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Fundamental Issues in Strategy: Time to Reassess?

"We created a secure global economic commons which is now coming apart."

-George P. Shultz, Stanford, April 17, 2019

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Abstract

The field of strategic management has developed with an implicit assumption that market economies are structurally more or less similar. In the past 30 years, though, the global economy has evolved. The Soviet Union collapsed, market-based orthodoxy spread, and now China is ascendant. These developments require changing our mental models from the Cold War era, in which two economic biases were quite distinct, to a bifurcated global economy of two engaged but incompatible systems: one side favoring transparency and the rule of law and the other part favoring opaqueness and strategic direction of the economy by government. China's government uses a wide range of policies to support the development of domestic firms while hindering the activities of competitors from abroad and, directly or indirectly, misappropriating their technology when they can do so, which is often. To cope with this situation—as well as with political uncertainty elsewhere in the world—firms need to develop strong dynamic capabilities for formulating viable strategies to create and capture value under potentially adverse and volatile conditions, and to shape the business environment in more favorable ways through market and non-market activity.

I. Introduction

Twenty-five years ago, Dick Rumelt, Dan Schendel and I, in the preface to *Fundamental Issues in Strategy* (1994), declared our intent to map the "intellectual backbone" of strategic management while simultaneously redefining the field "in the terms of fundamental questions rather than in terms of techniques, empirical methods, 'conceptual schemes', or even the perspective of purely discipline-based theories" (p.*xi*)

We identified four fundamental questions in our 1994 book:

1. How do firms behave?

2. Why are firms different?

3. What is the function of, or value added by, the headquarters unit of a multi-business firm?

4. What determines the success or failure of the firm is international competition?

A quarter century later, I submit, the issues we face are different in important ways. Not so much as to make irrelevant all that has come before; but more than enough to reconsider what should be deemed "fundamental" to strategic management in the 21st century. As we noted in our afterword in 1994, "what is strategic changes over time" (p.553). I fear that we were also stating a timeless truth when we wrote that "today's strategic issues… are only dimly perceived by anyone within the academy" (p.553).

Interestingly, in 1994 we did not directly pose as a fundamental question how to achieve durable competitive advantage in a single-nation context. If the national/international distinction meant something in 1994, it has all but collapsed today. Competition from enterprises headquartered or competing from abroad can significantly impact competitiveness in the home economy either through direct competition or indirectly.

A number of new dimensions of competition have emerged over the past quarter century (Teece, 2012a). These include a far broader dispersion of innovative resources, the growing technical complexity and scope of many products, and the rise of platforms leading to inter-ecosystem competition.

In this essay, however, I will argue that the fourth question above, about international competition, requires urgent attention, principally because of the rise of China. Moreover, international competition is so ubiquitous that strategy scholars can no longer relegate this to the field of international business and expect to have even a semi-coherent field of their own.

Whereas U.S. international trade in goods and services accounted for 16% of the nation's GDP in 1977, in 2017 that share rose to 27%. The stock (or cumulative flows) of U.S. foreign

direct investment (FDI) abroad was $3.6 trillion in 2009 and increased to $6 trillion in 2017. And, the stock of inbound FDI in the U.S. grew from $2.1 trillion in 2009 to $4 trillion by 2017.[1]

A fast-growing Chinese economy has been central to this evolution. The world economy previously absorbed the rise of Japan and the other Asian tiger economies without seeing the tenets of the relatively open rule-of-law based trade, technology and investment system significantly challenged. Now, however, China's potent, autocratic variant of market capitalism has emerged: one that fuels intense competition by domestic firms. The system features a weak rule of law and a distinct lack of transparency. Large state-owned enterprises and "private" enterprises with opaque ties to the state are assisted against foreign rivals by government regulators and by access to loans and cash infusions from government-linked banks and from a weakly regulated "shadow" finance sector. The "rules" are politically derived, ambiguous, and rarely subject to appeal. The German industry board refers to China as delivering "systemic competition" because the firm and the nation-state are often fused in ways that are uncommon in the West (Federation of German Industries, 2019).

Of course, during the Cold War, the Soviet Union also offered an alternative approach to economic organizations and governance. But western firms were only tangentially engaged with the Soviet economy, and experience there had virtually no effect on strategic management thinking.

After the Soviet Union collapsed, the liberal "Washington Consensus" in favor of open markets seemed unassailable. For strategic management, scholars and practitioners, the post-Cold War era required no alteration of its focus on competition between firms with similar governance and which often operated in a lightly regulated market. Not so today, when a new "China Model" appears to be in ascendency, especially in developing countries. Meanwhile, market regulation in the West seems to be responding by becoming more arbitrary and political, in part because of the absence of a coherent theory about how to respond.

This reality is front-of-mind for business leaders, but it occupies a relatively small niche in the strategic management literature. Issues of international political economy and global governance haven't been entirely absent from the literature (e.g., Murtha and Lenway, 1994; Hillman and Hitt, 1999; Henisz and Zelner, 2005, 2012). Yet this stream of literature remains a backwater.

With the rise of China, the strategic management literature needs a reset. China's socialist market economy has become far too important to the fortunes of many business firms abroad and

[1] At the same time, over the last decade and a half, average annual GDP growth (adjusted for inflation) in emerging markets has been at least twice the rate as that of advanced countries. Significantly, that growth multiple of two has been steady *across business cycles* throughout this period and will continue to be so for the foreseeable future. [Broadman, 2019].

at home for strategic management to treat it as no more than a special case. China has not only been able to leverage access of its market to acquire intangible assets that it wants, it has also learned to assert itself in global trade, antitrust, and standard-setting processes, all to the benefit of China-based enterprises.

In short, global economic governance is broken and may be in the process of bifurcating. One side favors transparency, the (classical) rule of law, and democracy, while the other side offers opaqueness, government influence over business decisions, and authoritarianism.[2] Individual countries lie between these two extremes.

As the George Shultz quote on the title page indicates, the global economic commons, previously supported by a hegemonic United States, is now coming apart, and the principal cause is the rise of China, its behavior, and the reactions it has provoked. A key question going forward is the extent to which the global economy will actually see conscious decoupling of the two types of economy rather than continued economic engagement.

Business enterprises have for centuries dealt with corrupt and authoritarian governments abroad, but China has attained a weight in the world economy that makes its system distinctly significant. Its blend of capitalism and Leninism (McGregor, 2011) keeps foreign firms off balance with a blend of the familiar and the arbitrary. Claims have been raised worldwide concerning industrial espionage—via both human intelligence and cyberespionage—initiated or encouraged by the government. Moreover, China's impact is not bounded within its borders. China's Belt and Road initiative of major overseas infrastructure projects is designed, in part, to spread its preferred form of political governance around the world. Even firms that aren't participating directly in the Chinese economy need to be cognizant of how China affects the global business environment.

As strategy scholars, we need to understand how business firms can compete, if at all, when confronted by this new form of competition. I submit that it is necessary to expand on the fourth fundamental question by adding three sub-questions:

4a. How do home country conditions shape the competitive advantage of multinationals?

4b. What determines the success or failure of global business firms in China?

4c. How do managers build and sustain competitive advantage when confronting rivals benefiting from state support?

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[2] Measures of transparency (e.g., the Corruption Perceptions Index from Transparency International) and political freedom (e.g., the Democracy Index from the Economist Intelligence Unit) are strongly correlated. For the purposes of this paper, they will be treated as a single dimension.

In 1994 it made sense to ignore the rules of the game because they were seen as reasonably universal.[3] That assumption is no longer valid. Chinese state involvement in and on behalf of Chinese firms is now so significant that the rules of the game are no longer even-handed. They were never perfectly so; now they are not even approximately so. The Chinese Communist Party (CCP) has long demanded special privileges in the global trading system and continues to push past even those permissive limits. More recently, President Trump's "America First" rhetoric represents a break from the past when the U.S. was willing to shoulder the cost of leadership and put up with market favoritism by its trading partners.

In the remainder of this paper, I begin by revisiting and expanding Michael Porter's "diamond" model of competitive advantage to more thoroughly integrate initial conditions, technological opportunities, and managerial choices. I also briefly recap the dynamic capabilities framework put forward as a flexible construct for conceptualizing how firms create and exploit advantages. Then I describe the conditions of Chinese-style competition, including an unlevel policy and regulatory environment and a large number of generously financed, agile firms. A separate section details the policy tools that China has brought to bear on shaping the economy. This is followed by a discussion of what business firms and nations need to do if they are to compete with Chinese business firms.

II. The Broader Foundations of Competitive Advantage

Michael Porter's "diamond" (Porter, 1994, p.453, fig.15-5) was—and remains—a good start with respect to framing issues of strategic management in a global context. Firms bear the imprint of their national origins, specifically the state of (*i*) factor markets, (*ii*) demand, (*iii*) support industries, and (*iv*) inter-firm competition. However, it makes the assumption that a fairly reliable regulatory environment can be taken for granted.

In developing a firm-level view of strategy, Porter emphasizes the firm's activities and its cost structure, all rooted in the diamond. He mentions differentiation as a possible source of advantage, but his focus on the value chain leads him to concentrate more on cost leadership. He is even somewhat dismissive of the resource-based view as a theory of advantage, claiming that it "must complement, not replace, stress on market positions" (Porter, 1994, p.446). For Porter, "the true origin of competitive advantage may be found in the firm's proximate or local environment" (Porter, 1994, p.451). In other words, it comes down to the diamond.

[3] The field of international business clearly did not and does not take this perspective

Porter did recognize that "government plays an important part in shaping the pressures, incentives, and capabilities of the nation's firms" (Porter, 1994, p.455).[4] But the nexus of domestic governance and firm-level competitiveness remains underdeveloped in his work because of the implicit assumption of rules-based competition ("the state of the diamond ... sets the pressures on firms to improve and upgrade" (Porter, 1994, p.459)). As a result, Porter's focus on market forces led him to avoid exploring government-industry linkages such as the ability of industrial policy to "create" comparative advantage that earlier scholars had developed after studying cases like Japan's post-war development (e.g., Tyson and Zysman, 1983). More importantly for the present moment, he and others are unable to explain how firms from a rules-based system can compete (if at all) when they come up against firms from a non-rule-of-law system in which enterprise and government are joined at the hip. Such locking together may be visible or invisible (Federation of German Industries, 2019).[5]

Moreover, there was no consideration given, either by Porter or by ourselves as editors, to the importance, of the international rules of the game… or more properly, the global system of economic governance. We implicitly took the open (liberal) trading and investment system as a given, not a choice or influence variable for firms.

Finally, there was no organized framework presented for discussing the creation, acquisition, and organization, and deployment of firm capabilities, with inter-firm differences attributed to strategy (Williams, 1994) or evolution (Nelson, 1994). Porter noted that "The firm cannot be seen only as optimizing within tight constraints but as having the ability to shift the constraints through creative strategy choices, other innovative activity, and the assembly of skills and other needed capabilities." (Porter, 1994, p.449). I believe this insight is still correct, and it is nearly consistent with dynamic capabilities. Without the adoption and elaboration of a more complete capabilities framework, I do not believe that the field of strategic management can advance much further. Without strong dynamic capabilities, I believe firms will be overwhelmed by the complexity of the era of bifurcated governance.

a. Beyond Five Forces, Resources, and "Diamonds"

The fundamental problem in the field of strategic management—how firms build and sustain competitive advantage—still stands preeminent. However, I believe it is now necessary to dig deeper, and examine what some scholars call "initial conditions" or "institutional foundations".

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[4] I also note Porter's discussion of capabilities/resources and the need for strategic alignment both internally and externally. These are critical concerns for strategic management, falling under the second of the fundamental issues, why firms differ, yet they are too often excluded when Porter's ideas are applied.

[5] As evidence of the invisibility of enterprise-government ties, a debate has broken out whether Huawei, one of China's most successful technology firms, is private and employee-owned, as the company claims, or actually controlled by the state (Balding and Clark, 2019).

This is because China may have invented a more potent form of market capitalism, which has the state working not so much in a top down role like that of Japan's Ministry of International Trade and Industry (MITI) in the second half of the twentieth century, but in a "bottom up" role where it fosters competition by providing the regulatory framework and the finance to seed and grow tens of thousands of new enterprises.

The fact that an incredibly supportive domestic environment exists in China—and one that does not provide even-handed treatment to foreign firms when they are in strategic industries—changes the competitive landscape to such a degree that the standard analyses of strategy questions are no longer helpful. It's not only that the rules of the game are different; it's also that they are applied differently according to an investor's nation of origin, its political connections, and whether an industry is considered "strategic."[6]

In Porter's framework, firm-level strategy is driven by (1) initial conditions and (2) managerial choices (Porter, 1994, p.459). The initial conditions set up opportunities and constraints, while managerial choices determine the fates of individual firms. In his book on national advantage, he explicitly adds government as a background influence on each part of the diamond (Porter, 1990, p.127).

What I am proposing goes beyond Porter's diamond, combining it with what Richard Nelson (1993) calls the "national systems of innovation" framework, Porter's "five forces" approach to industry analysis, and my own dynamic capabilities framework.

First, national culture, in terms of fairness and corruption, doesn't act only on factor markets, demand, conditions, support industries, and competition (link 2 in Figure 1); it also shapes the innovation system (i.e., how the relevant public and private organizations interact to determine the innovative performance of national firms). Vasudeva (2009), for example, showed how the combined level of statism and corporatism of a country shapes the knowledge-building opportunities for national and foreign firms through its levels of openness, incentives, and political commitment.

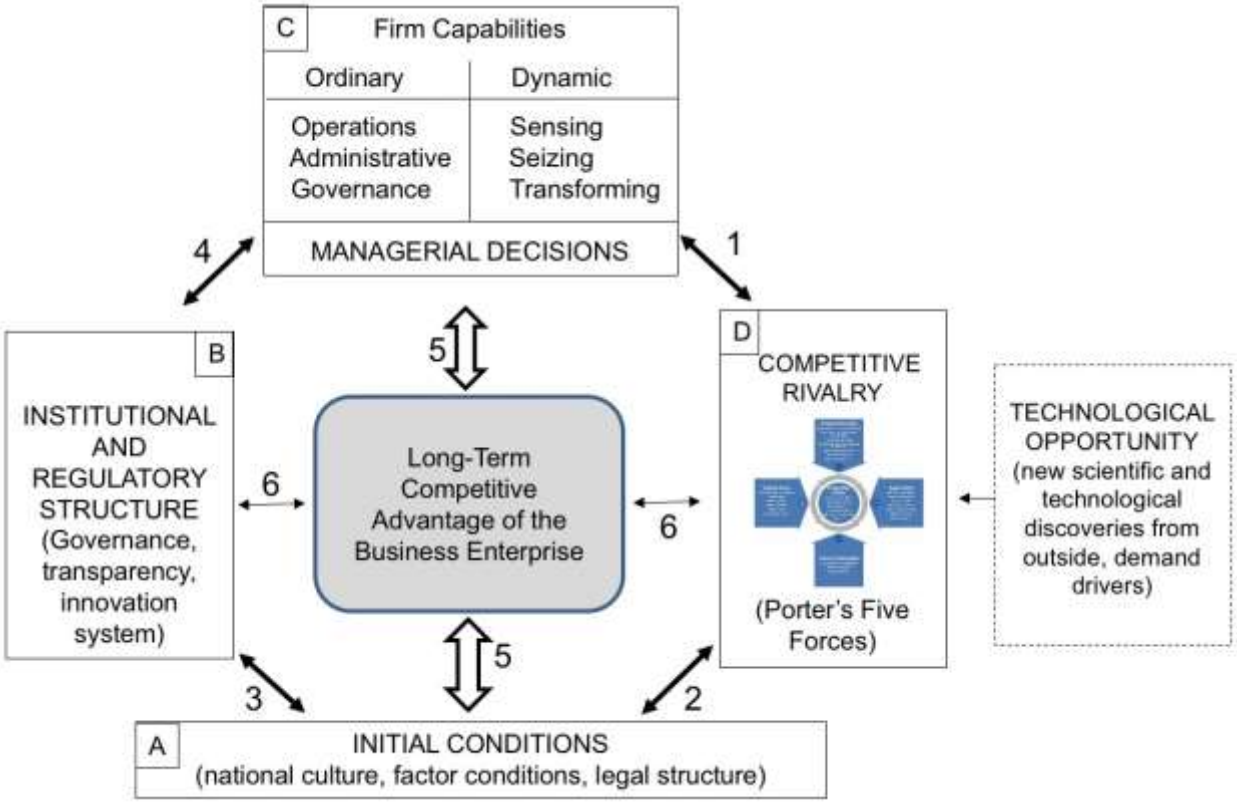
More generally, national culture amounts to a non-market layer of the business environment that managers must navigate if they are to succeed (link 3). This layer will be thin and transparent in some countries, and thick and opaque in others. These dimensions are captured to

[6] China's government regularly identifies strategic industries it wants to see developed. This indicates to investors where activities are most likely to be treated favorably. For instance, as part of the current Five-Year Plan (ending in 2020), the National Development and Reform Commission, China's top economic policymaking body, released an updated list of "Strategic Emerging Industries" in 2017. The top five were Next generation information technology, High-end equipment manufacturing, New materials, Biotechnology, and New-energy vehicles. See https://www.globalpolicywatch.com/2017/03/china-names-latest-strategic-emerging-industries/ (accessed July 14, 2019).

some extent by measures of political risk, i.e., the ability of policymakers to make major changes without checks or challenges. This has already been applied in positive studies of strategic management. For example, Holburn and Zelner (2010) showed that a multinational is more likely to invest abroad in countries with political hazards similar to its home country. Henisz and Macher (2004) showed how a firm's level of technology interacts with a host-country's level of technology and political risk to co-determine the firm's investment decision.

Second, managerial decisions play a more fundamental role in the growth prospects of an economy than economists (and economics-derived strategy models such as Porter's) have allowed. The existence of technologies and markets cannot be taken as given. Rather, both must be called into being and shaped by managers through their resource allocation and related decisions (arrows not shown in Figure 1). As Dosi (1982) explained, new technological trajectories result from "the attempts (either by new companies or old ones) ... to implement and commercially exploit 'extraordinary technology', driven by the search for new profit and market opportunities" (p.157). The dynamic capabilities framework is explicitly concerned with the opportunity detection and exploitation processes that managers pursue to create advantage.

Figure 1: The (Integrated) Foundations of Firm-Level Competitive Advantage



A more complete "integrated diamond" which focuses on the true foundations of firm-level competitive advantage might look like Figure 1, which shows the interactions among enterprises,

institutions, government, and markets.[7] In the conventional neoclassical economic theory of optimizing firms, box D, the world of Porter's five forces, looks at competitive pressures (vertical, lateral, and horizontal) and helps one understand the forces that shape and constrain the business performance of the focal firm. In the dynamic capabilities theory of the firm, by contrast, managerial decisions result in the selection of programs and projects and the allocation of resources to develop and harness technologies that can shape markets and blunt competitive pressures. The direction of causality is practically the opposite of Porter's, at least for firms with strong dynamic capabilities.

Over the longer run, surviving firms with strong capabilities will perhaps shape the regulatory and governance institutions and conditions that firms themselves face (links 5 and 6). These institutions generally enable and shape enterprise evolution and competition. The institutions of the national system of innovation, for example, can shape or accelerate the development of technology (arrow not shown). Similarly, corporate governance regulations help determine how firms manage the uncertain process of innovation.

All of these issues are, and have been, germane to the research agenda of some scholars in the field of strategic management. In particular, the dynamic capabilities framework, while putting initial conditions to one side, recognizes the need for alignment with all aspects of the business environment. The issue, though, is where should the field be focusing now? My answer is that we need to deepen our understanding of link 4 in Figure 1; i.e., the nexus between institutions/governance and managerial choices. As Lazonick and others have reminded us, management behavior and decisions are very much impacted by managerial incentives as well as by the incentives facing financial agents operating in capital markets. My own work has also examined this nexus, such as how the appropriability regime (including the state of intellectual property rights enforcement) applicable to an innovation) shapes the possibility set for strategy development (Teece, 1986, 2006).

If the prevailing global order continues to break down, the role of national and regional governments in the liberal democracies will need to change. A firm can lose or gain competitive advantage because of strengths and weaknesses in its home country environment. Firms and institutions need to be in sync.

For strategic management scholars, ignoring link 5, which connects initial condition in a nation-state to firm-level performance, is no longer possible.

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[7] In terms of Williamson's (2000) schema for the New Institutional Economics, the "Initial Conditions" of Figure 1 are his Embeddedness level, "Institutional and Governance Structure" encompasses Williamson's levels 2 and 3, and "Firm Capabilities" are his Resource Allocation and Employment level. The recognition of incompatibility between the institutions (and embedded norms) of China and the West is leading to a period of flux in governance arrangements, particularly in the West.

b. Dynamic Capabilities for Navigating the Global Economy

The framework that can perhaps best help managers conceptualize 21st-century competition in domestic and foreign markets is dynamic capabilities (Teece, 2014a). This framework highlights the importance of a strategic, forward-looking perspective; the potential for adapting to and, sometimes, shaping the domestic and international environment in ways that support the business; and the agility needed to cope with deep environmental uncertainty (Teece, Peteraf, & Leih, 2016). The (growing) presence of deep uncertainty (primary uncertainty) of the type that can't be modeled is often overlooked or confused with more tractable types of behavioral or competitive uncertainty (secondary uncertainty) (Koopmans, 1957). Strong dynamic capabilities, embodied in responsive leadership and resilient organizational design, can help a firm to achieve ongoing, evolutionary fitness that keeps pace with changes in the business environment.

Most of what gets talked about as capabilities in the vernacular of business today are what I call "ordinary" capabilities. These permit the performance of well-delineated tasks in the areas of administration, operations, and governance. They involve routines that are frequently repeated and can be codified more or less completely. This allows the adoption and propagation of "best practices" but risks favoring efficiency over effectiveness. In other words, ordinary capabilities are short-sighted when it comes to looking toward the future.

Dynamic capabilities, by contrast, require entrepreneurial styles that contribute to the orchestration of a company's resources in alignment with the changing demands of customers, the evolving possibilities opened up by new technology, and the need to respond to emerging threats. Strong dynamic capabilities allow a business to clear the hurdles of the present and propel itself into the future.

Dynamic capabilities are rooted in organization-wide processes, values, and culture, but also in the top management team. Astute entrepreneurial leadership capable of formulating and executing on a good strategy is the *sine qua non* of strong dynamic capabilities (Teece, 2016). Good strategic leadership entails understanding the foundations of the organization's competitive advantage as well as its vulnerabilities. Top executives need to have an entrepreneurial outlook, "see around corners," inspire a willingness to transform, and be able to lead the transformation process. This requires developing and propagating a mental model that helps prioritize signals and options in the relevant environment. An executive of a multinational enterprise competing with Chinese firms while relying on a mental model based on limited government is headed for a fall (Paine, 2010).

The most important dynamic capabilities are three clusters of entrepreneurial and change-oriented activities that take place concurrently throughout the organization—sensing, seizing, and transforming. There are also numerous supporting (microfoundational) dynamic capabilities, such as systems for forming external partnerships or for developing new products (Teece, 2007).

These involve (often idiosyncratic) routines that recur with more or less frequency. But it is the three groups of higher-order dynamic capabilities that make or break a firm longer term.

The activities for "sensing" (and concomitant sensemaking) include environmental scanning and the generation and testing of hypotheses about the forces affecting the company and its markets. Using data and observations from internal and external sources, the firm must continuously monitor its environment, prioritize focus areas, and identify new opportunities such as underserved markets or supplemental revenue sources. Strong sensing and sensemaking requires an internal knowledge network built on decentralized authority, a collaborative organizational culture, and the ability to extract meaning from heterogenous signals, some strong and some weak.

"Seizing" activities are vital so that a firm that senses an opportunity or threat is able to act on it in a timely and effective manner. A key seizing activity is the design or updating of business models for new products and services. Seizing also encompasses allocating resources, including cash, to high-yield uses, or uses with the potential to become so (Lovallo & Teece, 2019).

The activities involved in "transforming" the organization periodically restructure it to maintain evolutionary fitness. New procedures, new structures, and the abandonment of older units are needed as new products, services, or business models are introduced. Radical, rather than incremental change is sometimes needed. Even more fundamental is the need to create and periodically refresh organizational culture to embrace and support change in the service of a new shared strategic vision. Organizational cultures are, of course, slow to change, and years may be required to lead a large organization to a new more dynamic and entrepreneurial way of operating.

The three clusters of dynamic capabilities must be linked to, and be an integral part of, strategy. Strategy, by which I mean primarily a coherent plan to deploy resources in a way that will be hard for the competition to copy, is developed by managers based on assessments of the capabilities under their control and the markets and technologies they face (Rumelt, 2011). To be fully effective, strong dynamic capabilities must include sound strategy.[8] Capabilities and strategy codetermine performance. Different strategies require different capabilities, and vice versa. Firms with weaker capabilities will require different strategies from firms with stronger capabilities. The effectiveness of dynamic capabilities will be undermined by poor strategy.

Particularly relevant in the context of this article is corporate political strategy (CPS), about which there is a sizable literature. Some studies (e.g., Bonardi, 2011; Oliver & Holzinger, 2008)

[8] The original Teece et al. (1997) paper on dynamic capabilities was titled "Dynamic Capabilities and Strategic Management." How capabilities and strategy fit together is explained in Teece (2014a).

have already linked CPS to dynamic capabilities or the related resource-based approach. However, apart from the handful of examples cited in the previous section, these have assumed a classical rule-of-law environment. Dealing with the Chinese or Russian governments, or countering their influence abroad, will require the reassessment of existing findings to determine which ones are likely to translate to the new global environment in which major economies are undermining the rule of law-based order represented by the World Trade Organization (WTO) and other institutions of the post-World War II period.

Assuming that the liberal democracies don't themselves all sink into autocracy, I believe we are likely to see two systems of "rules" emerging—what I call bifurcated global governance—interacting to a greater or lesser degree while remaining distinct and incompatible. China will lead one grouping (the autocracies) and the U.S. (hopefully together with Europe and Japan) the other. Nations advancing these governance regimes will both cooperate and compete economically and militarily. Key countries, such as Turkey, will swing between one and the other as a means of maximizing leverage. Firms attempting to bridge the two spheres will need strong dynamic capabilities to succeed.

III. The China Challenge: Systemic Competition

China is soon to be the largest economy in the world.[9] What happens in China has implications everywhere.

The open, classical rule-of-law system that evolved after World War II sought to strike down barriers to trade and investment. China appeared to be integrating into this system until the onset of the Great Recession in 2007, which perhaps led China's leaders to believe that Western democracies were weakened and to launch more aggressive policies (Schell& Shirk, 2019, p.9).

For most of the late twentieth century, the absorptive capacity of China's domestic firms was limited, but this is no longer the case. China is now home to a number of firms that are at, or near, the technological frontier in many strategic sectors and that now own complementary assets for global distribution and sales. Some Chinese companies have strong entrepreneurial leaders, but they have also received strong governmental encouragement and assistance while benefiting from measures that the Chinese government imposes to hobble foreign competitors. Huawei, Geely, Tencent, Alibaba and Haier are powerful testaments to what has been accomplished. The

[9] On a purchasing power parity basis, China's economy is already bigger than the U.S. and three times larger than Japan.

2019 Fortune Global 500 includes for the first time almost as many Chinese (119) as American (121) firms.[10]

Because the Chinese business environment is quite unique and hugely important to the global economy, strategy scholars need a much deeper understanding of its business ecosystem than might have been necessary in other contexts. We begin here by characterizing the relationship between Chinese enterprises and the government, then look at how their joint activities have come to imperil the prevailing system of global governance. In the process, a number of Chinese policies will be mentioned that will then be explored in more detail in the following section.

a. Chinese Firms and the State

The Chinese government (including both local and national entities) helps its firms in a number of ways. It is particularly protective of state-owned firms, while sometimes moving to keep private firms in check. Generally, it supports strong competition among domestic firms by not just allowing but also actively funding a multitude of new domestic entrants in technology domains it has targeted. This is a sharp contrast with the policies followed in an earlier era by MITI in Japan, which was quite selective in choosing the companies deserving support.

When China targets an area of technology for development by Chinese firms, it often introduces steep tariffs on imports and subsidies for domestic suppliers (Howell, Lee, & Heal, 2014). The global pharmaceutical industry and the electronics industry have a particularly hard time because of it. Pfizer, for example, faced fifteen years of litigation before it could introduce Viagra in China, by which time it faced competition from counterfeiters and a Chinese producer of a generic equivalent (Schotter & Teagarden, 2014). Similar policy-based tactics are pursued in other major industries, including aircraft.

The Chinese variant of capitalism has produced strong domestic competitors in a number of industries. In many cases they are locked arm in arm with government, local and national, and intent on building global competitiveness in domestic and overseas markets. Technologically, Chinese enterprises have reached a level where they're starting to set the standards for future competition in China and abroad (Strumpf, 2019).

Apart from a core group of large, innovative firms, the broader innovation ecosystem in China seems so far to be focused on a fast follower strategy—and they are very fast indeed. Many smaller firms make only copycat products; but the better companies are moving beyond imitation, developing their own distinctive niche products, often with distinctive business models as well.

[10] 80% of the Chinese firms in the Global 500 are state-owned enterprises: https://www.scmp.com/business/companies/article/3019632/first-china-has-more-companies-fortune-global-500-list-us.

Chinese firms, especially state-owned enterprises, are relatively less driven by the profit motive than their Western counterparts. Considerable emphasis is placed on employment growth (or at least maintenance), innovation, and market share. China has a multi-stakeholder view of the business enterprise, with government actively directing—or at minimum nudging—companies to embrace initiatives and projects the Chinese Communist Party (CCP) feels are important.

The Chinese central government has often talked up the idea of national champions, but it hasn't been especially strict about enforcing its will in that respect on domestic firms, possibly recognizing the trade-offs that come from allowing a greater number of entrants. Entrepreneur-led Internet companies like Alibaba, Baidu, and Tencent have proved to be effective domestic competitors, developing unique business model variations based on those of their Silicon Valley forebears, even as U.S. companies like eBay stumbled in China even before the government tightened control of the digital realm (Press, 2017).

China's willingness to back home-grown champions became particularly noticeable with the launch in 2015 of the "Made in China 2025" plan and its associated, techno-nationalist policies targeting key industries (Koleski & Salidjanova, 2018). China has poured resources into emerging technologies such as 5G wireless (Liao, 2019) and electric vehicles (Wang et al., 2017) in a bid to seize global leadership. For example, the 2025 plan calls for "new energy" (primarily electric) vehicles to achieve 80% domestic market share, with foreign sales accounting for no more than 10% of total sales by 2025.[11] Some already refer to this as a technological "cold war" between the U.S. and China.[12]

China's five-year and other national plans amount to a strategic vision, signaling to regulators that they need to accommodate new industries. The liberal democracies lack such a technology-supportive stance.[13] China's national plans do not dictate but rather channel the actions of government officials and company managers, often leading to effective coordination between industry and government with good results for economic development.

The state takes many legitimate actions in support of its firms that other countries either cannot or choose not to take. China, for example, has a looser approach to data management in many spheres of economic life. This gives Chinese firms easy access to large data sets, which speeds the training of machine learning algorithms for a multitude of new applications. Whereas

[11] Made in China 2025 Key Area Technology Roadmap, 6.2.2, as cited in USTR (2018).

[12] Ash, T. "China and the US: trade war or cold war?" *Financial Times*, December 6, 2018 print edition.

[13] In this regard, Mazzucato's call for large public-private mission-oriented investments in applied research to address global problems is a promising initiative. The European Union has committed €100 billion to a Horizon fund for this purpose (Unger, 2019).

the U.S. and EU are erecting barriers to the use of individual health and other personal data, the Chinese government can squelch such efforts and provide access to personal data where it sees potential advantages from doing so.

The government also moves quickly to provide regulatory and physical infrastructure for new markets such as autonomous vehicles. U.S., European, and Japanese regulatory regimes are so ossified (and, arguably, "anti-business") that they are increasingly unlikely to be the first movers in accommodating new technologies.

In short, China goes to great lengths—some compliant with international norms and others less so—to create an asymmetric competitive advantage for its firms. Recently, it has been doing so for digital commerce, for autonomous vehicles, and for electric autos and trucks. Countervailing support (not necessarily financial) from "home" country governments may be part of what is needed to restore competitive balance.

b. Chinese Predation and the Corrosion of the Global Market System

The Chinese advantage is aided in part by a set of national policies and local practices which violate international rules yet are difficult for non-Chinese firms to counter. These include a plethora of mechanisms such as intellectual property (IP) theft (by both private and official agents), regulatory pressures, and financial favoritism to state-owned enterprises (SOEs) and other politically connected businesses, all designed to tilt the global economic system in favor of domestic players.

The strategic management and international business literatures (e.g., Arregle, Miller, Hitt, & Beamish, 2013; Peng, Wang, & Jiang, 2008) have already addressed the standard measures of protectionism such as tariffs and quotas, or the blunt nationalization of assets as seen in Latin America. However, these well-documented and well-studied mechanisms do not capture the scope or the nature of the domestic support provided in China.

The CCP is more predatory than protectionist. It does not seek physical asset appropriation but rather intellectual capital appropriation and misappropriation to increase the capabilities of domestic firms. The measures it uses will be detailed in the next section, which focuses on value capture.

China has developed a particular expertise in controlling how data is gathered and accessed within its borders, creating further distortions. In 2016, invoking cybersecurity concerns, China enacted a law requiring companies to store all their China-linked data within China's borders in order to pass security reviews and to standardize the collection of personal information, "effectively giving the government access to vast amounts of private data" (Lund and Tyson,

2018).[14] Moreover, China's cybersecurity regulations are vague and have caused widespread worries among technology firms as they place new requirements and restrictions on data storage and data flows (Lin & Kubota, 2017). In 2018, pressure was ratcheted up further by new rules allowing police officers to physically inspect businesses and remotely access corporate networks to check for potential security loopholes (Li, 2018). It is becoming almost impossible for many companies to continue operating in China without severely compromising their business models, intellectual property, and corporate values. China's behavior is tantamount to that of a buyer's cartel that denies innovators the returns they need to keep on innovating.

China's state-led predation is a global phenomenon. Contrary to WTO rules, Chinese firms have flooded world markets with subsidized production in one industry after another (Badkar, 2013). Yet, since 2016, China has claimed that it is automatically entitled to "market economy" status that would limit the anti-dumping leverage of other countries against it (Bulloch, 2017). As Western countries begin to take non-compliant measures in retaliation, we are witnessing the corrosion and weakening of the open, rule-based global market system.

When China joined the WTO in 2001, many believed that it would embrace greater economic liberalism and perhaps even undergo a democratic transformation (Campbell, and Ratner, 2018). Instead, China has adroitly captured the benefits of the open, transparent system crafted over the last 70 years without fully embracing its key principles.

Multinational investors have proved all too willing to enjoy short-term boosts in profits from access first to cheap Chinese land and labor, then to its prospering middle class in exchange for various forms of voluntary and involuntary technology transfer.[15] Wei and Davis (2018) quote a policymaker in Beijing saying "China's offer to the world has been straightforward […] Foreign companies are allowed to access China's markets but they would need to contribute something in return: their technology."

[14] Similar digital protectionism is gaining popularity among politicians in the EU and the U.S., often for reasons of consumer protection. In the digital realm, fragmentation of the global economy may go well beyond bifurcation.

[15] It was once said by Lenin that "the Capitalists will sell us the rope with which I will hang them". This has proved true in China, where multinational investors committed so deeply in order to profit from low labor and land costs that the world economy would be rocked if they suddenly tried to relocate. The same principle applies in the technology realm where too many firms are eager to sell their technology. This could be for fear that either (i) it will be stolen anyway, or (ii) a competitor will provide the know-how instead. But it's also true that the deleterious effects on the company's future business generally don't appear until after the period of current CEO tenure. Shareholder activists tend to encourage and reward such short termism.

Since the 2008 financial crisis in the U.S. and Europe, China's government has grown steadily more confident that it can go its own way (Chen & Wang, 2011). The accession of Xi Xinping to the presidency in 2013 has led China even further down a mercantilist road.[16]

c. Increased Integration of Civil and Military Resources

Another aspect of China's uniqueness is the close connection between its military and civilian sectors. Military-civilian fusion in China embraces broad coordination and planning of economic development and national security (Xinhua, 2017). This allows every commercial issue to become a matter of national security.

Something of this nature is not unknown in the West. In the U.S., the Defense Advanced Research Projects Agency (DARPA) provides some level of technology coordination between the civilian and military realms. In-Q-Tel, the venture capital arm of the Central Intelligence Agency (CIA), which maintains an active presence in Silicon Valley. And more recently, the U.S. government has begun citing national security for major economic sanctions, such as blocking the sale of U.S. components to Huawei (Keane, 2019).

However, in China, all activity is seen through a political techno-centric lens, and linkages tend to be less apparent than in the West due to limits on press freedom and the substantial political control of information.

In 2016, China established the "military-civilian fusion" (MCF) fund to support and fund overseas acquisitions and projects deemed key to national and military interests. In addition, the Chinese People's Liberation Army (PLA) sends scholars overseas (without identifying the PLA connection) for international research collaborations that are focused on emerging and dual-use technologies (Sharma, 2018). Foreign universities are often unwitting allies in China's techno-nationalist strategies (Brown & Singh, 2018).

d. The Wider Perspective

China's influence extends well beyond its borders. Its impressive growth record has given rise to talk of a "China Model" that can challenge the "Washington Consensus" as a template for other industrializing economies (Ferchen, 2013).

[16] At the heart of the mercantilism school of thought, which dominated Europe in 16th to 18th centuries, is the belief that maximization of net exports is the best route to national prosperity. According to World Bank statistics for 2017, China had total exports of US$2.26 billion versus total imports of US$1.84 billion leading to a positive trade balance of US$420 million (https://wits.worldbank.org/CountryProfile/en/Country/CHN/Year/2017/TradeFlow/EXPIMP, accessed May 5, 2019).

In 2013, China added to this demonstration effect by launching the "Belt and Road" initiative, a bundle of infrastructure, energy and transportation projects supported by Chinese loans and often constructed by Chinese companies. The goal is to link China to 70 countries in Asia, Africa, Europe and Oceania. At the same time, the initiative helps to spread its preferred governance mode, which is political and opaque.

China has put considerable financial clout behind this. The Export-Import Bank of China has a larger asset base than any other development financing bank, and China also has other banks and funds that finance large-scale overseas investment projects (Gallagher et al., 2018). The U.S. equivalent, the Overseas Private Investment Corporation, provides loans and insurance for projects in developing countries. But it must act in concert with private companies pursuing their own agendas, leaving it less flexibility to pursue political ends than China with its state-owned infrastructure firms (Clark, 2019). China is thus extending its influence through soft power approaches at which the U.S. used to excel.

Nor is this restricted to developing countries. The EU adopted a new China strategy in 2016 looking for more cooperation and coordination of positions among member states. But China has been successfully making diplomatic inroads in Europe's east and south, which The Economist characterized as "poking at Europe's belly and finding it soft."[17]

At the same time, China is extending its military reach, particularly in the South China Sea region, parts of which are also claimed by neighboring states such as Vietnam and the Philippines (Patalano, 2018). China has dismissed an unfavorable ruling by an international tribunal in favor of the Philippines, whose current government is more inclined to seek cooperation than conflict with its neighbor (Gutierrez, 2019). The U.S. Navy, meanwhile, has conducted "freedom of navigation" exercises in the area. The risks facing firms in the region thus extend beyond those of misappropriation or even expropriation to include the possibility that complex regional value chains will become entangled in a military conflict.

In short, the trends suggest that the recent tariff disputes with the U.S. are just froth on top of darker realities. China and the U.S. appear increasingly to be caught in "Thucydides's Trap," in which a rising power and an established dominant power almost always end up in conflict (Allison, 2017). At the end of 2018, China's Rear Admiral Lou Yuan said that the current China-U.S. trade spat was "definitely not simply friction over economics and trade" but instead a "prime strategic issue" (Seidel, 2019). This is clearly unfamiliar waters for top management and a source of great uncertainty.

[17] The Economist (October 6, 2018). Gaining wisdom, marching forward. Online version at https://www.economist.com/briefing/2018/10/04/chinese-investment-and-influence-in-europe-is-growing (accessed May 9, 2019).

e. The Spread of Bifurcated Global Governance

For both commercial and geopolitical reasons, China and the West may be coming to a parting of the ways. The result could be anything from continued engagement to complete decoupling, driven by political, more than economic, choices. Whatever the final level of integration between the two economies, firms face the prospect of operating under bifurcated global governance, that is to say, a world dominated by two systems that are equally powerful but which operate under very different rules.[18]

While the elements of China's techno-nationalist toolkit may have been dismissed in the past as simply inefficient market distortions, the size and importance of China's economy, along with their persistent, targeted use against foreign firms, makes them difficult to downplay. This, along with the spread of quasi-authoritarian politics to China's emerging global client base, is corroding the classical rule-of-law basis of globalization.

The emerging bifurcation of the global economy between liberal democracies and autocratic regimes creates additional uncertainties that we must acknowledge in strategic management theory and practice. Nation-states and firms alike must develop innovative ways of responding in order to help shape the new arrangements. A failure in this area will lead to economic disengagement from China, with unpredictable consequences for the global economy and international relations that will further raise the level of uncertainty for current investment decisions.

Even in the near term, global supply chains are likely to shift. A small window into this new world can be seen in the renegotiated NAFTA accord, known provisionally as the United States-Mexico-Canada Agreement (USMCA). The USMCA, if embedded in legislation, will impose stricter regional content provisions on the key automotive sector, disrupting the trans-Pacific supply chains that have used Mexico as a doorway to the U.S. market. It remains to be seen whether geopolitical rivalry will drive out all overlaps between the supply chains feeding the two systems.

For now, the business environment for trade and investment between the two spheres of the bifurcated system will likely become turgid, with tit-for-tat behaviors becoming commonplace. The arrest of Huawei's CFO, Meng Wanzhou, in Vancouver on December 1, 2018 and the subsequent disappearance/detention of two Canadian business people in China the following week is indicative of the new norms that may be emerging. Executives of firms headquartered in one bloc have increasing reason to worry about traveling into the other bloc's countries, which is likely to reduce future investment activity even in the absence of any change in government policies.

[18] Jannace and Tiffany (2019) refer to a choice between the rule of law and the "law of rulers."

IV. Capturing Value from Innovation When the Host Country Wants Otherwise

The China challenge has seen many firms retreat into a defensive posture, as market leaders like Google and eBay found they couldn't compete there. Non-Chinese firms need to develop new value capture strategies that reflect, rather than avoid, the realities of China. Otherwise it's only a matter of time before the strongest Chinese firms lead in most global industries, much as Huawei has done in telecom.

Creating, implementing, and in particular capturing value from technology lies at the foundation of firm-level competitive advantage, at the heart of the wealth of nations, and, relatedly, at the heart of military potential and national security (Rosenberg & Birdzell, 1985; Teece, 1986). The policies of Chinese planners, EU tax authorities, and other state actors to capture part of the value is a critical aspect of global competition.

In this section, I look more closely at how Chinese policies tilt the domestic playing field and challenge the ability of innovative foreign firms to earn a profit. These are the hurdles that an effective value capture strategy will have to jump, if they can.

a. Market Access Limitations

China often closes off its market to foreign firms in strategic sectors. In 2009, for instance, the government banned U.S.-based social media platforms Twitter and Facebook, while permitting heavily monitored use of domestic equivalents such as WeChat and Weibo.

When foreign firms are allowed in, China's strategy is to absorb their technological capabilities. Foreign companies have long been, explicitly or implicitly, obligated to transfer sensitive IP and technological know-how when entering obligatory joint venture agreements (Branstetter, 2018).

The limitation, denial, or threat of denial of access to China's markets hardly makes technology transfer activity by foreign firms in China a voluntary undertaking, as it should be under WTO rules. This use of market leverage in this way is not new, nor even unique to China, as a passage from my 1986 article shows:

> In regimes of weak appropriability, governments can move to shift the distribution of the gains from innovation away from foreign innovators and towards domestic firms by denying innovators ownership of specialized assets. The foreign firm, which by assumption is an innovator, will be left with the option of selling its intangible assets in the market for knowhow if both trade and investment are foreclosed by government policy. Licensing may then appear profitable, but only because access to the complementary assets is blocked by government. Thus when

> an innovating firm generating profits needs to access complementary assets abroad, host governments, by limiting access, can sometimes milk the innovators for a share of the profits. (Teece, 1986, p.303)

When China joined the WTO, it committed not to condition the approval of investment or market access on technology transfer.[19] China has been careful not to flout these terms openly but there have been numerous reports by foreign firms of being pressured to "voluntarily" transfer proprietary technology to Chinese partners as a condition for access and/or for less punitive regulatory oversight. Some recent examples include DuPont Co. accusing its former Chinese partner of stealing proprietary chemical technology to develop textile polymers from corn and Micron Technology Inc. alleging theft of chip memory-making technology by Chinese Fujian Jinhua Integrated Circuit Co. (Wei & Davis, 2018). According to the 2018 report issued by the American Chamber of Commerce in Shanghai, about one in five members felt pressure to transfer technology to Chinese companies and/or partners to participate in the China market. Among those companies, those in aerospace (44%) and in chemicals (41%) expressed the most acute pressure. Both of those are industries that China considers strategic.

Branstetter (2018) notes that U.S. complaints about quasi-voluntary technology transfer are now being joined by "traditional European and Asian allies and trading partners." Support for his proposition comes from the Director-General for Trade of the European Commission, who noted in 2018 that

> European companies coming to China are forced to grant ownership or usage rights of their technology to domestic Chinese entities and are deprived of the ability to freely negotiate market-based terms in technology transfer agreements. This is at odds with the basic rights that companies should be enjoying under the WTO rules and disciplines, in particular under the Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS) Agreement.[20]

However, foreign companies have found limited means of redress in China or in world forums, although disputes have now become sufficiently salient to move other nation-states to

[19] See the Protocol on the Accession of the PRC to the WTO (November 23, 2001). China's assurances on technology transfer are contained in the Report of the Working Party on Technology Transfer Commitments (October 1, 2001).

[20] European Commission – Press Release (June 1, 2018) EU launches WTO case against China's unfair technology transfers. http://europa.eu/rapid/press-release_IP-18-4027_en.htm (accessed November 28, 2018).

action. In 2013, the EU identified China's pressure for technology transfer amongst the chief barriers to investment there.[21]

The managerial implication of weak appropriability regimes, such as those observed in China, is that foreign firms must try to develop alternative mechanisms for appropriating value from their innovations. A recent study by Lampert et al. (2018), for example, found evidence that firms with commercial activities in a host country or region where intellectual property protection is weak were in a better position to benefit from the transfer and development of technology there. This result may generalize to reflect the value of embeddedness in the host country, although this must be balanced with the need to retain flexibility if the host country business environment suddenly shifts (Sun, Mellahi, & Thun, 2010).

b. Technology Misappropriation and Cyber Theft

Industrial espionage has a long history,[22] but for many decades blatant misappropriations have been illegal in liberal democracies. China, however, has been engaging in cyber-enabled economic and industrial espionage for years (Hannas, Mulvenon, & Puglisi, 2013). Techniques of misappropriation include: spying, fraud, trespass, theft of samples, cybertheft of data and designs, bribery, and electronic eavesdropping. Such commercial spying may also have national security implications.

The collection of market intelligence by state entities for the benefit of Chinese firms is explicitly called for in official policy documents (USTR, 2018, p.12). In practice, this means that units of China's military intelligence operations have been engaged in illegally breaking into the computer systems of private foreign companies in search of commercially valuable information (USTR, 2018, Section V).

Subtler maneuvers are also employed within China. As Wei and Davis (2018) report, "regulatory panels, packed with industry experts, must approve many chemicals before they can be produced in China and require detailed information on formulas and production processes […] Enough information to duplicate the product." Furthermore, foreign-owned companies and joint ventures are required to permit a more active role for CCP cells on company premises (Wong & Dou, 2017). A push for the CCP to occupy executive seats on firms' boards and

[21] European Commission, Impact Assessment Report on the EU-China Investment Relations, Commission Staff Working Document SWD (2013)185final, May 23, 2013. http://ec.europa.eu/smart-regulation/impact/ia_carried_out/docs/ia_2013/swd_2013_0185_en.pdf

[22] The theft of silk technology from China approximately 1,500 years ago is a good example. In AD550, Roman Emperor Justinian I (482 AD – 565 AD) sent two monks to China to seek employment in the silk industry with the aim of obtaining the trade secrets associated with raw silk production. The monks returned to Constantinople two years later with many secrets as well as silkworm eggs concealed in bamboo walking sticks. This helped enable the emergence of the silk industry in Constantinople, targeting Middle East markets.

participate in business management operations and decisions of foreign businesses even caused the Association of German Chambers of Industry and Commerce to threaten to pull its members' operations out of China (Gao, 2017).

Infringement and misappropriation are supported by China's inconsistent enforcement of IP rights. While there has been some improvement with respect to the likelihood of a Chinese court granting an injunction against a patent infringer, the Chinese government still turns a blind eye to many different types of IP infringement (Brander, Cui, & Vertinsky, 2017).

Yet another avenue for potential misappropriation is China's "Thousand Talents" plan to recruit Chinese citizens educated or employed abroad with access to advanced technology, particularly in the U.S.[23] Launched in 2008, the program had brought in over 2,000 recruits by 2018, more than a fifth of who were involved with "applied industrial technologies" (Bloomberg, 2018).

The U.S. is responding more forcefully with a combination of tariffs, counter-restrictions on investment, and even sales bans on key components for the telecom giant Huawei, one of China's national champions. However, it remains to be seen if these unilateral measures, some of which flout international procedures, will amount to two wrongs making a right or simply spur China to faster technological self-reliance. A more effective policy response may involve multilateral cooperation with firms and governments from other developed economies.

c. National Antitrust Policy

The nations making up the Organisation for Economic Co-Operation and Development (OECD) have, in large measure, converged over the last 25 years with respect to antitrust and competition policy. This is not to say that the use of national antitrust law to restrict foreign competitors is unknown. The EU has occasionally prevented mergers of non-European companies, beginning with a proposed merger between GE and Honeywell that it vetoed in 2001 with little evidence of potential harm (Grant & Neven, 2005). UPS is currently engaged in a lawsuit with the European Commission over a vetoed merger with a Dutch firm, and UPS has won its appeal in the EU's highest court (Blenkinsop, 2019). However, these are minor aberrations in an otherwise even-handed approach to antitrust.

China has begun to flex its antitrust apparatus under a law enacted in 2008. It is not doing so based on deep concerns about consumer welfare but rather in an ad-hoc way that benefits domestic competitors or furthers political goals. In 2014, it prevented a proposed alliance between three large European shipping companies (Depoortere, Foster, and Vandenborre, 2014). In 2018, Qualcomm abandoned its proposed acquisition of NXP Semiconductors after China

[23] The Thousand Talents Plan, http://www.1000plan.org/en/history.html (accessed September 1, 2018).

delayed approval for two years, during which the world's other eight major antitrust authorities approved the deal (Qi, 2018). The belief at the time was that China's intransigence on this issue was a shot fired in the trade war with the U.S. (Brown and Davis, 2018).

In some instances, China appears to be using antitrust enforcement as a point of leverage to derive gain. In 2013, as part of the approval process for a mining merger between Glencore and Xstrata, China required the companies to divest a Peruvian copper mine that was then acquired by a Chinese consortium. In another example, restrictions on a combination between two disk drive makers were eased only after China's national champion for microelectronics, Tsinghua Unigroup, acquired 15% of the combined firm—until the U.S. government indicated an intent to investigate the deal over national security concerns (Jamerson & Dou, 2016).

Foreign firms are thus finding some of their most critical investment decisions and strategies falling apart under the onslaught of Chinese techno-nationalist policy. Dynamic capabilities are an important part of the answer to the conundrum that this poses.

V. Dynamic Capabilities and the Limits of Strategic Management

As the previous sections of this paper have made clear, the global economy is operating under new rules (or perhaps no rules). This undermines the core assumptions of the many strategic management (and international business) theories and frameworks that have global firms competing on a level playing field and winning or losing competitive advantage based on efficiency and innovation.

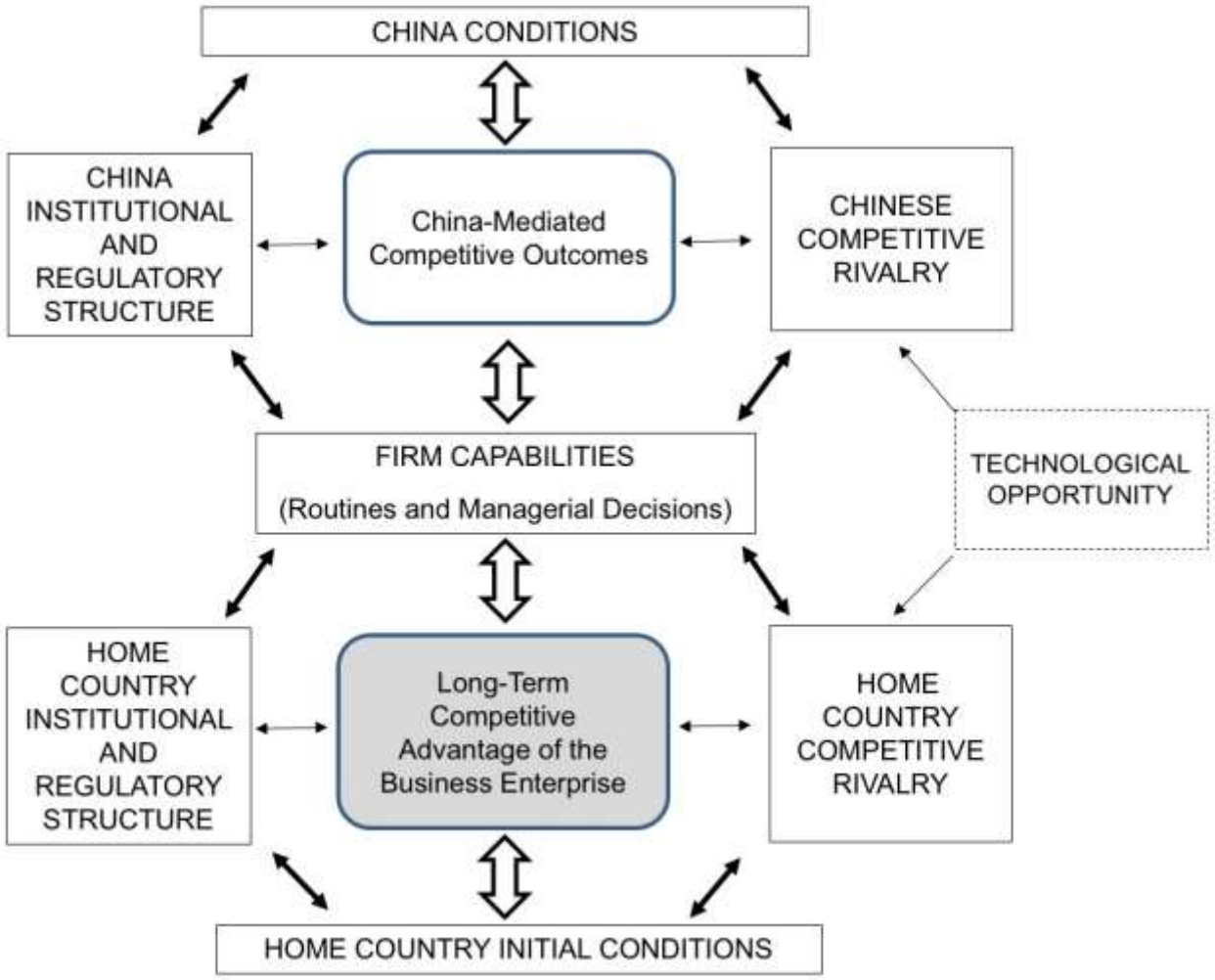
The new developments make evolutionary (or ecological) fitness *almost* an insurmountable challenge in some parts of the global economy. New types of politically savvy and politically connected corporate leaders will be required for this new politically charged business environment. Strategic management theorists need to move from a Five Forces perspective, if they are still stuck there, to a more complete "Foundations" framework (see Figure 1). In fact, they actually need to move to a "Dual Foundations" perspective that expands on Rugman and Verbeke's (1993) Porter-based "Double Diamond" model incorporating both home and host country economies. Their model applied to advanced country subsidiaries of companies headquartered in a small economy and showed that such a firm might have two "home bases" of roughly equal importance.

The key idea of Dual Foundations (Figure 2) is that a firm's competitive results are mediated by its interaction with the Chinese economy (whether or not it is engaged directly in the China market) as well as its home economy. China is not just another potential source of advantage; it is also a potential source of barriers and limits.

The dynamic capabilities framework, with its very wide aperture, system-level lens is a helpful companion for conceptualizing and organizing the forces in this model. Some scholars (e.g., Lessard, Teece, & Leih, 2016; Teece, 2014b; Luo, 2000) have already made a strong case

for the value of dynamic capabilities on the global stage, although they donned the management field's blinders with regard to the erosion of classical rule of law-mediated global governance.

Figure 2: The Dual Foundations of Competitive Outcomes



a. Dynamic Capabilities in the New Global Context

The dynamic capabilities construct was originally developed to help understand the foundations of firm-level advantage in regimes of rapid technological change (Teece, Pisano, & Shuen, 1997). The broader, multidisciplinary dynamic capabilities framework that has evolved can help firms respond to deep uncertainty, whether due to technological change, a shift in consumer preferences and behaviors, or changes induced by government policies and government interventions (Teece, Peteraf, & Leih, 2016). Its system-level focus allows it to encompass the business environment writ large (Teece, 2018). Moreover, it can be scaled for

application at any level of analysis, from individual managers (Adner & Helfat, 2003) to an entire nation (Bounfour, 2009). By contrast, Five Forces has a distinctly industry-level focus, and resource-based approaches tend to look only at individual firms.

The development and exercise of dynamic capabilities require a long-term view by executives and boards of directors. Firms from liberal democracies exposed to large investors with short time horizons have difficulty taking the long view (Bushee, 2001). Shareholder activism in Anglo-American firms in particular, coupled with management incentives weighted by short-term (3 to 5 years) stock price performance, has had the pernicious side effect of encouraging management to favor decisions like cutting R&D and conducting stock buybacks. These enhance profitability in the short run but compromise both profits and prosperity longer term (Lazonick, 2014). This creates a vicious cycle as investor and management expectations converge around short time horizons, allowing the firm's dynamic capabilities to atrophy. However, a recent study of all public firms from 1980 to 2013 found that the markets seem to discount firms investing less than their peers in long-term investments such as R&D and advertising (Sampson & Shi, 2019). Their results suggest that there is indeed a positive role for strong, forward-looking dynamic capabilities in companies that are willing to break from the herd. This requires an entrepreneurial management team and a board willing to back them as they make the gutsy long-term investments that long-term competitive advantage usually requires.

It's worth noting that most Chinese companies face a very different set of incentives. First, they are able to compete and grow in a protected environment before projecting themselves overseas. They have also been able to access credit through generous channels, including state-owned banks for state-owned enterprises and "shadow banks" for private firms (Elliott, Kroeber, & Qiao, 2015; Tsai, 2015). Moreover, the rising amount of global venture capital flowing to Chinese start-up is rapidly approaching the same level as in the United States (Dvorak & Saito, 2018).

The dynamic capabilities framework is designed in large part to analyze what enables firms to strategize succesfully in environments characterized by deep uncertainty (Teece, Peteraf, & Leih, 2016). Unforeseen shocks can come from anywhere in the global economy, including shifts in demand, technologies, and changes in government policies and government actions. In the case of China, foreign firms know they are subject to regulatory surprises at any time, such as the sudden investigation of alleged excessive antibiotics found in a few batches of chicken that were supplied to Yum Brands' popular KFC chain in 2012 (Teece, 2014b). Continuous sensing is required to identify emerging threats and the degree to which they may be state-sponsored.

At its heart, the dynamic capabilities framework reminds managers to orchestrate internal and external resources so as to sense opportunities (and threats), seize (and neutralize) them, and transform the internal systems, culture and business models to address the external changes (Teece, 2007). Orchestration capabilities are critical for top managers of global enterprises

spanning many nation-states across the two halves of the bifurcated global governance system (Pitelis and Teece, 2018). This posture forces them to juggle competing interests far more divergent than those of conventional stakeholder perspectives.

b. The Increased Salience of Non-Market Strategies

Dynamic capabilities have to be strengthened and maintained. But it is equally important for the firm to set the strategies that will direct the ongoing application and evolution of its capabilities. To compete against firms backed by policymakers pursuing a techno-nationalist agenda, greater investment in R&D and other capabilities may not be enough. Political activity may be necessary and must be aligned with the firm's market strategy (Baron, 1995; Mellahi, Frynas, Sun, & Siegel, 2016).

Over 20 years ago, Boddewyn and Bower (1994) called for strategic management frameworks to recognize "the role of government as a factor of production, which firms must manage in their international value-added chains" (p.119). It is truer now than it was then, when the Soviet Union had collapsed and authoritarianism seemed to be on the wane. Today's realities require even stronger emphasis on shaping of the environment through *co-evolution* with external actors, including host governments (Teece, 2014, 2018). This is what Henisz (2016) called the "dynamic capability of corporate diplomacy."

Where political control over the economy is great, an important strategic capability is for the foreign-company management team to be well connected and politically astute (Haveman et al., 2017). They must maintain effective relations with relevant entities at all levels of the national and local government hierarchy (Chen, 2004). A sort of coopetition with the host country government may be achievable, balancing the inevitable conflicts with areas of cooperation (Luo, 2004).

Engaging with more than one local partner in a host country can also provide benefits. The focal firm might choose a second partner with the objective of creating competitive tensions that can keep both partners eager to please. Chinese firms are quite competitive and rivalrous, so this might provide a useful angle to play in some circumstances.

In order to ensure its continued ability to appropriate a share of the value it creates, the firm can design a supply chain that is disaggregated and dispersed in a manner that makes it difficult for any one participant in the chain to replicate the technology or firm-specific capabilities. Schotter and Teagarden (2014, p.45) suggest that "physically separating manufacturing and R&D processes, disaggregating proprietary components and compartmentalizing critical knowhow are essential for IP protection" (see also Lampert et al., 2018). In the same vein, Gooris and Peeters (2016) studied 581 foreign service production units and found that fragmentation of business processes across different units (organizationally and/or geographically dispersed) protects valuable information in host-locations with high misappropriation hazards.

Prospects in China are probably best for non-technology companies in non-strategic sectors, such as agriculture, fashion, and consumer goods. But government intervention is always possible and domestic competition is fierce across the Chinese economy. However, for firms in any of the strategic sectors identified in recent five-year plans where China is pursuing breakthroughs, the outlook is especially challenging. Entry might bring short-term gains but lead to mounting losses. Extreme caution is needed, especially in the absence of effective multilateral mechanisms for curbing capricious state interventions.

In short, there may not be any engagement or political embeddedness strategy that can lead to long-term evolutionary fitness in the presence of techno-nationalism or political uncertainties generated by autocratic regimes. Strategic managers have generally been good at identifying and rejecting strategies that are fool's errands. In industries that are a strategic priority for China's development plan, endeavoring to succeed long-term within China may be a foolhardy endeavor that should not be undertaken—at least not without leverage from the home government. Conscious divesting/decoupling might then become the preferred strategy for a multinational enterprise from the West.

c. Coordination with the Home-Country Government

In liberal democracies, the regulatory system is often characterized by adversarial relations between industry and government. Companies must help identify and support the imposition of governance rules that keep them oriented toward the long-term task of building (and protecting) capabilities and leadership positions in the technologies of the future. Regulatory limits on business are needed, but policymakers must prioritize innovation.

Constructive relations with—and backing from—the home-country government can be critical when confronting anti-competitive challenges in autocratic host countries. The problem is that liberal democracies have, not without reason, put severe barriers, and criminal sanctions, on many forms of government–business cooperation. While there are some antitrust safe harbors to engagement with governments, such as the Noerr-Pennington doctrine in the U.S., it is by no means clear that concerted and coordinated engagement with government on trade, technology, and investment issues is permitted. It is time for government and industry to begin the delicate process of retuning antitrust constraints to accommodate new realities.

The combined power of the state and private enterprise can be quite effective. National governments from liberal democracies can assist their home-based companies in dealing with Chinese government authorities. This was evident in 2003 after China announced the intention to impose a China-developed standard known as WAPI for Wi-Fi encryption. Firms such as Intel were among the first to seek protection. The matter was elevated to a major trade issue for the government. After months of back-and-forth engagement, China backed down. But that was before China gained strength on the world stage. Right now, even vigorous unilateral opposition

by the U.S. might not be enough to bring China to heel when it violates international rules of competition.

Collective action among firms and governments is also needed to revamp the global trading system. If the liberal democracies collectively fail to encourage China to embrace a transparent rules-based system, containment and a far more restricted commercial engagement with China may be the only option left. What has been absent in the liberal democracies is a coordinated Western response, which has led to an unstable status quo.

d. The Dynamic Capabilities of Nations

Competing with China will require fixing the vulnerabilities of the liberal democracies that mercantilism is exploiting. Such issues are not the focus of this paper, but mention of the subject is warranted. Like a firm, a nation can be more or less entrepreneurial, resilient, and agile, and these characteristics require continuous attention and investment in skills and capabilities. Liberal democracies may be inherently less agile than autocratic regimes; but the West's current vulnerabilities also stem from a failure to restructure and reinvest in their national institutions, infrastructure, and capabilities. Absent improvement to national institutions and regulations (Box B in Figure 1), the ability of firms to achieve competitive advantage will be impaired.

The dynamic capabilities framework can readily be adapted for use by governments to help identify steps needed to enhance their effectiveness in the economic realm. First, the government must ensure that it has adequate sensing infrastructure in place, so that the myriad incoming signals are properly analyzed and prioritized in a coordinated fashion across departments. Then, as key threats are identified, there must be structures in place to rapidly convert awareness into effective action (Seizing), leading to the creation of new programs and the closing down of old ones that are no longer fit for purpose (Transforming).

Clearly there are already mechanisms like this in place for receiving and interpreting military intelligence then converting it into national security practice. It's less clear that there are mechanisms to process signals related to economic intelligence. A negative example is the failure of Japan to adapt quickly to the 1992 collapse of its asset-price bubble, leading to a "lost decade." More recently, Kattel and Mazzucato (2018) have suggested that governments need strong dynamic capabilities in order to properly identify emerging technologies and enable national firms to compete. In the context of countering IP theft by China, mechanisms to document and counter the threat in coordination with affected allies are needed, along with providing public goods such as a clearinghouse for intelligence agencies and companies to share their insights and defenses with respect to all forms of cyber intrusions.

The application of dynamic capabilities principles to policy development and execution will lead to better coordination of policy making and greater effectiveness. No longer can governments afford for laws that impact firm-level competitive advantage—in domains such as antitrust, securities, intellectual property, or international trade and investment—to be analyzed

in isolated silos. The requirements for public sector dynamic capabilities and interagency cooperation have never been higher in peacetime. This, however, is anathema to many incumbent bureaucrats and their advisors.

Put differently, for nations to compete, the institutional and governance structures in Figure 1 must be kept up to date ("evolutionary fitness"). Technological opportunity is inherently dynamic and can be further accelerated via the arrow from box A to box B. That arrow represents not only government support of science and technology, but also support from private universities and non-governmental foundations.

VI. Conclusions and Consternations

The rise of China means there is now a major economy in the world where the traditional nostrums of strategic management—and even the standard dynamic capabilities prescriptions—are likely to fall short. Only non-market strategies, ideally aligning multiple governments, that reshape the terms of engagement with China, will allow even-handed competition to occur between Chinese and foreign firms. It may be that, without leverage from the home government, durable competitive advantage in China is unavailable to non-Chinese firms. But, in most cases, problems in most home-country economies also need to be fixed.

a. Problems at Home

Many strategic management scholars are heavily influenced by the sociology and economics disciplines. As such, they have also adopted the weaknesses of these fields, which pay too little attention to deep issues of corporate and global governance. Economists in particular have favored competition over cooperation, and adopted reductionist models that ignore complex interdependencies.

But as the Dual Foundations model (Figure 2) reminds us, success in the global economy begins at home. In the case of liberal democracies, governance too often gives singular priority to (short-term) shareholder objectives, enabling shareholder activists with short time horizons to constrain long-term investments. "Shareholder" activists drive managers toward a short-term focus, perhaps aided by poorly designed executive compensation plans. This compromises the development of strong dynamic capabilities and handicaps the development of long-term competitive advantage, resulting in negative impacts on employment, wages, and income distribution.

Theory deserves much of the blame. Both economists and strategy scholars have mis-specified the "agency problem" (Teece, 2012b). Agency theory worries too much about managerial discretion and the potential waste of shareholder resources. That may or may not be a legitimate concern; but a far more important agency problem today exists between the investor

(e.g., endowments, pension funds) and investment managers. The latter take long-term money and often convert it under their agency to short-term money because so much of their compensations flows from funds under management (FUM). Investment managers get more FUM by beating other funds in the relatively short-term of one to five years. This is also true for private equity investors, who have been known to take over companies, load them with debt to take short-term steps to boost profits, then exit early while the share price is elevated. Add the hedge funds to the mix, and it is only very bold founder-CEOs (e.g., Jobs at Apple, Musk at Tesla, Hastings at Netflix, Bezos at Amazon) who are willing to put their necks on the line by placing bets that may not pay off for many years. This needs to be fixed, and strategic management scholars, executives, and board members are partly at fault for not calling out these short-term players, and for not pushing for boards who will support far-sighted (job-creating) CEOs (Teece, 2012b).

Successful firms generate well-paid jobs, so these issues are tied to macroeconomic concerns such as inequality and the productivity slowdown (Abowd, McKinney, & Zhao, 2018; Barth, Bryson, Davis, & Freeman, 2016). These topics clearly warrant more understanding from scholars in strategic management because of their significance for competitive advantage. Resolving them will require actions by both government and firms, particularly by boards of directors.

The liberal democracies also need to get their act together to collectively redefine the terms of global trade. To counter China's strategic thrust, firms in countries where the government is behind the curve need to lobby in order to mobilize government legislators and negotiators on their behalf. The government and its administrators need the capability to prevent this from devolving into a rent-seeking exercise. In short, both government and firms need to be dynamically capable and systemically aware.

b. Problems in the Discipline

The growing importance of emerging economies—now more than half the size of the world economy—means that the fields of international business, strategic management, and technology management must come together. There should be no boundaries amongst these. Referencing Figure 1, strategic management scholars have a sharp eye on box C & D, international business scholars have a good understanding of box A, and technology management/ technology, strategy scholars are deeply embedded in box B. These separations have historically been made for analytical convenience. Such convenience can no longer be suffered, as not only (deep) questions about sources of the competitive advantage of firms are involved. The survival of the rules-based systems of the liberal democracies (if not the liberal democracies themselves) is at stake.

As noted earlier, China may have created a more potent variant of market capitalism, one that is transfixed on surpassing other economies at all costs, and which pays little attention to the

established rule-based systems of the WTO. This is China's choice, and it may be the right one for China. As a consequence, the ability of non-Chinese firms to compete requires a new breed of managers, deeply entrepreneurial, but also clear-eyed as to the nature of the challenge and the need to develop non-market strategies to compete. Positive outcomes will often require government engagement.

It is time for the strategic management field to step up and elevate issues of non-market strategy to encourage firms to focus on reshaping the global environment for the long-term benefit of all. The economics profession is sidelined on these issues because there is almost no economic research that gets to the core of the problem. Nor do the fields of sociology or organizational behavior connect them with the new set of causes before us.

The capability theory of the firm that I have been developing is an important foundation stone for this effort (Teece, 2019). Firms must keep in mind the need to strengthen their capabilities as they design innovative business models, formulate global strategy, and execute lobbying campaigns. Evolutionary fitness, not profit maximization, should be the focus. Without this, efforts will fall short, and they will be unlikely to establish a long-term competitive advantage. In today's world, the "wise leader" profiled by Nonaka and Takeuchi (2011) must use a wide lens and have strong dynamic capabilities.

Dynamic capabilities are also required for nation-states. Nation-states need to identify and get behind mission-critical technologies and fix education systems to imbue individuals with new skills suitable for the industries of the future. Domestic priorities must shift radically to improve initial conditions—infrastructure, governance, etc.—or else home-country firms will find it nearly impossible to build a sustainable competitive advantage.

c. Responding to the New Fundamental Issues

I have not crisply answered questions 4 a, b, and c, except indirectly, and sometimes obliquely. Let me be more definitive now:

4a. Home country conditions shape firm-level competitive advantage in a number of ways. The regulatory environment sets the nature of incentives facing management and determines the character of the board. It also determines the degree of competition that firms face before they engage with the global economy. The national innovation system co-determines technological opportunities. National priorities determine the quality of physical infrastructure and human capital. The country's initial conditions determine the legal system and values that the company will represent. And the country's military and diplomatic heft help determine how effective the company will be in major disputes that merit official attention.

4b. Competing in a politically directed market economy such as that of China requires the ability to cooperate with national governments and business partners to level the playing field as much as possible while competing effectively.

4c. Firms cannot have effective dynamic capabilities when the nation-states in which they are embedded don't themselves have the ability to sense opportunities and threats, respond with high-quality decisions, then transform institutions and infrastructure as necessary. Some measure of government backing may be needed to level the playing field. The key is to avoid protective measures that generate short-term profits while leaving the firm weaker once the protection is removed.

These succinct answers may appear too simple given the complex issues under consideration. I believe, however, that they neatly summarize critical and lengthy chains of decisions and actions that need to be taken.

Finally, if the overall picture I've painted of the global economy is near the truth, then the field of strategic management is itself at an inflexion point. If it is to have continuing relevance, it must go through (intellectual) disruptions of the kind that business itself confronts. Small incremental steps will not get the field to where it needs to be.

The strategic management field is populated by bright, well paid, and often uncommonly well-funded scholars who have a duty to the broader society to tackle these issues, as they are an existential threat to the field, if not to the societies in which most of the scholarly community is resident. This is a time for the field's intellectual and professional leadership from across the globe to step forward and debate the field's intellectual foundations: its key assumptions, its received theories, and its key narratives and research findings. This may be the first time in its half-century history that there is an imperative for it to do so.

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