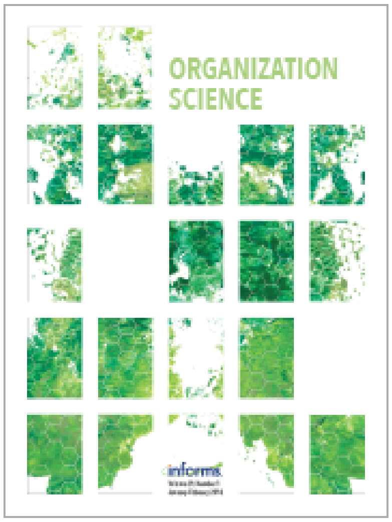

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Perspective—The Deep Historical Roots of Organization and Strategy: Traumatic Shocks, Culture, and Institutions

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Perspective

The Deep Historical Roots of Organization and Strategy: Traumatic Shocks, Culture, and Institutions

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Abstract. We argue that organizations have deep roots in traumatic societal shocks that long preceded their founding. Drawing from the strategic management and social science literatures, we explain how traumatic shocks, such as conflict, disease, and natural disaster, can alter the institutional and cultural paths that determine future business environments. Historical shocks can help clarify the origin of cultural and institutional differences and help provide causal inference about why these differences are correlated with organizational structure and strategy. We explain specific cultural and institutional mechanisms through which historical traumatic shocks persist as well as specific organizational factors influenced by these mechanisms. We also provide guidance on key approaches for empirically linking traumatic shocks with modern firms as well as common identification problems in these methods. Our approach clarifies a path for clarifying theory on how culture and institutions shape firms and how management scholars might anticipate the evolution of market development following emerging traumatic shocks.

Keywords: institutions • culture • history • strategy • cross-national • disaster

Introduction

In this paper, we argue that business scholars have largely ignored an important set of prefounding historical events that shape modern firms' organizational and strategic outcomes: traumatic shocks. Traumatic shocks represent a class of destructive events or phenomena such as persecutions (Waldinger 2012), wars (Ahlfeldt et al. 2015), famines and disease (Acemoglu et al. 2001, Almond 2006), natural disasters (Fothergill and Peek 2004), slavery (Dell 2010, Ruef and Fletcher 2003), economic depressions (Malmendier et al. 2011), and foreign occupations (Banerjee and Iyer 2005). We argue that traumatic shocks even centuries before a firm's founding can influence its organizational structure and strategy by shaping the trajectory of the formal institutions and culture that North (1990, p. 3) called "the rules of the game" of the business environment. Historians and social scientists have long established the roots of culture and institutions in traumatic shocks from the past by studying individual, regional, and national outcomes (Gelfand et al. 2011, Nunn 2012), but they have only recently linked these shocks to heterogeneity in later firms (Brown et al. 2017, Burchardi and Hassan 2013; Pierce and Snyder 2013, 2018; Rao and Greve 2018). This omission is surprising since firms are crucial drivers of economic development and social welfare.

Studying traumatic shocks complements three existing streams of research in the management and strategy literature that focus on historic events and conditions *within* and *shortly preceding* firms' life spans. A stream based in evolutionary theory (Nelson and Winter 1982) examines the path dependency of firm decisions and outcomes such as innovation (Danneels 2002), technology adoption (Arthur 1989), product design (Benner and Tripsas 2012), and resources and capabilities (Karim and Mitchell 2000, Zott 2003).[1] Another stream studies how initial conditions such as technological discovery (Adner 2002; Christensen and Rosenbloom 1995; David 1985, 2007; Henderson and Clark 1990; Moeen and Agarwal 2017; Vergne 2013) and government policy (Marquis and Huang 2010) determine the resources and capabilities that enable and shape the founding event (Helfat and Lieberman 2002). A third stream focuses on organizational imprinting (Ellis et al. 2017, Marquis and Tilcsik 2013, Stinchcombe 1965), whereby firm characteristics shaped by environmental factors during a formative period persist despite often significant environmental changes. Our argument extends the roots of imprinting to historical shocks that long preceded this formative period.

Many of these papers have relied on societal shocks that occur within and shortly preceding firms' life spans, but they largely ignore the classes of traumatic shocks detailed here. Furthermore, these research streams typically ignore shocks from centuries or even decades past that might shape later firms. Few papers in management and strategy even study organizations before the 20th century (Rowlinson and Hassard 2013),[2] with even fewer linking modern organizations with those eras (Greve and Rao 2012, 2014; Pierce and Snyder 2018).

We argue that studying prefounding traumatic shocks from both recent and ancient history has significant potential for the fields of management and strategy for four reasons. First, they can help add causal inference to an extensive and important literature that correlates modern culture and institutions with firm organization and behavior (e.g., Bloom et al. 2012, Henisz 2000). Traumatic shocks provide natural experiments with well-documented and often transformational societal impact (Diamond and Robinson 2010, Morck and Yeung 2011), with historians and social scientists carefully documenting their direct effects on specific cultural and institutional characteristics that persist in the modern business environment. We follow Morck and Yeung (2011) in explaining how traumatic shocks suffer many of the same problems as other historical instruments, but we also argue that traumatic shocks hold particular promise for organizational scholars because the exogenous variation generated by traumatic shocks is more likely to persist over time. Unlike positive shocks such as technological discovery, actors are unlikely to try to actively disseminate or replicate the immediate effects of a traumatic shock because they are immediately destructive and costly.

Second, historical traumatic shocks can help scholars support arguments that specific institutional and cultural elements are responsible for significant observed organizational heterogeneity. We present several key components of modern culture and institutions that are known to both result from traumatic shocks in the past and explain modern organizational heterogeneity. We further explain how scholars might better identify the relative importance of these elements in predicting firm organization and strategy. "Culture" and "institutions" can be a catch-all for numerous mechanisms at the regional and national levels, which necessitates the careful use of both quantitative and qualitative evidence to explain likely mechanisms through which a traumatic shock shapes modern firms.

Third, understanding the role of traumatic shocks can help scholars, managers, and policy makers understand how modern and future traumatic shocks might redirect firm strategy and outcomes. Recent shocks such as the September 11, 2001 World Trade Center attack, Asian tsunamis, and conflicts in Africa and Central Asia and the resulting mass migrations have killed or psychologically impacted millions of people and fundamentally altered many institutions. The mass migration of refugees from conflict and famine is already affecting labor markets and culture in host countries (Tumen 2016). Global climate change is almost certain to force mass migration and generate other traumatic shocks, such as disease, natural disaster, and conflict (McMichael et al. 2006). Scholars have already shown that recent terrorist attacks (Carnahan et al. 2017, Lerner et al. 2003, Levitt 2006) and mass shootings (Voors et al. 2012) can quickly change individual behavior and preferences, creating long-term implications for future firms. Innovative new research using mobile phone data shows how violence and insecurity shape firm location choices in Afghanistan (Blumenstock et al. 2018). Recent studies of foundings following terrorist attacks (Paruchuri and Ingram 2012), natural disasters (Dutta 2017), and epidemics (Rao and Greve 2018) show how modern traumatic shocks might shape future organizations.

Finally, our paper has important implications for why the path dependence of history matters for economic development. Although historical conditions and events are widely viewed as key influences in long-term development, the consequences of this history are rarely applied to firms. Firms are major drivers of development yet are rarely studied in development economics as the mechanisms of growth. As others have recently argued (Ingram et al. 2012, Kipping and Üsdiken 2014, Madsen et al. 2014, Morck and Yeung 2011), an increased focus on identifying historical sources of organizational heterogeneity is of first-order importance for both management scholars and those concerned with modern development.

We first define our concept of traumatic shocks and explain how they can disrupt the historical paths of societies in ways that persist to the modern business environment. We then present specific cultural and institutional mechanisms likely to transmit these shocks across decades and centuries. We then provide empirical strategies for researchers seeking to link historical traumatic shocks to modern firm characteristics while highlighting identification concerns common in these studies. Finally, we present examples of early work in management and the social sciences, as well as promising opportunities for future work.

How Traumatic Shocks Shape Modern Firms

Traumatic Shocks Are Destructive Events That Disrupt Society

History is punctuated by a series of localized shocks that persistently alter the path of the populations they affect. Social scientists and business scholars have primarily focused on beneficial shocks that provide boosts to the economic development and productivity of specific societies and their firms, focusing on historical events such as migrations and technological innovations. Agricultural discoveries, for example, enabled accelerated population growth and social stability in those areas best suited for cultivation (Jia 2014, Nunn and Qian 2011). Similarly, firms (and economic growth) have benefited from technologic innovation, through both breakthroughs in their own era, such as the steam engine, railroad, telegraph, Internet, and steamship (Chandler 1992, Lamoreaux 1988), and those even thousands of years earlier (Comin et al. 2010). The extensive literature on path dependence (Arthur 1989, David 1985) details how technological shocks shape modern organizations and markets even long after such technologies have exhausted their efficiency.

Although these beneficial shocks, combined with human capital growth, spurred long-term economic development, another class of shocks—"traumatic shocks"—has produced dramatic injuries to societies. Researchers have identified many classes of traumatic shocks with persistent economic and societal effects, including colonization, foreign occupation, slavery, warfare and conflict, disease, forced migration, and economic crisis (see Table 1). The African slave trades, for example, resulted in the forcible extraction and death of 12–18 million people between the 14th and 18th centuries with long-term effects on cultural trust and institutions (Nunn 2008, Nunn and Wantchekon 2011). Similarly, foreign occupation and colonialism in Africa (Acemoglu et al. 2001, Feyrer and Sacerdote 2009), Asia (Banerjee and Iyer 2005, Dell and Olken 2017), North America (Dippel 2014), and Europe (Guiso et al. 2006) changed local development paths. Because a shock's impact is population-specific, even beneficial shocks to one group can be traumatic to another. The Columbian Exchange, for example, provided crucial agricultural and resource boosts to Europe, but it decimated native peoples through occupation and epidemic disease that killed between 80% and 95% of the population (Nunn and Qian 2010).

Our definition of traumatic shocks parallels the literature on disaster (Fritz 1961), which focuses on the long-term disruption of routines in social groups. Similar to Quarantelli (2005), we acknowledge the challenge in providing a precise definition given the diverse natural and human sources from which traumatic shocks arise. Our emphasis is that traumatic shocks negatively and considerably disrupt broader society through culture and institutions. By describing and classifying many examples of traumatic shocks, we hope to direct scholars toward important and severely understudied historical determinants of modern firm heterogeneity.

Figure 1 presents a basic framework for why historical traumatic shocks can be an important predictor of modern firms. Although local culture and formal institutions may have evolved through historical paths based on initial biogeographic factors,[3] traumatic shocks have the potential to disrupt these paths in locally heterogeneous ways, radically changing cultural and institutional elements with such magnitude that they persist long into the future. Consequently, even two regions or peoples with similar initial conditions may inherit very different modern culture and institutions, yielding contrasting business environments that shape organization and strategy. The characteristics of modern local firms can therefore reflect traumatic shocks from the distant past reflected in the business environments that they produced. Our framework emphasizes that not all traumatic shocks are capable of the long-term persistence necessary to shape future firms. As we will detail later, traumatic shocks must be large, have heterogeneous effects on local populations, and destabilize culture and institutions to empirically link them to modern firm heterogeneity.

In many ways, our framework parallels the path-dependence literature (David 2007, Vergne 2013), which David (1985) defines as a causally linked chain originating from a random event and ending at an observed outcome. We see no need to theoretically distinguish from this definition. Indeed, historical persistence and path dependence are similar concepts. What we do distinguish, however, is our emphasis on both the immediately destructive nature of traumatic shocks and their historical persistence through cultural and institutional mechanisms.

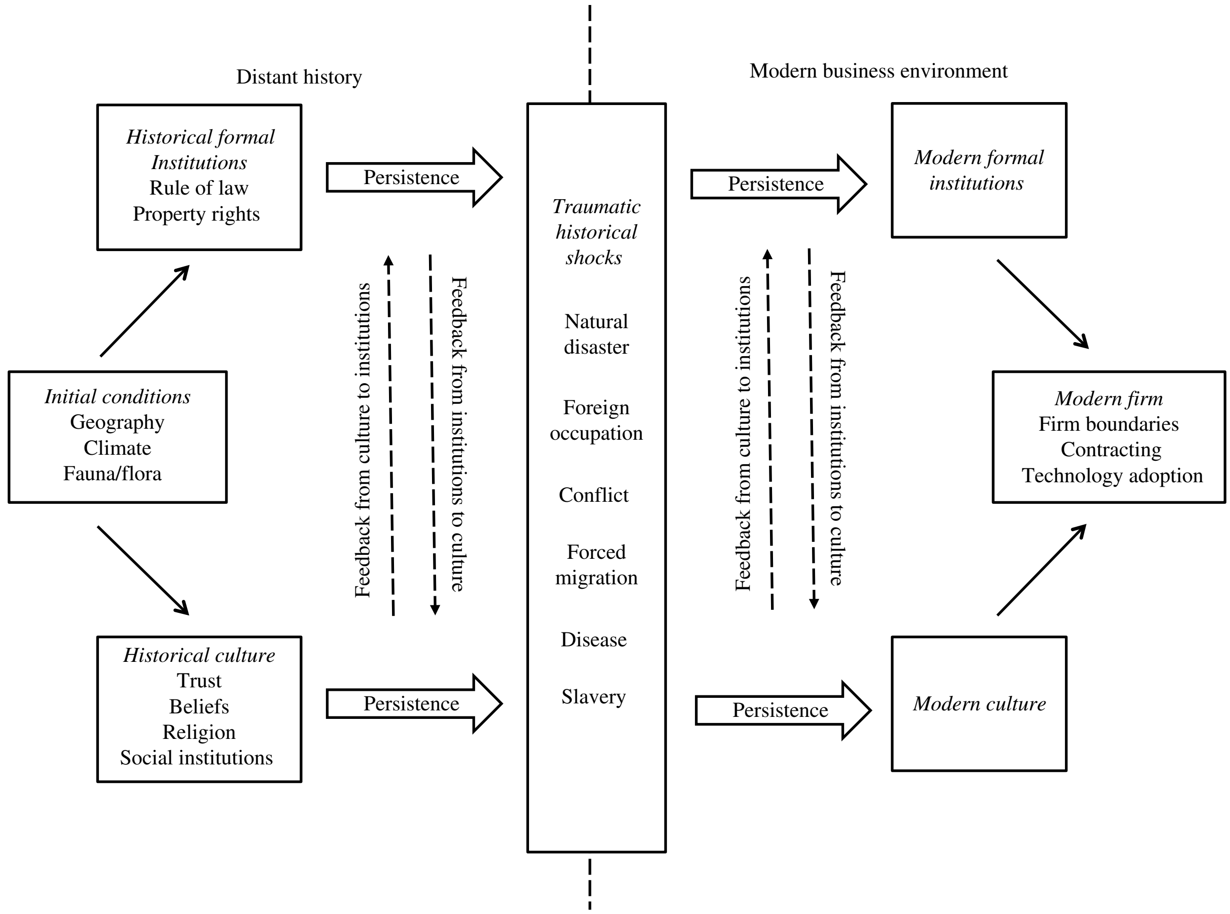
How Institutions and Culture Persist Across History

As Figure 1 shows, formal institutions and culture persist across history in ways that define how firms organize, function, and compete.[4] Formal institutions are codified rules enforced by a judicial system (Scott 1995), made up of laws, rules, constitutions, property rights, enforceable contracts, and other policies (Peng 2002, Williamson 2000). Formal institutions are deliberately made by political agents and organizations to decrease uncertainty among firms and individuals and reduce transaction costs (North 1990). By contrast, culture evolves with very little deliberate guidance. Hofstede (1980) argues that culture is a system of collectively held values imprinted in youth that shapes unique group responses to environmental factors. Culture is defined by two sets of rules. The first is what Nunn (2009, 2012) calls "rules of thumb," or how people make decisions under complex or uncertain conditions. These collectively encompass social norms, values, beliefs, and intuitive and emotional decision making that evolved because they historically produced successful outcomes. The second is made up of informal institutions, including nongovernmental organizations such as religions (Norenzayan and Shariff 2008) or cooperatives (Greve and Rao 2012),

Table 1. Literature on Historical Traumatic Shocks

Traumatic shocks	Modern impact on culture and institutions			Modern impact on firms		
	Literature	Mechanism	Outcome	Literature	Mechanism	Outcome
Colonialism	Acemoglu et al. (2001)	Disease	Weak institutions and growth			
	La Porta et al. (1997a, 1998)	Legal institutions	Investor protection			
	Banerjee and Iyer (2005)	British institutions	Economic growth			
	Feyrer and Sacerdote (2009)		Development			
Other foreign occupation	Guiso et al. (2016)	Trust/civic capital	Investment, volunteerism, cheating			
	Becker et al. (2016)		Trust/corruption			
	Putnam et al. (1993)	Trust	Social capital/development			
Slavery	Nunn (2008)	Cultural trust and institutions	Economic growth	Pierce and Snyder (2013)		Sole proprietorship
	Nunn and Wantchekon (2011)	Trust	Trust	Pierce and Snyder (2018)	Ethnic fraction/trust	Access to finance
	Dell (2010)	Education and infrastructure	Development			
Organized crime	Gambetta (1993)	Trust	Trust/development			
Warfare/conflict	Tilly (1992)	Institutions	Growth	Siegel et al. (2011, 2013)	Egalitarianism	Entry
	Conzo and Salustri (2017)	Trust	Trust	Fernandez et al. (2004)	Gender imbalance	Female labor participation
	Redding et al. (2011)	Division of Germany	Change of air hub location			
	Guiso et al. (2009)	Trust	Trust			
Natural disasters	Fothergill and Peek (2004)	Natural hazards	Responses by socioeconomic class			
Forced migration	Waldinger (2012)	Nazi persecution of Jews	Peer effects in science	Grosjean and Khattar (2015)	Gender imbalance	Female labor participation
	Dippel (2014)	Native American reservations	Political conflict/development	Brown et al. (2017)	Native American reservations	Industry success
Religious persecution	Pascali (2016)	Change in religious doctrine	Financial market development	Grosfeld et al. (2013)	Ethnic antagonism	Entrepreneurship
Religious conversion	Nunn (2012)	Education of women	Human capital growth			
	Grosjean (2011b)	Restrictions on debt	Financial development			
Economic downturn				Malmendier et al. (2011)	Debt aversion	Internal financing
Disease	Voigtländer and Voth (2013)	Black Death mortality	Development			

Figure 1. A Framework of Historical Traumatic Shocks and Modern Firms



social movements such as feminism (Tilly 2004), and caste systems (Dunning and Nilekani 2013).

Social scientists and historians agree that both culture and institutions, which David (1994, p. 205) called "the 'carriers of history,'" persist across centuries and even millennia (Greve and Rao 2014, Inglehart and Baker 2000, Zucker 1977). Culture can be traced through the ancestral paths of modern peoples (Ashraf and Galor 2013, Putterman and Weil 2010), as values and norms are passed across generations through parents, churches, social groups, and markets (Bisin and Verdier 2000, Dohmen et al. 2012, Grosjean 2011a, Nisbett and Cohen 1996). Emerging scientific research on epigenetics also suggests that traumatic and other significant experiences may generate heritable DNA changes that can shift the anatomy and behavior of future generations (Radford et al. 2014, Schulz 2010).

Formal institutions persist because of complementary and irreversible investments, learning mechanisms, and adaptive expectations and because they are beneficial to the vast majority of economic actors (Acemoglu et al. 2005, Jepperson 1991, Mahoney and Thelen 2010, Powell 1991). Substantial evidence supports the persistence of formal institutions that influence property rights (Acemoglu et al. 2001), inequality (Engerman and Sokoloff 2002), investor protection (La Porta et al. 1997b, 1998), and local abuse of power (Gennaioli and Rainer 2007). Furthermore, culture and formal institutions persist because they directly influence one another across history. Culture shapes institutions by changing norms on voting, leadership, and trade (Greif 1993, Tabellini 2008). Similarly, formal institutions provide feedback to culture by shaping personal interactions, rewards for activities, returns for social investments (e.g., reputation and network), and the cultural transmission process itself through schooling and mass media (Bowles 1998). Both interact over time with market forces (Jones 2006). In this sense, even shocks that may immediately affect only one (culture or institution) may shape the development of the other across time.

When Traumatic Shocks Can Generate Persistent Heterogeneity in Institutions and Culture

Given the natural stability and persistence of culture and institutions, traumatic shocks must present an overwhelming disruption to translocate them to new paths, rather than simply disrupting short-term societal factors such as growth and productivity. Three factors determine the historical persistence of this disruption. First, the direct and immediate magnitude of the impact on important dimensions such as loss of life, psychological trauma, economic or infrastructural destruction, and loss of autonomy must be locally severe. The 14th-century Black Death in Europe, for example, killed 30%–50% of the population. In doing so, it not only destroyed human capital but also generated long-lasting regional differences in cultural elements, such as anti-Semitism when Jews were blamed for the plague (Voigtländer and Voth 2012). Similarly, the forced relocation of nearly all Native Americans to reservations in the 19th century destroyed resources, institutions, and cultural elements such as language and religion for more than 500 tribes (Dippel 2014).

Second, the shock's duration increases persistence by directly influencing culture and institutions long enough to persistently change them. The African slave trades (Nunn 2008), for example, traumatized African peoples and nations over centuries, with devastating long-term consequences. Similarly, the effects of foreign occupation of Italy are evident nearly 1,000 years later because the length of occupation was sufficient to change local culture and inhibit institutional development (Banfield 1958, Putnam et al. 1993). By contrast, the often devastating but short-run effects of the Second World War bombings in Germany, Japan, and Vietnam had little effect on long-term industrial productivity or poverty (Brakman et al. 2004, Davis and Weinstein 2008, Miguel and Roland 2011).

Third, stable institutions or culture will resist changes from traumatic shocks, while weak or short-lived institutions are more easily disrupted. Voigtländer and Voth (2013) show differential effects of the 14th-century Black Death in Europe and China, arguing that China's strong centralized institutions and more distributed populations inhibited the long-term impact of the plague in contrast to the fragmented institutions and urban populations that allowed the plague to shift Europe into a new pattern of industrialization, urbanization, and warfare. Michalopoulos and Papaioannou (2013) also show the importance of precolonial institutional strength in postcolonial development.

How Traumatic Shocks Change the Modern Business Environment Through Culture and Institutions

As traumatic shocks change the long-run trajectory of culture and institutions, they shape the business environment for future firms. Culture and institutions are pivotal for modern organization and strategy because they define the rules, incentives, and norms of the business environment. Culture and formal institutions are the "Level 1" and "Level 2" institutions described by Williamson (2000), and they represent what North (1990, p. 3) call "the rules of the game in a society." As North (1991) note, these rules shape modern organizations with "a pervasive influence upon the long-run character of economies" (p. 111). For Hofstede (1980), culture is paramount for organizations because it affects power distribution, selects dominant groups, and thereby shapes the values of all groups and individuals. Culture helps determine organizational goals, the decision-making process, rewards, and regulation and control systems.

Insomuch as a traumatic shock differentially affects populations or regions, it might explain the tremendous variation in how institutions and culture define business environments across regions and nations. A deep literature in economics and international business demonstrates the implications of this variation for doing business. Weak or unstable institutions inhibit business development and foreign investment both historically and in the modern era (Chakrabarti et al. 2007, Cull and Xu 2005, Delios and Henisz 2003, Henisz 2000, Henisz and Zelner 2001, Henisz et al. 2005, Li and Qian 2013, Meyer et al. 2009). Similarly, the social sciences and humanities have established wide variation in culture both across and within nations (Gelfand et al. 2011, Henrich et al. 2001, Hofstede 1980, Nisbett 2004), including a broad array of behavioral and attitudinal dimensions, such as petty corruption (Fisman and Miguel 2007), trust (La Porta et al. 1997a), risk aversion (Hsee and Weber 1999), and punishment (Herrmann et al. 2008). Other work links this variation to elements of organization and strategy, including managerial recommendations (Schneider and De Meyer 1991), entry (Delios and Henisz 2003, Tse et al. 1997), performance (Franke et al. 1991), managerial discretion and effectiveness (Crossland and Hambrick 2007, 2011), innovation (Elenkov et al. 2005), alliance formation (Richards and Yang 2007, Steensma et al. 2000), strategic commitment (Geletkanycz 1997), and acquisition mode (Pe'er and Gottschalg 2011).

Specific Cultural Mechanisms Through Which Traumatic Shocks Shape Modern Firms

Similar to the Abramovitz (1993) and Glaeser et al. (2004) critiques of economic growth theory, culture and institutions can represent a "catch-all" for a wide set of unidentified mechanisms and societal elements that might explain regional differences in firms. We next explain specific mechanisms that might transmit historical traumatic shocks to modern firms. We first present five cultural elements that prior work has linked to both historical traumatic shocks and modern organizations: trust, risk preferences, religion, group parochialism, and moral beliefs.

Trust. One of the most commonly studied cultural elements is trust. Trust affects nearly every firm transaction (Arrow 1972, Granovetter 1985) and is crucial for economic development. It varies significantly both across and within countries (Algan and Cahuc 2010, Fershtman and Gneezy 2001), and it has been linked to traumatic shocks such as foreign occupation (Putnam et al. 1993) and the slave trades (Nunn and Wantchekon 2011, Levine et al. 2017). It is one of the few mechanisms to have already been correlated with both traumatic shocks and firm behavior in the same population (Nunn and Wantchekon 2011, Pierce and Snyder 2018).

Risk Preferences. Another likely cultural mechanism is risk preferences. Risk aversion has been strongly linked to traumatic shocks of violence and conflict in Africa and Asia (Callen et al. 2014, Voors et al. 2012) and is transmitted across generations from parent to child (Charles and Hurst 2003, Dohmen et al. 2012). Furthermore, the risk preferences of managers have been widely associated with firm decisions and outcomes such as entrepreneurship, investment, and innovation (March and Shapira 1987, Wiseman and Gomez-Mejia 1998). Relatedly, Blumenstock et al. (2015) link Afghanis with exposure to violence with higher financial liquidity, which, similar to risk aversion, has implications for the financing of future business.

Religion. Change to religious composition from traumatic shocks also may shape future firms. The historical forced containment of Jews to specific geographic regions and industries has persistent effects on modern attitudes and market outcomes (Grosfeld et al. 2013, Pascali 2016), as does historical activity by the Spanish Inquisition (Vidal-Robert 2014). The traumatic shocks of colonialism and religious missions also generated long-term cultural changes to gender-specific education and literacy, with the human capital of women particularly dependent on being proselytized by Protestants rather than Catholics (Nunn 2012, Woodberry 2004). Historical Islamic rule has also been associated with a lack of local formal financial development because of religious restrictions on lending (Grosjean 2011b).

Parochialism. Parochialism, or favoritism toward one's own group, can result from historical traumatic shocks and persist into modern times. The historical occupations of Italy are the most widely cited examples of traumatic shocks generating parochialism (Meier et al. 2016, Putnam et al. 1993), but other examples are widespread. Greif and Tabellini (2017) explain how climatic shock and invasions from central Asia generated migration that dictated the distribution of parochialism through clans. Evolutionary psychologists and economists (Bowles 2008) argue that in-group bias and parochialism have deep historical roots in intergroup war and violence. The implications of local historically based parochialism for firms are widely acknowledged in the literature on social capital and in-group favoritism (Hegde and Tumlinson 2014, Laursen et al. 2012).

Moral Beliefs. Finally, moral beliefs may directly result from historical traumatic shocks in ways that influence modern corruption, business dealing, and misconduct. Research on organized crime, such as the Sicilian Mafia, argues that modern cultural tolerance of organized crime can be traced to historical foreign occupation (Gambetta 1993, Varese 2006) and in turn impacts modern business (Vaccaro 2012, Vaccaro and Palazzo 2015). Recent work by Lowes et al. (2017) also shows that boundaries of ancient kingdoms (e.g., the Kuba Kingdom in Africa) can predict rule breaking and cheating among modern populations.

Specific Institutional Mechanisms Through Which Traumatic Shocks Shape Modern Firms

Similar to culture, several specific institutional elements provide promising historical links between traumatic shocks in the past and modern firms. We present several specific institutional mechanisms: property rights, corruption, public goods provision, financial systems, and judicial independence.

Property Rights. Property rights is one of the most important institutional elements for the business environment. The economics literature has linked property rights protection to investment and growth (Knack and Keefer 1995), with management research detailing its influence on entrepreneurship (Desai et al. 2005, McMullen et al. 2008), multinational investment (Henisz 2000), and innovation (Murray and Stern 2007, Williams 2013). The origin of property rights in legal systems derived from colonialism and religion makes it a commonly studied consequence of traumatic shocks (La Porta et al. 1999).

Corruption. Corruption, or the misuse of public office for private gains, broadly decreases productivity, increases costs and prices, reduces entrepreneurship, and restricts access to capital (Svensson 2005). Within the management literature, corruption has been linked to multinational entry (Cuervo-Cazurra 2006), contracting (Zhou and Xu 2012), entrepreneurship, and innovation (Anokhin and Schulze 2009). The importance of corruption for the business environment makes it a likely mechanism for transmitting historical traumatic shocks to modern firms. Multiple papers have linked local corruption levels to traumatic shocks such as colonialism and other foreign occupation (Banerjee and Iyer 2005, Becker et al. 2016).

Public Goods Provision. Public goods such as electricity, water, transportation, education, and telecommunications have direct effects on economic growth (Röller and Waverman 2001). They are essential inputs for most firms, and their inadequate supply decreases private investment (Munnell 1992), productivity (Mamuneas and Nadiri 1994), and financial performance (Geginat and Ramalho 2015). Public goods provision has been linked to a variety of shocks, such as forced labor under Spanish occupation (Dell 2010), colonization and slavery (Sokoloff and Engerman 2000), and religious proselytism (Nunn 2014).

Financial Institutions. Finance is a crucial driver of economic growth (King and Levine 1993, Levine 1997), with financial institutions heavily influencing firms' and entrepreneurs' investment opportunities by defining their access to credit and other financing. Financial regulations such as corporate taxes (Djankov et al. 2010) and minority shareholder protections (Djankov et al. 2008), for example, greatly impact business investment and stock market growth. Finance is widely linked to traumatic shocks such as foreign occupation (Guiso et al. 2006), religious conversion and persecution (Grosjean 2011b, Pascali 2016), Native American confinement (Brown et al. 2017), and the African slave trades (Levine et al. 2017, Pierce and Snyder 2018).

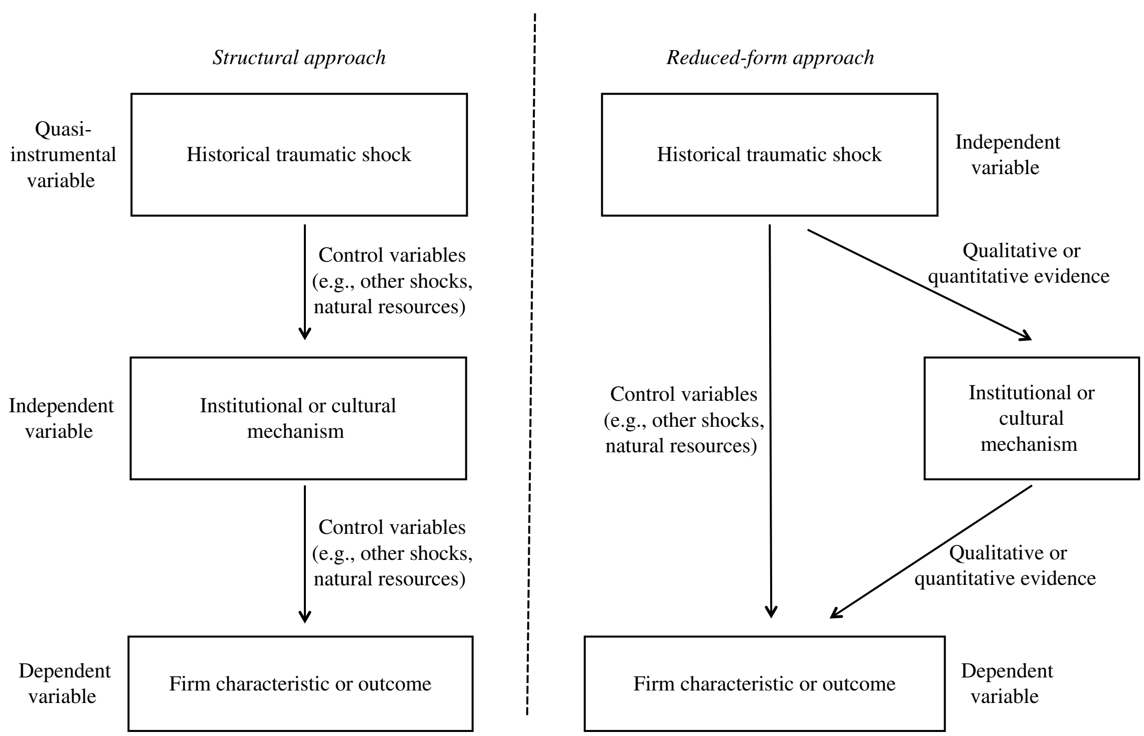
Judicial Independence. Judicial independence, an important part of modern states' checks and balances, is essential for full economic and political freedom (La Porta et al. 2004). Judicial independence has been linked to gross domestic product growth (Feld and Voigt 2003) and is considered a key consideration in foreign entry and direct investment decisions (Henisz 2000). Judicial independence has been widely linked to legal systems based on historical colonization (Glaeser and Shleifer 2002, La Porta et al. 2008).

Empirically Linking Traumatic Shocks to Modern Firms

Although the theoretical connection between historical traumatic shocks and modern firms is clear, there are still few empirical studies establishing this link. How might scholars advance such an empirical agenda? In this section, we present a guide for how to provide plausibly causal evidence that traumatic shocks generate modern firm heterogeneity. In addition, we raise concerns previously voiced by others (Morck and Yeung 2011) about how the widespread use of historical shocks as instruments can lead to underidentification, as well as arguments for why traumatic shocks may have advantages over other historical instruments.[5]

Figure 2 presents two key approaches to identifying this relationship. The first is to implement a reduced-form model to correlate variation in the historical shock with the modern firm characteristic using regressions with extensive regional and firm-level controls. Pierce and Snyder (2018) use this approach. The goal is to demonstrate that variation in the traumatic shock reliably predicts a statistically and economically significant amount of variation in the key characteristic(s) in modern organizations, even when all other plausible predictors are included as controls. We reiterate that the regressions must demonstrate not only the robustness of the hypothesized relationship to potential omitted variables but also the explanatory power of the shock. A shock that explains a tiny amount of variance,

Figure 2. Two Empirical Approaches to Using Historical Traumatic Shocks



relative to other factors, is of little interest or importance. Pierce and Snyder (2018), for example, show that the African slave trades explain between 5% and 25% of cross-national variance in modern firm access to finance.

This approach also requires evidence of one or more specific institutional or cultural mechanisms that reasonably explain the correlation. One approach is to use qualitative evidence from historians and other scholars that the shock persistently changed cultural or institutional elements known to influence the firm characteristic. As Rowlinson et al. (2014) explain, organizational scholars and historians typically take different but complementary approaches. Without grounding in careful documentation and interpretation of historical events, the causal inference potential of historical shocks is limited. The growing research on the long-term impact of the African slave trades (Nunn 2008), for example, is feasible only because of the meticulous examination and documentation by historians of slave ship manifests and historical African ethnic groups and kingdoms (Austen 1979). Similarly, the large empirical literature on cultural differences within Italy (Guiso et al. 2006) relies on detailed qualitative and ethnographic studies (Banfield 1958, Gambetta 1993).

Ideally, authors would also have quantitative mechanism data to correlate with the shock through regressions with controls. Quantitative analysis would provide additional evidence, in support of qualitative research, of a valid mechanism through which the historical traumatic shock might change modern firms. Existing research that links traumatic shocks to societal outcomes (see Table 1) may already provide this for organizational scholars, so long as the previous evidence is plausibly generalizable to the current setting. Pierce and Snyder (2018), for example, provide a mechanism argument using evidence in Nunn (2008) and Nunn and Wantchekon (2011) of correlations between the slave trade and both trust and institutions.

The second empirical approach is to extend the simple regression model to a more structural two-stage least squares model (2SLS), where the traumatic shock serves as a quasi-instrument for the cultural or institutional factor that predicts firm variance. Siegel et al. (2013) take this approach, instrumenting historical communism for modern egalitarianism in predicting foreign direct investment. Instrumental variable models, however, can be fraught with identification problems such as the exclusion restriction violation, whereby the shock shapes firm characteristics through some path other than the argued mechanism. In Siegel et al. (2013), for example, communism is unlikely to influence foreign direct investment solely through egalitarianism, which reduces confidence that this cultural mechanism is driving investment. Similarly, historical evidence that the slave trades influence modern firms through institutional and trust mechanisms cannot be tested using 2SLS in Pierce and Snyder (2018) because of the inherent underidentification of one variable (slave exports) instrumenting for two mechanisms (centralization and trust). This demonstrates the importance of considering alternative mechanisms and the exclusion restriction validity in arguing causality.

The underidentification problem presented above hints at a much broader concern laid out in Morck and Yeung's (2011) warning about the underidentification of historical instruments *across* the papers in a literature. Consistent with their argument, one historical traumatic shock cannot serve as a valid instrument for many institutional or cultural mechanisms within the same population. As more papers exploit a given historical shock to explain modern organizations, the greater this underidentification problem becomes. This underidentification problem is a crucial reason why providing qualitative and other historical support for a mechanism is so important. As Morck and Yeung note, internally consistent studies can overlook latent factors, especially when using history as the source of shocks. Historical shocks can affect multiple institutional and cultural elements, and each new study that reuses a historical shock might reveal an important latent variable overlooked in past work. For this reason, we encourage researchers to link traumatic shocks to specific changes in formal institutions or culture that ultimately generate firm heterogeneity.

This focus on identifying mechanisms also increases the external validity of papers because it forces researchers to converge on a common understanding of how traumatic shocks both affect institutions and culture and, in turn, define modern firms. Our focus on mechanisms requires researchers to produce a compelling narrative linking shocks to the background rules that shape firm organization and strategy. Subsequent papers using the same shock must either agree with the narrative or produce historical evidence and a competing account of the link between the traumatic shock and the business environment.

It is important to note that although a historical traumatic shock cannot validly identify how multiple mechanisms within a certain population shape one firm characteristic, it *can* validly predict multiple organizational characteristics through one or separate mechanisms. If the African slave trade indeed destroyed trust, for example, then its effects across firms and the broader economy through this mechanism are likely large and multitudinous. We also note that a widespread traumatic shock (such as a worldwide plague or colonialism) could affect different populations through different mechanisms without generating this underidentification problem. The long-term cultural or economic effects of the Holocaust through displaced and murdered Russian professionals (Acemoglu et al. 2011, Grosfeld et al. 2013) might be very different than the effect through dismissed scientists in Germany (Waldinger 2012).

Other Key Identification Challenges

Beyond establishing cultural or institutional mechanisms, we present several other key empirical issues that must be addressed to link historical traumatic shocks with modern firms.

Issue 1: Strong Theoretical Priors. In addition to the underidentification concern discussed above, Morck and Yeung (2011) also highlight the problem of "rummaging through the toolshed of history" (p. 45). As in any empirical analysis, researchers might produce false-positive correlations between a historical shock and a modern firm characteristic if they widely experiment with multiple shocks and characteristics. This is one reason why providing qualitative and/or quantitative evidence of mechanisms is so crucial, and it is also why the robustness of regressions to controls and measures is necessary. Even still, establishing theoretical priors before an empirical investigation can help avoid the ex post rationalization of spurious correlation, a point emphasized by behavioral (Simmons et al. 2011) and organizational (Goldfarb and King 2016) scholars.

Issue 2: Plausible Exogeneity of Shock. The traumatic shock must also be plausibly exogenous enough to draw causal inference. Shocks to culture and institutions that are endogenously determined by existing culture and institutions are not truly shocks. Expectations of pure exogeneity are unrealistic in many cases, such as war and occupation, but scholars must argue that local or regional variance in exposure to the shock (e.g., disease, slavery) is primarily generated by something orthogonal to historical culture and institutions. Thus, while the onset of communism in Germany may not be exogenous, the precise boundary placement between East and West (as in Burchardi and Hassan 2013) with respect to local households might be.

Issue 3: Sufficient Variation in Impact. The traumatic shock must also produce enough variation to differentially impact the culture and institutions relevant to some firms more than others. These variations typically occur at the geographic, ethnic, or national level, but in some instances they could also be temporal. Studies of the long-term impact of the Great Depression, for example, exploit temporal variation in top manager birth dates (Malmendier et al. 2011). Even if the traumatic shock was exogenous and large, if the population of interest to the research was uniformly affected by it, then its impact will be difficult to identify. We note that traumatic shocks may be more likely to generate measurable heterogeneity than positive shocks, such as new technology. Individuals, firms, or governments have strong incentives to replicate positive shocks on themselves and other untreated populations, which tends to homogenize the shock's historical and modern effects. By contrast, actors would rarely choose to replicate a traumatic shock upon themselves.

Issue 4: Not Subsumed by Later Shocks or Permanent Factors. Another concern is that even if a historical traumatic shock was large and with enough variation to generate persistent heterogeneity, its effects may be subsumed by later shocks or by important permanent variation in resources or geography. The effects of the African slave trades, which primarily occurred between the 15th and 19th centuries, were unquestionably massive and widespread for African institutions and culture. Yet they were not the most recent major traumatic shock to affect the continent. Colonialism, which was not widespread in Africa until the "scramble" of the late 19th century, was a traumatic shock that substantially changed the course of its nations and peoples (Michalopoulos and Papaioannou 2016). Similarly, permanent resource differences in Africa, such as mineral deposits, geographic ruggedness, coastline, and climate, may also help shape modern firms. A necessary exercise of slave trade studies (Nunn 2008, Pierce and Snyder 2018) is therefore to show the modern legacy of the slave trade even in the presence of colonial and resource factors. These other shocks and factors reiterate the importance of showing robustness of regressions to other influential factors identified by historians and social scientists.

Evidence of Traumatic Shocks and Modern Firms

We next present six important organizational elements already linked to historical traumatic shocks by scholars: financial contracting, leadership and managerial practices, organizational structure and the boundary of the firm, innovation and technology adoption, entry and entrepreneurship, and human resource practices.

Financial Contracting

Financial contracting is widely linked to historically persistent cultural and institutional elements with known roots in history (e.g., Algan and Cahuc 2010, Guiso et al. 2006). Culturally, finance has been most strongly tied to trust, with studies correlating trust and financial contracting at individual (Greif 1993, Lyon 2000) and firm (Bottazzi et al. 2016, Giannetti and Yafeh 2012, Greve and Kim 2013, Sapienza and Zingales 2012) levels. Formal institutions also influence financial contracting by ensuring creditor power (Aghion and Bolton 1992) and providing borrower information to lenders (Stiglitz and Weiss 1981).

Example: The African Slave Trade and Modern Access to Finance. Pierce and Snyder's (2018) study of the African slave trades shows that modern firms in countries with higher historical slave extraction have less access to credit. Drawing on prior work connecting the historical extraction of 12–18 million Africans to modern economic development and trust (Nunn 2008, Nunn and Wantchekon 2011), they argue that the slave trade had three historical effects—mistrust, ethnic fractionalization, and damaged institutions—that have persisted to inhibit financial contracting in modern firms. Their argument is supported by several key pieces of evidence. First, the historical impact of slave extraction is well documented by historians. Second, local variation in slave extraction across 970 known ethnic groups can be tied to local organizations through national boundaries. Third, there are both plausible cultural (trust and fractionalization) and institutional mechanisms for persistence supported by qualitative and quantitative data, as well as plausible exogeneity in localized slave extraction driven by demand markets for slaves. Finally, subsequent work by Levine et al. (2017) links trust in both financial institutions and information sharing institutions to the slave trade.

Leadership and Managerial Practices

Managerial practices, which link to multiple cultural dimensions (Hofstede et al. 2002), also have potential roots in historical traumatic shocks. McCarthy et al. (2012) argue that the routine use of favors by managers in Brazil, Russia, India, and China originate in colonialism, religion, and past political systems. The cognitive tools and characteristics that drive managerial behavior also vary with culture. Managerial overconfidence, for example, has been linked to cultural background (Weber and Hsee 2000), and it correlates with firm innovation (Galasso and Simcoe 2011) and merger and acquisition performance (Malmendier and Tate 2005, 2008).

Institutions also affect top managers' influence on strategy and performance. Crossland and Hambrick (2007, 2011) argue that American chief executive officers (CEOs) more greatly influence firm performance than do peers in Germany and Japan because of differences in both culture and formal institutions. They argue that some of these differences come from legal origins, which have well-established roots in colonialism (La Porta et al. 2008).

Example: Early-Life Shocks for CEOs. Malmendier and Nagel (2011) provide evidence that the traumatic shocks of economic crisis and war shape future managerial style. In particular, their paper measures the effects of the Great Depression on CEOs born between 1920 and 1929, whose formative years therefore occurred during the economic crisis. CEOs born just before the Great Depression expressed higher debt aversion and relied on internal financing. The authors also showed that CEOs who had experienced another shock—participation in war—used more aggressive strategies such as increased leverage. Similar work by Bianchi and Mohliver (2016) argues that CEO stock option backdating can be explained by cognitive imprinting from early-career economic conditions.

Organizational Form and Boundaries of the Firm

The boundaries and organizational form of the firm also have likely historical roots in traumatic shocks, given the substantial and persistent differences in country-level preferences for organizational form (DiMaggio and Powell 1983, Kogut 1991). One of the most commonly studied cultural traits that affects firm boundaries is trust. Bloom et al. (2013) find evidence that firm owners in India rarely trust people outside their family, limiting growth beyond what can be managed by the family. Similarly, La Porta et al. (1997b) find that trust in family is inversely proportional to the growth of firms at the national level.

Decentralization and information sharing also have ties to culture. Bloom et al. (2012) find multinational firms to more commonly decentralize managerial decisions as bilateral trust between the headquarters country and the affiliate's country increase. Özer et al. (2011) and Dyer and Chu (2003) show that trust and perceived trustworthiness are related to greater supply chain information sharing, which has strong implications for market efficiency through lower transaction costs. Related work links bilateral national cultural differences to cross-border mergers (Ahern et al. 2015, Siegel et al. 2011) and their performance (Very et al. 1997).

Example: Invasions of France and Centralized Decision Making. Using a rich historical analysis, Calori et al. (1997) explain the historical origins of perceived differences in administrative heritage between British and French firms following acquisitions. On the basis of a survey from a related paper (Lubatkin et al. 1998), they argue that French managers are more likely to staff their own managers in key positions as well as centralize decision making over newly acquired subsidiaries. Although they provide multiple historical explanations for these differences, they argue that one of the key origins of this "administrative heritage" (p. 682) is the traumatic shock of repeated military invasions imposed on France over the past millennium.

Entrepreneurship and Entry

Heterogeneity in entrepreneurship and entry may also reflect the legacy of traumatic shocks. Property rights protection, linked to traumatic shocks such as colonialism (La Porta et al. 2008), is a crucial aspect of market-entry decisions (Arregle et al. 2013, Brouthers 2002). Formal institutions are linked not only with entry but also with entry strategies such as joint venture, greenfield, or acquisition (Hitt et al. 2004, Meyer et al. 2009). Entry has also been linked to cultural distance (Kogut and Singh 1988), governance (Dikova and van Witteloostuijn 2007), political hazard (Delios and Henisz 2000, 2003; Henisz and Macher 2004), corruption (Rodriguez et al. 2005), strength of institutions (Meyer et al. 2009), and legal restrictions on ownership (Brouthers 2002). Entrepreneurship is also likely influenced by historically determined culture and institutions. Cultural values strongly influence venture creation decisions (Mitchell et al. 2000); interest in entrepreneurship (Begley and Tan 2001); and the discovery, evaluation, and exploitation of entrepreneurial opportunities (Baker et al. 2005).

Example: Communism, Egalitarianism, and Foreign Direct Investment. Siegel et al. (2011, 2013) discuss how shocks, such as communist rule or war, can change egalitarianism and thereby influence firm entry. Countries that experienced communist regimes, which transformed culture and institutions over decades, implemented close surveillance on individuals and relied on informants to maintain the political status quo. This led to a society with less trust, reducing egalitarian values that rely on voluntary commitment to others' well-being. The authors also argue that wars increase national solidarity and thus egalitarianism. Their additional argument, rooting egalitarianism in religion and societal fractionalization, also suggests that other shocks known to influence these mechanisms, such as pogroms, foreign occupation, and slavery, could be partially deterministic of egalitarianism.

Example: The Jewish Holocaust and Entrepreneurship. Grosfeld et al. (2013) studied the effect of the 20th-century Jewish Holocaust on modern levels of entrepreneurship and support for market economics and democracy. Using the traumatic shock of the Holocaust's dislocation of Jews from the Pale of Settlement in Russia, they use regression discontinuity to show that current residents of the former pale are less engaged in entrepreneurship and express less support for a market economy. This is despite the fact that the dislocation effectively equalized ethnic populations across regions. They argue that the mechanism channeling this historic shock is the ethnic antagonism between Christians and Jews pre-Holocaust. Since Jews represented pro-market forces, gentiles developed an anti-market sentiment in opposition.

Innovation and Technology Adoption

Extensive work documents the effect of positive technological shocks on organizations and strategy (Chandler 1992, Lamoreaux 1988, Moser 2005), yet many traumatic shocks can also shape innovation and technology adoption. Formal institutions heavily influence innovation, particularly in how laws define intellectual property rights. Similarly, culture helps determine risk preferences and objectives in ways likely to influence search and discovery.

One prominent example of institutions shaping innovation is patent law (Cohen et al. 2000). Culture also affects innovation by shaping critical organizational elements, such as learning (Barkema et al. 1996) and knowledge transfer (Björkman et al. 2007, Kostova 1999). Additionally, culture affects how research and development (R&D) is organized within a firm (Ambos and Schlegelmilch 2007) and how productive that R&D is (Kedia et al. 1992, Rosenbusch et al. 2011), and it changes firms' abilities to form alliances and joint ventures for coordinated innovation (Park and Ungson 1997). Even the diffusion of innovation is argued to depend on culture through labor mobility, women in the workforce, and cosmopolitanism (Kumar et al. 1998). Culture can also change firm innovation through manager traits, such as risk tolerance (Shane 1993) and acceptance of change (Geletkanycz 1997).

Example: Indian Colonialism and Technology Adoption. One clear example comes from the British colonial occupation of India (Banerjee and Iyer 2005) in the 18th and 19th centuries. The British established different colonial land rules in different regions of India, with some under direct colonial rule and others managed locally by landlords who imposed markedly higher taxation and expropriation on farmers. Historical evidence shows that farmers under direct colonial rule were more likely to adopt productivity-improving technologies because contracts with the colonial state were respected and enforced, resulting in investments having cumulative effects that are evident in agricultural technology adoption in modern India.

Human Resource and Labor Practices

Human resource and labor practices may have roots in historical traumatic shocks because of strong ties to the formal institutions that constrain and enforce contracts and the cultural norms that shape worker and manager behavior. Culture influences managers' attitudes toward gender roles (Parboteeah et al. 2008), job training (Peretz and Rosenblatt 2011), wages (Gordon 1982), and obligation norms toward working (Parboteeah et al. 2009). Differences in the institutional and cultural labor environment also affect related decisions such as firm location (Hernandez 2014). Recent work has even linked country-specific exports to local ethnic population densities resulting from historical traumatic shocks. Parsons and Vézina (2018) tie modern state-specific exports to Vietnam to historical settlements of Vietnamese boat people in the 1970s.

One research stream that ties modern labor to historical traumatic shocks stems from Max Weber's (1930) concept of "the Protestant work ethic" and the traumatic shocks of colonialism and religious missions on native peoples.[6] The religion of missionaries has been repeatedly linked to modern education and economic development (Bai and Kung 2015, Nunn 2012, Woodberry 2004), as has the spread of the Reformation, which built human capital (particularly in women) by encouraging literacy through the vernacular Bible (Becker and Woessmann 2008). Nunn (2010) similarly found Protestant missionaries to positively impact female human capital, while Catholic missionaries improved the human capital of men.

Example: Shocks to Gender Ratios and Labor Market Participation. Grosjean and Khattar (2015) link the historical forced migration of convicts to Australia by the British to modern female labor market participation. The migrant population, both forced and free, had a very high male-to-female ratio that persisted for more than a century. They show that areas with historically fewer women have lower female labor market participation today, with women less likely to occupy high-ranking positions. Furthermore, they found more conservative views of women in the workforce in historically male-biased areas. Similar evidence from Fernandez et al. (2004) exploits variation in male mobilization during the Second World War, finding that higher female labor force participation persisted a generation after the war, even as gender balance returned. Both studies are broadly important for firm structure and strategy because increased female hiring is thought to improve competitiveness and alter corporate decision making (Dezsö and Ross 2012, Siegel et al. 2014).

Promising Avenues for Future Work

Although we have provided early examples of scholars using historical traumatic shocks to study modern organizations, many promising avenues remain for future work. Here, we provide what we see as fruitful research opportunities from understudied traumatic shocks that meet our necessary criteria: a large and heterogeneous impact to culture or institutions that should affect future firms.

Climate Change

Climate change related to higher temperatures and volatile precipitation has enormous potential to shape future organizations. A rapidly growing literature in economics links weather and climate to economic outcomes and firms (Dell et al. 2014). The Intergovernmental Panel on Climate Change (2014) predicts more frequent and longer heat waves, which in turn are likely to influence migration patterns, especially from rural to urban areas. Mueller et al. (2014), for example, document long-term rural migration in Pakistan in response to high temperature incidence, particularly among men and people with no land. This flow of people can influence labor supply and change workforce gender composition. Weather shocks can also change female mortality. Rose (1999) presents evidence that favorable rainfall shocks increase the survival probability of girls in India because of unequal resource allocation and nutrition. Such workforce gender ratios can have long-term persistent impacts on culture and future human capital (Fernandez et al. 2004). Recent work by Iyigun et al. (2017) also shows the historical effects of climate change on conflict over 500 years, suggesting that climate change in itself might spawn additional traumatic shocks.

Another possible effect of climate change is through crop choices in developing countries. Rice crops, for example, are largely cultivated in areas prone to flooding, drought, and rising sea levels, such as river deltas and rain-fed lowlands, with yields anticipated to decline 10% for each 1°C nighttime temperature increase (Mohanty et al. 2013). Beyond the direct effects of famine on migration and development, a switch from rice to other crops could directly affect culture. Talhelm et al. (2014), for example, argue that farming rice generates cultural collectivism because of the necessary cooperation for its cultivation.

Foreign Invasions of India

India, one of the oldest civilizations on earth, presents a rich opportunity because of both its long history of traumatic shocks and its modern heterogeneity in institutions and culture. Northern India was historically more vulnerable to invasions than Southern India, with long-lasting occupations such as the Muslim Delhi Sultanate for more than 300 years. Work by Chakraborty and Kim (2010) suggests that this history, which persists through religion distribution, might be related to kinship rules and sex ratios that might affect labor markets. Dutt (1992) further argues that foreign invasions might partially explain development differences between the North and South.

More recently, British colonization left enduring marks on present outcomes. Banerjee and Iyer (2005) identify how differences in colonial land revenue institutions predict modern productivity and public investment. Banerjee et al. (2005) and Iyer (2010) link both colonialism and religious minorities to decreased access to public goods. Despite this evidence, the links between history and modern firms have not been well established. There is reason to believe such links exist. Regional differences play an important role in Indian firms, with work by Ghani et al. (2014) suggesting that entrepreneurship in India is highly determined by regional characteristics such as education and infrastructure. Bloom et al. (2013) document wide heterogeneity in Indian management quality and style, which might be linked to the high propensity of family-owned firms. Given that family is one of the strongest intergenerational mechanisms for cultural persistence, cultural differences generated by historical shocks seem likely to still exist today.

New World Occupation and Colonialism

Colonialism and foreign invasion shaped institutions and culture not only in the Old World but also in the New World. The boundaries created by colonization and occupation, for example, can generate ethnic fractionalization and conflict by enveloping more than one group within a state. Dippel's (2014) work on Native American reservations, for example, finds that the forced integration of tribes with no shared governance history generated political conflict and hindered economic development, even when the tribes shared a cultural identity. Recent work (Brown et al. 2017, Cookson 2010) shows that these forced boundaries can also affect industry. Although this work examines the widespread shock of North American reservations on modern business, a large literature on the effects of occupation, colonialism, and slavery on development throughout the Americas (Nunn and Qian 2010, Sokoloff and Engerman 2000) suggests a fertile ground for understanding heterogeneity in modern firms.

Historical Persecution and Modern Israel

An extensive literature examines the many historical traumatic shocks to Jewish peoples (Grosfeld et al. 2013, Pascali 2016, Voigtländer and Voth 2012). The pogroms and forced migrations of 20th-century Jews from around the world to the newly created State of Israel provides an opportunity to understand how a variety of historical experiences might shape firm characteristics in a rapidly growing modern economy. There is reason to believe historical origins might influence firms in Israel. Fershtman and Gneezy (2001) found that region of origin (Ashkenazi versus Eastern) generated discriminatory behavior by (male) Israelis in economic games based on stereotypes. Similarly, Enos and Gidron (2016) highlight strong intra-Jewish cleavages with historical foundations that predate the founding of modern Israel. Recent work by Ellis et al. (2017) suggests that initial conditions early in the Israeli state might still affect modern firms. Although their focus is not on cultural imprinting, the authors' argument can be applied to how the cultural origins of founders from different countries and Jewish subgroups might shape modern firm characteristics.

Conclusion

In this paper, we have tried to illustrate why historical traumatic shocks are important for explaining heterogeneity in modern firms. The broad literature in economics, sociology, and management links modern culture and formal institutions to organizational design and outcomes. But rarely does this literature address the historical origins of culture and institutions and directly link them to firm outcomes. Those papers in economics, sociology, and political science that do examine the roots of modern culture and institutions in traumatic shocks rarely link them to modern firms, instead focusing on economic growth, development, culture, and institutions.

Although many management scholars now argue the importance of history for understanding modern firms (Godfrey et al. 2016, Ingram et al. 2012, Jones and Khanna 2006, Kipping and Üsdiken 2014), we believe that a critical next step for scholars is to exploit the natural experiments of traumatic shocks prior to firm founding to try to causally link culture and institutions to modern organizations. As we have detailed, examples of such research are rare. Given the importance of the management and strategy literature linking culture and institutions to firms, researchers must next establish where those links originate.

We also believe this research stream must continue to conduct detailed qualitative historical research to explicate the detailed mechanisms linking historical culture and institutions with modern organizations. Much of this research must focus on understanding and documenting deep history, although this work is primarily the focus of historians, ethnographers, and anthropologists. Such work is critical because it provides the ideas, stories, data, and rich detail necessary for management scholars to study the deep history–organization link. But a large part of this qualitative research is indeed the responsibility of management scholars. To understand the cultural and institutional foundations of firm heterogeneity, they must understand the origins of those foundations, which often reside in the history that predates the firm.

This paper does not attempt to build a comprehensive theory of the historical roots of markets and firms. Such an endeavor is far beyond the scope of a single paper and has consumed the lifework of many great scholars (e.g., Chandler 1990, North 1990). Nor do we aim to ignore the direct effect of major events on contemporaneous firms of the impact of beneficial historical shocks such as technological innovation; such direct effects are important but far more widely studied. Instead, we seek to highlight and frame an understudied and important component of these historical roots: traumatic societal shocks from before the birth of a firm. Furthermore, we aim to provide a path for researchers to use such shocks to better understand the origins of firm heterogeneity as well as which institutional and cultural factors continue to shape organization and strategy the most.

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Endnotes

[1] Also see Beckman and Burton (2008), Helfat and Peteraf (2003), Sydow et al. (2009), and Vergne and Durand (2011).

[2] See Aupperle (1996), Braguinsky and Hounshell (2016), Kieser (1994), and Silverman and Ingram (2017) for exceptions.

[3] Evidence suggests that biogeographic factors explain over 50% of national variation in development (Olsson and Hibbs 2005), 70% of agricultural adoption, and 44% of historical population density (Spolaore and Wacziarg 2013).

[4] We note that traumatic shocks also can deeply hurt general human capital, which is crucial for both firms and development (Gennaioli et al. 2013).

[5] See Certo et al. (2016) for a broader discussion of the limits of instrumental variables in strategy and management.

[6] Religious missions may or may not have been purely "traumatic" in their shocks to local native societies, but the trauma of many such missions is widely documented.

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