforms good for performance, nor are all changes in reversals bad for performance. This insight advances existing firm-level research, which did not analyze changes in levels or reversals when concluding that reforms were not always good for firms. Our study also broadens country-level literature by studying the changes in the pace of reversals and their differential impacts when investigating whether reversals are bad for countries.

Theoretical Contributions

The ideas discussed in the article contribute to two areas of research: the theory of institutional economics and its analysis of how institutions change transaction costs for firms, and the topic of the impact of changes in pro-market institutions on firm performance – the macro–micro bridge.

Contributions to institutional economics

Our first contribution is to a more nuanced understanding of institutional economics in its analysis of the impact of institutions on firms' transaction costs and, ultimately, economic performance (Coase, 1937; North, 1990, 1992; Williamson, 1975). Institutional economics has traditionally focused on analyzing how market-supporting



institutions reduce transaction costs and, hence, support firm performance. We provide a more nuanced understanding by integrating insights from signaling theory and the perception of managers regarding the future impact of institutional change on their companies (Connelly et al., 2011; Huang, 2013; Spence, 1973; Walsh, 2007), as the underlying mechanism linking changes in institutions, transaction costs, company investments, and firm performance. We suggested that the government broadcasts its intent to reduce or increase state control over the economy through the policies it implements. Managers' subsequent interpretation of these signals, and their judgment of the likely impact on transaction costs, results in heterogeneous company investments and ensuing performance.

We proposed that managerial perceptions of government signals modify traditional logic in institutional economics. The received wisdom has been that firms use contracts to link various resource owners and foster value creation through resource recombination. The appropriate mix of such internal and external contracts enables survival, profitability, and growth. Managers' perception of the future economic environment, shaped by their inferences from government signals embodied in the direction and pace of reforms, would influence the managers' strategic investments. Depending on the managerial perception of the future environment as market-friendly or market-constraining, managers would choose between irreversible commitments and shorter-term actions. For example, the perception of government policy changes, which could affect the unit cost of production, could lead managers to choose between longer-term irreversible investments (e.g., adding new machinery to increase the pace of production) versus shorter-term investments (e.g., training to use existing machinery better). Such managerial perceptions are also likely to shape the firm's choices when seeking to reduce the impact of institutional limitations, such as onerous and outdated regulations, variable application of the rule of law, or pervasive corruption. Firms perceiving that the government will be moving in a pro-market direction will feel less need to invest the firm's resources in relationships characterized by high control and low trust. This would free up financial and human capital and managerial attention to invest in firm-specific resources such as intellectual property or brand development.

Accordingly, we advise future research to consider this mechanism of government signaling affecting transaction costs, and resulting differing firm behavior, in order to reach a better understanding of firm behavior under changing policy conditions. The firm behavior in question should include examination of how managers guide their firms to develop a competitive advantage through earlier detection and interpretation of the government signals. Additionally, research should assess the signals' likely impact on firms' transaction costs, and the effect of alternative firm actions on firm performance.

Contributions to the macro–micro bridge of country characteristics and firm behavior

Our second contribution is to the topic of the macro–micro bridge between changes in home country pro-market institutions and their impact on firm performance. This topic is part of a broader line of research in international business (IB) that analyzes how institutional characteristics of the home country, such as legal system (La Porta, Lopez-de-Silanes, Shleifer, & Vishny, 1999), government regulation (Djankov et al., 2002), culture (Hayton, George, & Zahra, 2002), or pro-market institutions (Cuervo-Cazurra & Dau, 2009a) affect firm behavior and performance. There are other three domains of IB research, which have been the focus of much prior study. One domain includes the traditional research analyzing how the characteristics of the host country influence the behavior of foreign multinationals (Buckley & Casson, 1976; Dunning, 1980; Pinkham & Peng, 2017; Rugman, 1980). Another IB domain studies how the characteristics of the host country affect the behavior of firms in the home country (Contractor, Kumar, Kundu, & Pedersen, 2010). A third IB domain analyzes how the characteristics of the home country impact the internationalization of domestic firms and their transformation into multinationals (Cuervo-Cazurra, 2012; Cuervo-Cazurra and Genc, 2008; Luo & Tung, 2018; Luo & Wang, 2012; Ramamurti, 2012). Table 4 summarizes these four research domains of international business.

We advance research on how the home country institutions affect domestic companies, by distinguishing among four types of institutional dynamics and introducing the asymmetric dynamic view of institutions. The management literature has mostly conflated pro-market institutions with pro-market reforms (e.g., Banalieva, 2014; Chari & David, 2012; Cuervo-Cazurra & Dau, 2009a, b), with the implicit assumption that changes in pro-



Table 4 Research domains of the international business field

Country impact	Firm behavior	
	Domestic behavior	International behavior
Home country	(1) Impact of institutional conditions of the home country (variation in the conditions, differences in the conditions across time) on the existence, competitiveness, and performance of domestic firms (e.g., Our Study; studies on: pro-market institutions and performance (Cuervo-Cazurra & Dau, 2009a; Chari & David, 2012; Park et al., 2006; Peng & Heath, 1996); level of institutional quality and firm efficiency (Bhaumik & Dimova, 2014; Bhaumik & Kumbhakar, 2010); determinants of entrepreneurship across countries (Klapper et al., 2010); influence of culture on access to finance (Kwok & Tadesse, 2006); impact of regulation on firms (Djankov et al., 2002); effect of legal systems on firm finance (La Porta, Lopez-de-Silanes, Shleifer, & Vishny, 1998); studies on intellectual property rights (Peng, Ahlstrom, Carraher, & Shi, 2017)	(2) Impact of the conditions of the home country on the internationalization of domestic firms (e.g., studies on: emerging market multinationals (Luo & Tung, 2007; Luo & Wang, 2012; Ramamurti, 2012); the influence of domestic institutional conditions on internationalization (Cuervo-Cazurra & Genc, 2008, 2011; García-Canal & Guillén, 2008; Holburn & Zelner, 2010); the influence of corruption on internationalization (Cuervo-Cazurra, 2006; Lee & Weng, 2013); the impact of pro-market reforms on internationalization (Cuervo-Cazurra, 2015; Cuervo-Cazurra & Dau, 2009b)
Host country	(3) Impact of host country conditions on the competitiveness and performance of domestic firms (e.g., studies on: the competition from imports, analyses of reverse transfer of technology (Govindarajan & Ramamurti, 2011); impact of offshore outsourcing on home operations and domestic firms (Contractor et al., 2010)	(4) Impact of host country conditions on the entry, expansion and performance of foreign firms (e.g., Traditional IB studies (Buckley & Casson, 1976; Dunning, 1980; Hennart, 1982, Narula & Dunning, 2010; Narula & Verbeke, 2015; Rugman, 1980, 1981) and studies on: the influence of culture on entry (Kogut & Singh, 1988); the influence of institutions on entry (Henisz, 2000); the influence of distance between host and home on country selection and entry mode (Johanson & Vahlne, 2009)

market institutions are toward intensifying reforms. We modified this assumption by bringing from the macroeconomics literature the distinction between reforms and reversals (Campos & Horvath, 2012a, b; Falcetti et al., 2002; Merlevede, 2003; Yago & Morgan, 2008), and by bringing from the economics and finance literature the notion that reforms are not always good for companies (Bhaumik & Dimova, 2014; Huang, 2003). Extending these ideas, we argued that it is useful to separate between improvement and deterioration in pro-market institutions (i.e., reforms and reversals), as well as between increasing or decreasing paces of change (i.e., intensifying and fading). These distinctions are needed because each type of asymmetric institutional dynamic affects managers' expectations of the changing institutional environment differently. Accordingly, future research should explicitly account for the pace of change in both reforms and reversals.

Additionally, we contributed to a better understanding of the macro–micro bridge by arguing that there is an asymmetric dynamic view of how these four institutional dynamics affect firm

performance. Our asymmetric dynamic view builds on Bhaumik and Dimova's (2014) insights that institutions that are traditionally perceived as beneficial (detrimental) for countries' development, may not be equally beneficial (detrimental) for firms. We proposed that not only the direction, but also the pace of changes in pro-market institutions affect the performance of emerging market firms, and that some of the influences are counterintuitive: e.g., the impact of fading reforms and fading reversals.

Hence, future research can build on our asymmetric dynamic view and provide a finer-grained discussion of how these asymmetric effects influence other firm strategies (e.g., access to capital, rationalization of manufacturing networks, product differentiation), driven by changing managerial expectations because of government signals. Additionally, future research can extend our asymmetric dynamic view beyond our focus on economic institutions, by analyzing other institutions (e.g., political systems, cultural attitudes), and consider the effects of the four types of asymmetric dynamics that we proposed.



Practical Implications

Our study has relevant insights for managers and policymakers in emerging markets. First, managers of emerging market firms should be aware that the traditional perception that pro-market reforms are beneficial for firm performance, while pro-market reversals are detrimental, is incomplete. Managers should consider not only the direction of the institutional change (reforms and reversals), but also its pace (intensifying or fading), when analyzing government signals. The four types of dynamics provide different signals regarding government commitment to pro-market institutions, with varying implications for firm performance. Thus, a nuanced interpretation of government signals, to clarify whether reforms and reversals are intensifying or fading, can help their companies respond appropriately to institutional dynamics. Additionally, beyond the expected impact of institutional dynamics on performance, managers should focus on improving the efficiency of their companies, because it is likely to enhance their firm's ability to perform better, even if the institutional environments are volatile. In the face of significant institutional changes, one commonsense strategy is "wait-and-see". In contrast, we advise that managers continue guiding their firms toward increased efficiency, so as to gain greater benefit in the face of ongoing institutional changes.

Second, our ideas can also be useful for emerging market policymakers. In responding to the public's questions about the benefits of pro-market reforms (Rodrik, 1996; Sahay & Goyal, 2006), policymakers may be under pressure from interest groups to decelerate reforms, with the assumption that a slower approach enables firms to adjust better to the new competitive reality (Rajan & Zingales, 2003). Our arguments and findings counter this idea. The findings of our study provide policymakers with additional public justifications of their policies. Policymakers can indicate enhanced firm performance as one of the potential benefits of pursuing intensifying reforms and fading reversals. Conversely, policymakers might seek to avoid intensifying reversals, as they have the most negative impact on firm performance.

Future Research Directions

Future research can build on the ideas presented here while addressing some of the limitations of the article. First, constraints on data availability precluded us from capturing earlier waves of reforms such as those in China since 1978, or Latin

America since the early 1980s. We were able to capture the second wave of changes in pro-market institutions, starting in the late-1990s. Thus, future research can test our ideas in the early waves of pro-market reforms and compare results.

Second, our analysis is limited to public firms, so caution should be used when interpreting our results beyond publicly traded firms. As Huang (2003: 492) noted: "public firms are already big firms in the economy." Thus future research can test our arguments in the context of private firms, and explore how such (possibly smaller) firms navigate the asymmetries in the domestic institutional environment. Our results could differ for the small private firms, because they may not have the resources to invest in response to changes in pro-market institutions.

Third, constraints on data availability impeded us from testing if the firms in our sample had political connections that could help them better interpret whether government policies had reached a point of no return (Dastidar, Fisman, & Khanna, 2008). Firm-level surveys would better capture information about managers' political connections and test these propositions explicitly. With such data, future studies can analyze how managers' political connections help firms interpret policy direction signals under each of the four institutional dynamics. This goes beyond the traditional argument that political ties can help firms improve performance through obtaining favors or special treatment from government circles (Fisman, 2001; Sojli & Tham, 2017). Furthermore, research can analyze whether firms with superior signal processing respond earlier to government signals about future policy directions, and thus, perform better. Firms could also benefit from a deeper understanding of how interest group coalitions are formed and influence government signals (Rajan & Zingales, 2003).

Fourth, constraints on data availability limited our capacity to test how our framework can be applied to multinational companies. Studies that have finer-grained data on the multinationals' entire portfolios of foreign subsidiaries by country over time can analyze whether multinationals are especially gifted at interpreting government signals. This superior signal interpretation can happen through several channels. One channel involves the advantage of multinationality, whereby multinational companies can use their learning from interpreting institutional change across countries. A second channel is accumulated experience, whereby multinational companies that encounter and react to institutional



variability at home, become more adept at interpreting and reacting to government signals elsewhere. A third channel entails the interaction between firm-specific advantages and location advantages (Narula & Dunning, 2010).

Fifth, data limitations inherent in the OSIRIS database prevented us from being able to control for ownership or governance structures. For our sample, ownership and governance structure data across countries, companies, and years were inconsistently collected, if at all, by OSIRIS. Other pro-market reforms research that has accounted for such effects has done so in the context of publicly and non-publicly traded companies, using firm-level survey data such as the World Bank Enterprise Surveys (Bhaumik & Dimova, 2013, 2014), the Center for Monitoring of the Indian Economy's Prowess database (Chari & David, 2012), or AmericaEconomia (Cuervo-Cazurra & Dau, 2009a, b). Studies that have such detailed information on firms' ultimate owners and governance structure may find that the results might be stronger for certain types of companies (e.g., state-owned vs. private sector enterprises) (Bhaumik et al., 2011).

Conclusion

Our article integrated perspectives on transaction cost from institutional economics, with insights from signaling theory, to propose an asymmetric dynamic view on pro-market institutions and firm performance in emerging markets. The novel

contribution of our study is the delineation of four asymmetric dynamics of pro-market institutions that have non-obvious effects on firm performance. We hope that our asymmetric dynamic view of pro-market institutions stimulates future research on the macro–micro bridge between country characteristics and firm behavior.

ACKNOWLEDGEMENTS

Authors listed in alphabetical order. We thank the editor, Rajneesh Narula, for his guidance in the review process and for suggesting the macro–micro link, and the anonymous reviewers for valuable insights that helped us improve the manuscript. We also thank Todd Alessandri, Paul Beamish, Oana Branzei, Keith Brouthers, Murali Chari, Charles Dhanaraj, Sergio Correia, Harry Lane, Dev Jennings, Grigorios Livanis, Jerry Loporto, Ed McDonough III, J.T. Li, Will Mitchell, Romel Mostafa, William Ocasio, Sheila Puffer, Ravi Ramamurti, Chris Robertson, Ayse Saka-Helmhout, Michael Sartor, Jean-Louis Schaan, Andreas Schotter, Laszlo Tihanyi, Anthea Zhang, other anonymous reviewers, and audiences at the Academy of International Business and the Academy of Management, for their useful feedback on earlier versions of this manuscript. Banalieva is grateful to the Gary Gregg Fellowship for research support. Cuervo-Cazurra thanks the Walsh Research Professorship, Morrison Fellowship, and Mullin Fellowship for financial support.

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Supplementary information accompanies this article on the *Journal of International Business Studies* website (www.palgrave.com/journals).

Accepted by Rajneesh Narula, Area Editor, 11 April 2018. This article has been with the authors for four revisions.