

Who Needs a Theory of Innovative Enterprise?

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In this paper (which summarizes a book in progress), I argue that the failure of conventional economics to incorporate the theory of innovative enterprise into its analysis of the operation and performance of the economy has profound consequences that go far beyond the ways in which academic economists think about the economy. Sociologists and political scientists are constantly making arguments about society and politics that are influenced by their understanding of economics. The ways in which business executives allocate resources and government policy-makers implement regulations often reflect prevailing economic ideology. Meanwhile, every year, members of the economics profession teach millions of college students who represent the (supposedly) informed citizens of the next generation that an *un-innovative* state of economic affairs, known quite ludicrously as “perfect” competition, is the best of all possible worlds. The result is the perpetuation of a body of thought that is not only hazardous to our mental health but also dangerous to our material wealth. In this paper, I show why seven types of social actors -- economists, social scientists, business academics, industry analysts, company executives, government policymakers, and informed citizens – all need a theory of innovative enterprise.

Key words: Innovative enterprise, strategy, organization, finance, institutions

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1. What Happened to the “Fundamental Phenomenon of Economic Development”?

In *The Theory of Economic Development*, published in German in 1911, Joseph A. Schumpeter (1934) argued that “innovation” is the “Fundamental Phenomenon of Economic Development”. As a student of economics, Schumpeter claimed that innovation was fundamental because it disrupted what he called the “Circular Flow of Economic Life as Conditioned by Given Circumstances”. What he meant by the “Circular Flow” was a system of markets that allocated the economy’s resources through the forces of supply and demand.

Yet a century after Schumpeter challenged economists to incorporate the “Fundamental Phenomenon” into a theory of how the economy operates and performs, the overwhelmingly dominant approach to economics continues to focus on the “Circular Flow”, and lacks a theory of innovative enterprise (see Lazonick 1991a and 1999b). For the past century, leading neoclassical economists have spent their time working out the intricacies of general equilibrium economic theory while ignoring the Schumpeterian challenge. In effect, the mainstream of the economics profession remains obsessed with finding the conditions under which the economy will remain in a state of rest – equilibrium – rather than the conditions under which tendencies toward equilibrium will be disrupted and economic activity transformed. The result, I argue, is an economics profession that has a trained incapacity to understand how a modern economy actually operates and performs.

In this paper (which summarizes a book in progress), I argue that the failure of conventional economics to incorporate the theory of innovative enterprise into its analysis of the operation and performance of the economy has profound consequences that go far beyond the ways in which academic economists think about the economy. Sociologists and political scientists are constantly making arguments about society and politics that are influenced by their understanding of economics. The ways in which business executives allocate resources and government policy-makers implement regulations often reflect prevailing economic ideology. Meanwhile, every year, members of the economics profession teach millions of college students who represent the (supposedly) informed citizens of the next generation that an *un-innovative* state of economic affairs, known quite ludicrously as “perfect” competition, is the best of all possible worlds. The result is the perpetuation of a body of thought that is not only hazardous to our mental health but also dangerous to our material wealth.

Who, then, needs a theory of innovative enterprise? Besides economists, I have identified six other distinct types of social actors who need a theory of innovative enterprise. They are social scientists, business academics, industry analysts, corporate executives, government policymakers, and informed citizens.¹

The theory of innovative enterprise can serve as a focal point for integrating the interests and activities of these seven types of actors. The economist needs to understand the

¹ In the book that I am writing, I devote one chapter to arguing why each of these seven types needs a theory of innovative enterprise.

theory of innovative enterprise not only to analyze how the economy operates and performs but also to comprehend how to make use of the frameworks and research of other social scientists as well as business academics and industry analysts, and how to speak to the concerns of company executives and government policy-makers. What these social actors think and do in turn has implications for understanding how the economy operates and performs. And all of these actors, with their different social roles, need to make the ramifications of innovative enterprise evident to informed citizens who are called upon to learn about, express opinions on, and engage in electoral politics concerned with how the economy should operate to achieve desirable socioeconomic objectives.

My argument is that without a well worked-out theory of innovative enterprise, it is impossible for citizens to become informed about how the economy should operate and perform to achieve equitable and stable economic growth, or what I have called “sustainable prosperity”. The other side of the same intellectual coin, as seen for example in the deregulation of the economy that resulted in the 2008 financial meltdown, is the predominance of the ideology of “the theory of the market economy” as a wrong-headed guide to action. Lacking a theory of innovative enterprise, this ideology has led ostensibly intelligent executives, politicians, and citizens to advocate economic policies that are destructive of equitable and stable economic growth.

Before turning to the discussion of why each of these seven groups needs a theory of innovative enterprise, let me establish some basic definitions of the subject matter under consideration and my methodological approach. Firstly, what do I mean by innovative enterprise? It is a social organization that invests in the development of productive resources that can result in higher quality products than were previously available *and* that then ensures a high level of the utilization of these productive resources to drive down unit costs. As a result, the innovative enterprise can gain competitive advantage on the product markets that it supplies. In transforming the high fixed costs of developing higher quality products into low unit costs, the innovative enterprise can potentially generate a surplus of revenues over its costs, and can contribute to the economic growth of the economy in which it operates.

Secondly, what do I mean by a *theory* of innovative enterprise? It is a theory of the social conditions that support the processes that generate higher quality products at lower unit costs. A business enterprise engages in three generic activities: strategy, organization, and finance. Through strategy, the firm chooses the types of products to produce and the types of processes through which to produce them. Through organization, the firm transforms inputs into the production process into goods and/or services that can be sold on product markets. Through finance, the firm sustains itself from the time inputs are purchased until the time products are sold. In effect, the theory seeks to explain how a business enterprise mobilizes labor and capital to compete for specific product markets, which is what a theory of the firm is supposed to do. As I elaborate below, we can characterize the innovation process as uncertain, collective and cumulative, and as a result the social conditions of innovative enterprise related to its three generic activities as *strategic control*, *organizational integration*, and *financial commitment*.

Thirdly, why do I follow Schumpeter in arguing that the innovative enterprise is fundamental to economic development? By generating higher quality products at lower unit costs than previously available, the innovative enterprise contributes to productivity growth that, depending on how it is distributed, makes it possible for all stakeholders in the enterprise to gain simultaneously. Part of this productivity growth can fund higher wages, more stable employment, and better work conditions for workers. Creditors can have more security that the principal and interest owed to them by the enterprise will in fact be paid. Shareholders may get higher dividends or see the value of their shareholdings rise. The company itself may strengthen its balance sheet. The government may be able to secure greater tax revenues. And all this while creating the possibility that consumers of the firm's products can purchase higher quality products at lower prices than they formerly had to pay. If by "economic development" we mean higher standards of living across a broad population over a sustained period of time, innovative enterprise is fundamental to economic development.

Finally, how do we make use of the theory of innovative enterprise to analyze the operation and performance of the economy? In a discussion of the various tools of economic analysis in the introduction to his posthumously published tome, *The History of Economic Analysis*, Schumpeter (1954, 12-13) wrote (with his emphasis): "Nobody can hope to understand the economic phenomena of any, including the present, epoch who has not an adequate command of the historical *facts* and an adequate amount of historical *sense* or of what may be described as *historical experience*". By "historical experience", Schumpeter meant the ability of the economist to integrate theory and history. For theory to be relevant to real-world phenomena, it must be derived from the rigorous study of historical reality. That theory can then provide a framework for the further study of a changing economy.

The construction of relevant theory requires an iterative methodology: one derives theoretical postulates from the study of the historical record, and uses the resultant theory to analyze history as an ongoing and, viewing the present as history, unfolding process. Through this iterative methodology, theory serves as an abstract explanation of what we already know and as an analytical framework for identifying and researching what we need to know. The theory of innovative enterprise is *both* a product of the comparative-historical study of economic development and a process for the integration of new knowledge into a more rigorous and relevant perspective on an evolving economic reality.

The Economics of Innovative Enterprise

- Economists need a theory of innovative enterprise in order to break free from the ideological grip of the theory of the "optimizing firm" that takes technology and markets as given constraints in making its production decisions and that underpins the misconceived belief in "perfect" competition as the ideal of economic efficiency. The optimizing firm and perfect competition provide critical foundations for "the theory of the market economy", which lacks a theory of innovative enterprise and hence a perspective on how an economy can generate productivity growth.

A prime way in which I have captured the theoretical essence of the innovating firm is by transforming the static concepts of the “optimizing firm” of the neoclassical economics textbook into a dynamic process that, reflecting the fundamental characteristics of the innovation process, is uncertain, collective and cumulative (Lazonick 2010b and 2012c). Whereas the optimizing firm maximizes profits/minimizes costs by equating marginal cost and marginal revenue, taking technologies and markets as given constraints, the innovating firm engages in a strategy to transform technologies to develop higher quality products or processes *and* to access a sufficient extent of product markets so that, by achieving economies of scale and scope, it can transform the high fixed costs of developing these technologies into low unit costs.

The key concepts in the theory of innovative enterprise are “strategic control”, “organizational integration”, and “financial commitment”. In the face of uncertainty, the innovative enterprise makes strategic decisions to allocate resources that can either, if successful, provide the foundation for a sustained competitive advantage over its rivals or, if unsuccessful, place the firm at a competitive disadvantage. “Strategic control” means that the incentives and abilities, i.e., the identity, of those executives who make resource allocate decisions within an innovative enterprise matter to the types of investments in innovation that are made and the ultimate success or failure of these investments. The success of an innovative investment strategy then depends on the “organizational integration” of the skills and efforts of people in the hierarchical and functional learning processes that are the essence of innovation and the “financial commitment” of resources to sustain the innovation process until it can generate financial returns (Lazonick 2004).

The centrality of strategic control, organizational integration, and financial commitment to the operation and performance of the innovative enterprise confronts the neoclassical theory of the optimizing firm that “chooses” an investment strategy imposed on it by exogenous technologies and markets, making it impossible for any one firm to differentiate itself from others in its industry. If increasing unit costs set in for the firms in an industry at a sufficiently low level of output relative to industry demand, a large number of firms that are “price-takers” will result in “perfect” competition. Yet the essence of innovative enterprise is the ongoing strategic investment of resources to “unbend” the U-shaped cost curve if and when it occurs in the attempt to drive down unit costs. When successful, the innovative enterprise outcompetes the optimizing enterprise, permitting more output at lower costs than its so-called “perfect competitors”.

The basic problem with the theory of perfect competition is that, as consumers and workers, not to mention as taxpayers, we want some firms in an industry to transform technologies to generate higher quality, lower cost products than their competitors. We *do not* want firms to maximize profits subject to *given* technological conditions. Firms that can achieve these technological transformations and gain large market shares are innovative enterprises that drive a society’s economic growth.

And indeed, in the advanced economies over the course of the last century, enterprises that have grown large have dominated economic activity. In 2010 the top 500 U.S. corporations by revenues had combined sales of \$10.8 trillion, profits of \$702 billion, and

employment of 24.9 million people worldwide (Fortune 2011). That is a per company average of \$21.6 billion in sales, \$1.4 billion in profits, and almost 50,000 employees. The operation and performance of these corporations, not “perfect competition”, need to be at the center of economic analysis.

That large corporations dominate the US economy is hardly news (except perhaps to the economics professors who write the conventional microeconomics textbooks). In 1977, business historian, Alfred D. Chandler, Jr. (1977), published a Pulitzer Prize-winning book, aptly entitled *The Visible Hand*, in which he documented that already by the *beginning of the 1920s*, the “managerial revolution in American business” was complete. The innovative investment strategies of these corporations drove the consumer durable boom of the 1920s. At the same time, in the United States in the 1920s – at precisely the time at which post-Marshallian economists were propounding “perfect competition” as the best of all possible worlds – in sectors such as textiles, coalmining, and agriculture that were characterized by large numbers of perpetually small firms were known as “sick industries” precisely because of the inability of a few firms to set themselves apart from the rest through innovation, even as they adopted the latest technologies, and the consequent imperative to engage in “cutthroat competition”.

The neoclassical economist will protest that the orthodox approach has always focused on “big business” through the theory of monopoly. The problem of monopoly from this perspective is that it results in lower output at higher costs (and hence prices) than would be the case under conditions of so-called perfect competition. But the comparison that neoclassical economists make between perfect competition and monopoly has a logical flaw that negates the entire argument.

The flaw is that it is assumed that the monopolist, while being a “price maker” in the presence of a downward sloping demand curve, *optimizes subject to the same cost structures as perfect competitors* (Lazonick 2010b, 337-339). But if that is the case – if indeed the industry’s technological and market conditions create the possibility for perfect competition – then how was the monopolist able to become dominant in the industry? The assumption that the monopoly optimizes subject to the same cost structures as perfect competitors is an illogical sleight-of-hand that nonetheless had remained ensconced in the economics textbooks for about three-quarters of a century.

If the post-Marshallian who perpetrated this fallacy had paid attention to the teaching of their own master, we could have been spared this error. Alfred Marshall, from whose work the neoclassical monopoly model is supposedly derived but who grounded his theoretical arguments in reality rather than fantasy, recognized the problem. Marshall (1961, 484-485) argued that if, a single firm could “be managed with ability and enterprise” and “have unlimited command of capital”, “we may generally conclude that the supply schedule for the commodity, if not monopolized, would show higher supply prices than those of our monopoly supply schedule; and therefore the equilibrium amount of the commodity produced under free competition would be less than that for which the demand price is equal to the monopoly supply price.”

Or as Schumpeter (1950, 106) put it more definitively in *Capitalism, Social and Democracy*:

What we have got to accept is that [the large-scale enterprise] has come to be the most powerful engine of [economic] progress and in particular of the long-run expansion of total output not only in spite of, but to a considerable extent through, the strategy that looks so restrictive when viewed in the individual case and from the individual point in time. In this respect, perfect competition is not only impossible but inferior, and has no title to being set up as a model of ideal efficiency.

Both Marshall and Schumpeter – arguably, along with John Maynard Keynes, two of the three most influential economists writing during the era of the rise of managerial capitalism – had insights into the innovative enterprise. But neither articulated a full-blown theory of how an innovative enterprise would operate and perform. As for Keynes, with the publication of his *General Theory of Employment, Interest, and Money* in 1936, he derailed the discussion by focusing on how, through short-term pump-priming, the government could stimulate aggregate demand to restore the viability of the free market economy.

From the perspective of the theory of innovative enterprise, the critical role of demand is to enable the firm that has invested in the innovation process to transform the high fixed costs of developing technology and accessing markets into low unit costs by gaining a large market share (Lazonick 2012c). For new high-technology products, the government often functions as a high income, price insensitive buyer at the early stages of commercialization. Then, over time, as the enterprise invests in accessing new markets and scaling up production, it can potentially gain a large enough market share to make the product affordable to what I call “middle income, price matters” markets. As the market share of the innovative enterprise expands and unit costs decline, the possibility arises for the enterprise to sell to “low-income, price-sensitive” markets. Those in positions of strategic control of the enterprise may decide, however, to avoid entering these “commodity” markets. Rather as depicted in Alfred Chandler’s analysis of the evolution of the multidivisional structure as well as Edith Penrose’s theory of the growth of the firm, the enterprise may seek to use its innovative capabilities in an established line of business as a platform for building capabilities in a new line of business (Chandler 1962; Penrose 1959). The challenge of the innovative enterprise is now to achieve not only economies of scale in one product but economies of scope across many products.

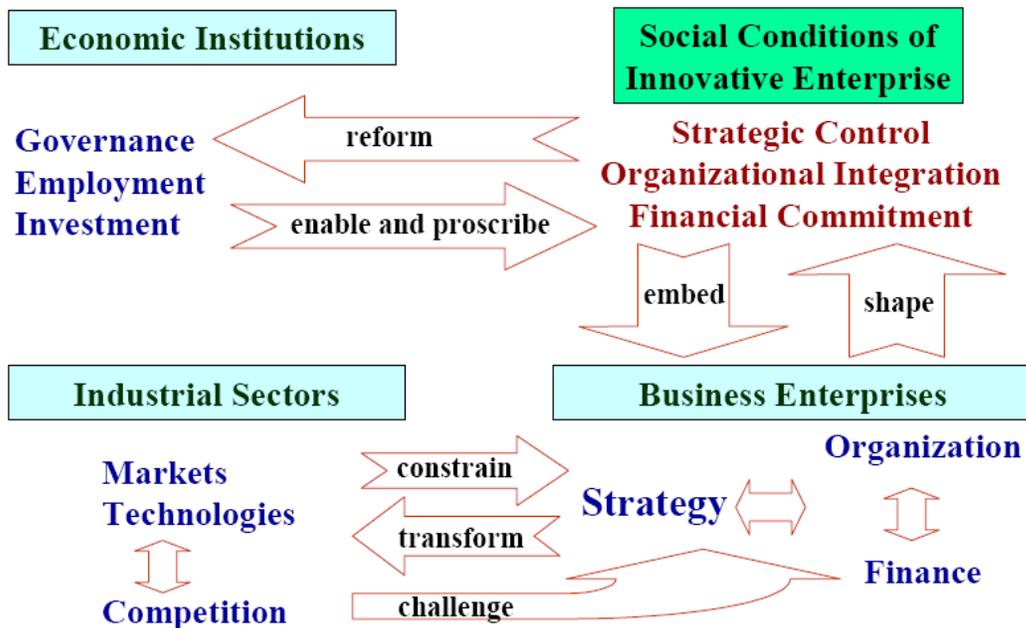
From this perspective, to repeat Schumpeter’s warning, so-called “perfect competition...has no title to being set up as a model of ideal efficiency.” Schumpeter would certainly agree that to understand the ways in which the firm makes high fixed-cost investments and then transforms them into low unit costs, economists need a theory of innovative enterprise.

The Social Conditions of Innovative Enterprise

- Social scientists need a theory of innovative enterprise in order to imbed the analysis of the operation and performance of the business enterprise in social contexts that, depending on what I call the “social conditions of innovative enterprise”, may support or undermine innovative enterprise. The theory of innovative enterprise permits social scientists to link the evolution and interaction of economic institutions, business organizations, and industrial sectors in one integrated conceptual framework.

Some social environments promote innovative enterprise and other social environments undermine it. The key to distinguishing between these two opposite scenarios is the interaction of a nation’s economic institutions and the dominant business model that prevails in a national economy. As depicted in Figure 1, this interaction pairs governance institutions with strategic control, employment institutions with organizational integration, and investment institutions with financial commitment.

Figure 1. Conceptual framework for analyzing the evolution and influence of the social conditions of innovative enterprise in a national context



Innovation differs across industrial sectors (lower-left section of Figure 1) in terms of the technologies that are developed and the markets that are served. In the theory of the optimizing firm, business enterprises take technologies and markets as given: they constrain the “strategy” of the business enterprise to be like that of each and every other firm in the industry. In the theory of the innovating firm, in contrast, enterprise strategy transforms technology and markets. In doing so, strategy confronts technological uncertainty – the possibility that an innovative investment strategy will fail to develop higher quality products or processes – and market uncertainty – the possibility that the

strategy will fail to access a large enough extent of the market to transform the high fixed costs of developing these products and processes into low unit costs. But, as indicated in the lower part of Figure 1, the innovating firm must also confront competitive uncertainty – the possibility that even if the firm is successful in transforming technology and accessing markets to develop higher quality, lower cost products than were previously available, competitors will do it better and cheaper.

The rise of new competition poses a challenge to the innovating firm. It can seek to make an innovative response or, alternatively, it can seek to adapt on the basis of the investments that it has already made by, for example, obtaining wage and work concessions from employees, debt relief from creditors, and tax breaks or other subsidies from the state. An enterprise that chooses the adaptive response in effect shifts from being an innovating to an optimizing firm. How the enterprise responds will depend on not only the abilities and incentives of those who exercise strategic control but also the skills and efforts that can be integrated in its organization and the committed finance that, in the face of competitive challenges, can be mobilized to sustain the innovation process.

If and when innovation is successful in a particular nation over a sustained period of time, the types of strategic control, organizational integration, and financial commitment that characterize the nation's innovating firms will constitute distinctive social conditions of innovative enterprise. Why, one might ask, would the social conditions of innovative enterprise exhibit similar characteristics across firms in a nation, particularly when they are engaged in different industries? And why, for a given industry, would the social conditions of innovative enterprise differ across nations? The answer to the first question is that the social conditions of innovative enterprise are embedded in national institutions. The answer to the second question is that historically nations differ in their institutions. At any point in time these institutions both enable and proscribe the activities of firms, while over time distinctive elements of these institutions become embedded in the ways in which firms function.

Of particular importance in influencing the social conditions of innovative enterprise are *economic* institutions related to *governance*, *employment*, and *investment*. Through a historical process, the strategic, organizational, and financial activities of a nation's innovative enterprises shape the characteristics of these economic institutions. These institutions also exist and persist, however, independently of these enterprises as part of the "social fabric" – the rules and norms of the nation applicable to economic activity that find application in the social relations of that nation's firms.

Governance institutions determine how a society assigns rights and responsibilities to different groups of people over the allocation of its productive resources and how it imposes restrictions on the development and utilization of these resources. Employment institutions determine how a society develops the capabilities of its present and future labor forces as well as the conditions of work and remuneration. Investment institutions determine the ways in which a society ensures that sufficient financial resources are available on a continuing basis to sustain the development of its productive capabilities. These economic institutions both enable and proscribe the strategic, organizational, and financial activities of business enterprises, thus influencing the conditions of innovative

enterprise that characterize social relations within any given firm at any point in time. As these business enterprises succeed at innovation, they may reshape the conditions of innovative enterprise; for example, their strategic decision-makers, acting collectively, may take steps to reform the regulatory structures of these institutions to suit the new needs of their enterprises.

This highly schematic perspective, therefore, posits a dynamic historical relation between organizations and institutions in the evolution of the social conditions of innovative enterprise. To go beyond this schema requires the integration of the theory of innovative enterprise with comparative research on the evolution of the conditions of innovative enterprise in different times and places. To study the innovative enterprise in abstraction from the particular social conditions that enable it to generate higher quality, lower costs products is to forego an understanding of how a firm becomes innovative in the first place and how its innovative capabilities may be rendered obsolete. A comparative-historical analysis enables us to learn from the past and provides working hypotheses for ongoing research. This approach also opens the door to the analysis of how social movements might operate at the intersection between economy and society to shape social institutions that, with innovative enterprise as a foundation, can achieve equitable and stable economic growth.

The “social conditions of innovative enterprise” framework both derives from and permits comparative-historical analysis of economic development across national economies. For example, in a paper entitled “Innovative Business Models and Varieties of Capitalism”, I have shown how in the 1980s the Japanese challenge to the US microelectronics industry was an important catalyst for the shift from the “Old Economy business model” (OEBM), characterized by organizational integration through the expectation of a career with one company, to the “New Economy business model” (NEBM), characterized by the interfirm mobility of high-tech personnel (Lazonick 2010a; see also Lazonick, 2003; 2005; and 2007). In effect, across a number of industries including automobiles and consumer electronics, the Japanese perfected OEBM through its system of permanent employment that supported organizational learning not only within the management structure but also, unlike in the United States, on the shop-floor.

Using this analytical framework, I also show how the startups that characterized NEBM used the stock market to attract funding from venture capitalists, who exit their investments on NASDAQ, and the labor services of professional, technical, and administrative employees, lured away from secure OEBM employment by stock options. While NEBM effectively commercialized the advanced technologies that had been developed under OEBM, its focus on the stock market to attract capital and labor ultimately become a prime source of inequity and instability in the US economy as the top executives who exercised strategic control over many of the nation’s most innovative companies became focused on allocating corporate resources to boost their companies’ stock prices (Lazonick 2009c).

The key mode of resource allocation used to manipulate a company’s stock price has been the stock buyback, justified by the ideology that, for superior economic performance, a company should be run to “maximize shareholder value”. Later in this

paper, I will show why business executives and government policymakers need a theory of innovative enterprise to critique and eliminate this mode of resource allocation and its supporting economic ideology.

Innovative Enterprise and Dynamic Capabilities

- Business academics need a theory of innovative enterprise in order to render “resource-based” theories of the firm dynamic, to add rigor to concepts such as “dynamic capabilities”, and to critique faulty ideologies such as “maximizing shareholder value”. The theory of innovative enterprise permits a critical evaluation within a coherent conceptual framework of many of the leading perspectives on the operation and performance of business enterprise that have emanated from business schools since the 1980s.

One of the salutary academic developments of the past three decades has been the emergence in US business schools of “capabilities” theories of the firm. This work has yielded important insights into the operation and performance of the innovating firm, and contains the potential to challenge the neoclassical orthodoxy of the optimizing firm. Increasingly over time, the capabilities approaches have recognized that it is organizations, not markets, that are the agents of industrial innovation, and hence explicitly or implicitly that the analysis of economy and society needs a theory of innovative enterprise. The manifestation of the innovative enterprise is a firm that transforms itself from a new venture in search of new technological capabilities and market opportunities into a going concern – “the industrial corporation” – that can generate huge revenues and positive profits on a sustained basis, in the process expanding employment opportunities and raising the incomes of its workers.

Yet for economists who maintain an abiding belief in the notion that markets will always allocate resources better than organizations, the industrial corporation is an enigma; it exists as a major economic institution even though “the theory of the market economy” says that it should not exist. Since the mid-1970s the academic response to this enigma, promulgated mainly through business schools and in many ways in contradiction to “capabilities” approaches, has been agency theory, which portrays the large industrial corporation as a massive market imperfection. The foremost proponents of agency theory have been Oliver Williamson and Michael Jensen, although each has approached the question of the operation and performance of the large corporate enterprise in a very different way.

In Williamson’s case, the imperfection is inherent in “asset specificity” that prevents economic actors from using the market to mitigate “opportunism” in the presence of “bounded rationality”. The policy influence of the Williamsonian approach has been to discourage government regulation of the large corporation on the grounds that the market imperfection is rooted in “human nature as we know it” (Williamson 1985, 391). In Jensen’s case, the market for corporate control can remedy this imperfection by disgorging (to use Jensen’s evocative term) its so-called “free cash flow” to “maximize shareholder value”. The policy influence of the Jensenian approach has been to support corporate stock prices as the best, and indeed only, measure of superior economic

performance, but with, in fact, devastating consequences, as I will argue, on the actual innovative performance of the US economy. In both cases, basing their analyses in the theory of the market economy, the fundamental problem with agency theory is that it lacks a theory of innovative enterprise (see Lazonick 1991a, chs. 6-7; 1992; 2002; 2009a; 2012c).

While the work of agency theorists such as Jensen and Williamson emerged from training in the neoclassical theory of the market economy, their theoretical perspectives have found more of an intellectual home in graduate business schools where it is impossible to ignore the reality of the dominance of large industrial corporations in the economy, in contrast to economics departments where, in often ignorant bliss, a belief in “perfect competition” persists. Around the mid-1980s, resource-based theory surfaced in business schools to try to explain why, contrary to the neoclassical theory of perfect competition, firms that compete in the same industry typically possess different capabilities. Early proponents of resource-based theory such as Birger Wernerfelt (1984), Richard Rumelt (1984), and Jay Barney (1991) sought to answer this question within the neoclassical paradigm of an economy in which markets, not organizations, allocate resources. They attributed the firm’s superior competitive position to its “first-mover advantage”, without explaining the source of that advantage. By the late 1980s, resource-based theorists such as Ingmar Dierickx and Karel Cool (1989) began to move the discussion from a “positions” perspective to a “process” perspective. Yet, lacking a theory of innovative enterprise, the resource-based discussions continued to be mainly in terms of the accumulation of difficult-to-imitate capabilities that represented “market imperfections” rather than “organizational successes”.

In the 1990s, however, there was a growing body of literature that sought to understand the role of organizational processes in determining the growth and competitive advantage of firms. These included, among others, the work of Bruce Kogut and Udo Zander (1992) on “combinative capabilities”, Ikujiro Nonaka and Hirotaka Takeuchi (1995) on the “knowledge spiral”, and David Teece, Gary Pisano, and Amy Shuen (1997) on “dynamic capabilities”. In building a theory of innovative enterprise that is relevant to business schools – even as it is barred from neoclassically dominated economics departments – we can draw upon the insights of these and other “organizational process” approaches to the accumulation of competitive capabilities.

In employing the theory of innovative enterprise to build on these insights, we emphasize not only the path-dependent character of the processes of organizational learning but also the importance of the incentives and abilities of those who exercise strategic control within the firm to invest in the innovation process. As is the case with Clayton Christensen’s notion of “the innovator’s dilemma” (Christensen 1997), we do not take it for granted that enterprises that have been innovative in the past will remain innovative in the future. The theory of innovative enterprise permits an analysis of how, for example, financial interests who seek to enrich themselves through extracting value from a company may undermine the process of value creation that is the essence of innovative enterprise.

Analyzing Innovative Enterprise

- Industry analysts need a theory of innovative enterprise so that they can engage in in-depth research on the sources and sustainability of the innovative performance of successful firms and uncover why unsuccessful firms fail to be innovative. The theory of innovative enterprise can contribute to a significant improvement in “industry studies” carried out within academic institutions, business organizations, and government agencies.

The integration of the theory of innovative enterprise with empirical evidence on how in different times and places business enterprises actually succeed or fail requires in-depth empirical research on companies and industries. As my co-authors and I have demonstrated in a number of industry studies (Carpenter et al. 2003; Lazonick and Prencipe 2005; Lazonick 2009b; Lazonick and March 2011; Lazonick and Tulum 2011; Lazonick and Li 2012), the availability of a wide variety of e-resources now makes it possible to do in-depth desk research on the evolution of the social conditions of innovative enterprise that builds our knowledge base while greatly enhancing the value-added of subsequent field research.

The Internet revolution has totally transformed the possibilities for researchers, armed with academic methods and resources, to acquire a deep empirical understanding of the processes of industrial innovation and their potential contributions to sustainable prosperity. No longer do we have to travel to specialized libraries to gain access to company reports, news sources, and government data. No longer do we have to devote days or even weeks to sifting through reams of hard-copy newspapers or rolls of microfiche to try to find relevant material. No longer do we have to spend considerable time and money photocopying journal articles that we think that we may need. As the result of the Internet revolution, research that once cost thousands of dollars and consumed months of work – and that, therefore, might not have been carried at all – can now be done cheaply and quickly from our computers if we are able access the necessary e-resources.

The problem for many researchers is that many of the most valuable e-resources have very high fixed costs, making them apparently unaffordable to less well-endowed institutions of higher education. Of course, the value of a particular resource will depend on the extent to which it is both useful for, and used in, doing research. A university’s e-resource librarian may not know the extent of the research community that would *potentially* make use of a particular e-resource. Yet if these potential users can be transformed into actual users, the high fixed costs of the e-resource can be transformed into lower unit costs, thus making subscription to the e-resource more cost effective. Indeed, researchers who want their institution to subscribe to a costly e-resource would have an incentive to recruit their colleagues as potential users in order to achieve these economies of scale. In the process, through network effects, e-resource users would make other researchers more aware of the existence of relevant e-resources.

It may also be found that an institution is subscribing to many e-resources that seem inexpensive but are rarely used. Indeed these “cheap” e-resources may have much higher

“unit costs” than apparently expensive e-resources that achieve economies of scale. Dialogue with the research community can enable librarians to increase the value to industry research of their institutions’ e-resource holdings. In effect, to make decisions about whether it is worthwhile to subscribe to certain costly e-resources, even university and research-institute librarians in charge of e-resource budgets need a theory of innovative enterprise!

Yet even when we do have access to the relevant e-resources, the danger is that the wealth of data available will overwhelm us *unless* we devise new research methods and tools to make use of them. The social conditions of innovative enterprise can provide the framework for a state-of-the-art guide to e-resources designed for industry studies. Currently, on many university library websites, especially those devoted to business and economics, one can find lists of e-resources that are relevant to industry studies. But the user community itself has not yet developed a comprehensive approach to using this information for industry studies. In my view, the theory of innovative enterprise provides an analytical framework for articulating such a comprehensive “e-resources for industry studies”, or “*e-ris*”, approach.

By serving networks of industry researchers and securing feedback from them, *e-ris* will help to generate better and more complete descriptions of the content of e-resources than business and economics librarians are currently producing. In doing so, *e-ris* will not displace the information on e-resources provided by librarians but rather will assist librarians in improving upon it. By entering into dialogue with the librarian community, including making librarians aware of *e-ris*, industry researchers can inform librarians of their research needs. Indeed, we expect that a major achievement of *e-ris* will be to create a deep online dialogue between the researcher community and librarian community that will enhance awareness of and access to e-resources for industry studies.

The knowledge sharing that will be central to *e-ris* will uncover little known e-resources, such as project-generated datasets, that may be of significant importance to certain industry researchers. The *e-ris* user network will share information about the content of existing e-resources; for example, the relative value of different e-resource packages that vendors sell under the same name. A key feature of *e-ris* will be the posting of exemplary pieces of research that make heavy use of particular e-resources.

The *e-ris* project can be central to the development and dissemination of a methodology for doing industry studies that relies heavily on comparative-historical case studies of key industry competitors in particular sectors. Our research strives to bring these case studies up to the present so that they can be updated in “real time” as the enterprise, industry, or economy being studied evolve. We call this methodology “catching up with history”: industry researchers are able to analyze major industrial transformations, be they breakthrough innovations or financial crises, as they are happening while placing the unfolding events in the context of a comparative-historical understanding of the dynamics of industrial change.

For the *e-ris* project to yield state-of-the-art research on a timely basis requires a methodology that integrates theory and history. As stated earlier, the theory of innovative

enterprise serves as an abstract explanation of what we already know and as an analytical framework for identifying and researching what we need to know. Employing a methodology that integrates theory and history, this wealth of information now available to us nourishes, but does not suffocate, students of enterprise, industry, and the economy.

The theory of innovative enterprise, properly understood and utilized, provides a platform for academics and analysts to tap into the expertise of industrial practitioners on a systematic basis. Toward this end, I have recently co-founded The Academic-Industry Research Network (www.theAIRnet.org). The mission of theAIRnet reads: “The Academic-Industry Research Network is devoted to the proposition that a sound understanding of the dynamics of industrial development requires collaboration between academic scholars and industry experts. We engage in up-to-date, in-depth, and incisive research and commentary on issues related to industrial innovation and economic development. Our goal is to understand the ways in which, through innovation, businesses and governments can contribute to equitable and stable economic growth – or what we call ‘sustainable prosperity’.”

Industry analysts who have the capacity to develop and utilize the theory of innovative enterprise are made, not born. There exists the need for an advanced educational program on the theory of innovative enterprise, for which an appropriate curriculum remains to be developed. This educational program could be the focus of an industry studies master’s degree centered on the roles of strategy, organization, and finance in the innovation process. We can start by developing an intensive two-week “summer school” curriculum for select candidates from academia, business, government, and civil society organizations. All of these institutions need industry analysts who have the “historical experience” of which Schumpeter spoke.

Innovative Enterprise and Business Strategy

- Company executives need a theory of innovative enterprise so that they can make decisions to invest in and sustain the innovation process. For example, if company executives were equipped with a theory of innovative enterprise, they would find it difficult to adhere to an ideology that the companies over which they exercise allocative control should be run to “maximize shareholder value” – an ideology that is destructive of innovative enterprise.

In many times, places, and industries, top executives of business enterprises make allocative decisions on the basis of a “business model” that conforms to the theory of innovative enterprise, with equitable and stable economic growth as the result. They recognize that in making investments in new products and processes, which inevitably means investing in the knowledge and capabilities of employees who can at any time walk out the door, they are confronting technological, market, and competitive uncertainty. Yet these make the allocative decisions to invest in innovation because they believe that the corporations over which they exercise strategic control have the capabilities to generate higher quality, lower cost products than currently exist on the markets that they serve or can hope to access.

Technological uncertainty exists because the firm may be incapable of developing the higher quality processes and products envisaged in its innovative investment strategy; if one already knew how to generate a new product or process at the outset of the investment, it would not be innovation. Technology development is a collective and cumulative process in which the solution of existing technological challenges can uncover new technological challenges. For innovation to occur, company executives must be able and willing to confront technological uncertainty by investing in, and sustaining, the organizational learning processes that are essential to innovative success.

Market uncertainty exists because, even if the firm is successful in its development effort, future reductions in product prices and increases in factor prices may lower the returns that can be generated by the investments. Moreover, the innovative enterprise must access a large enough extent of the product market to transform the high fixed costs of developing a new technology into low unit costs. Like transforming technology, accessing the market is an integral part of the innovation process, and, at the time when resources are committed to an innovative strategy, it is impossible to be certain, even probabilistically, about the extent of the market that will be accessed.

Finally, even if a firm can overcome technological and market uncertainty, it still faces competitive uncertainty: the possibility that a competitor will have invested in a strategy that generates an even higher quality, lower cost product. It may well be that in the presence of powerful competitors, a company that may have otherwise been successful is bound to fail. But, if an innovative strategy is to be considered as a competitive response, the comparison of the competitive capabilities of the firm with those of its rivals is precisely the type of judgment that a company executive must be able and willing make. For this, they need a theory of innovative enterprise.

More specifically, to confront technological, market, and competitive uncertainty, executives who exercise strategic control over the allocation of company resources must recognize the centrality of organizational integration and financial commitment to the potential success of the innovation process. Indeed, in formulating and implementing their innovation strategies, these executives must have intimate knowledge of the organizational capabilities at their command, and they must be able to mobilize financial resources to sustain the innovation process at times when temporary technological setbacks or adverse market conditions might make some of those who have a financial interest in the firm might want to shut down the innovation process (Baldwin and Clark, 1992; Christensen et al. 2008).

Company executives who confront uncertainty are those who have both the abilities and incentives to invest in innovation. Their abilities derive from a deep understanding of the technological, market, and competitive conditions of the industry in which their company operates and of the productive capabilities of the business organizations over which they preside. Their incentives derive from a system of rewards that ensures that their own personal gains depend on their willingness to invest in “value creation”, which comes from innovation, rather than engage in “value extraction”, which comes from speculation in and manipulation of the financial value of the companies that employ them as executives.

In recent decades, the “financialization” of the business corporation has become a major impediment to investment in innovative enterprise. By financialization, I mean the evaluation of the performance of a company by a financial measure such as earnings per share rather than by the goods and services that it produces, the customers it serves, and the people whom it employs. In the financialized corporation, top executives are better at manipulating financial valuations than they are at engaging in innovation. Especially in the United States, top executives are given personal incentives to extract far more value than they create through remuneration in the form of stock options that reward them for speculation in and manipulation of their companies’ stock prices. As I have shown in a number of recent studies, the instrument of stock-price manipulation is the stock buyback, a mode of resource allocation that in 2007 in the United States reached an annual total of \$600 billion for the companies in the S&P 500 Index (representing 75 percent of the market capitalization of US business corporations). While buybacks declined in 2008 and 2009 as a result of the financial crisis, since then they have been on the rebound in the United States, reaching about \$400 billion for the S&P 500 in 2011 (Lazonick 2012a). These are corporate financial resources that could be invested in innovation and the creation of well-paid and sustainable employment opportunities.

Key to the justification of financialized corporate resource allocation is the ideology that “maximizing shareholder value” (MSV) results in superior economic performance. While many academics (especially in Europe) view MSV as an ideology of institutional shareholders that has been foisted on business executives, I contend that MSV is an ideology of corporate executives (especially in the United States) that has legitimized corporate decision-making that focuses on a company’s stock-market valuation to the personal benefit of top executives but at a high cost to corporate employees in general as well as to the economy and society in which the corporation operates.

The theory of innovative enterprise confronts the basic assumptions of MSV. Workers and taxpayers (via government agencies) are constantly contributing to the production process without a guaranteed return (Lazonick 2012b; Lazonick and Mazzucato 2012). The theory of innovative enterprise challenges forward-looking and community-minded corporate executives who view the generation of innovation as the fundamental purpose of the business enterprise to construct a new ideology of corporate decision-making that is compatible with equitable and stable economic growth.

Innovative Enterprise and Government Policy

- Government policy-makers need a theory of innovative enterprise so that that they can make coherent decisions concerning investments in human and physical infrastructure and provide subsidies that support the innovation process. The theory of innovative enterprise is essential for understanding the role of “the developmental state” in the performance of a national economy.

In ignoring the role of innovative enterprise in the performance of the economy, the neoclassical theory of the market economy also ignores the role of “the developmental state”. In the conservative version of the theory of the market economy (the legacy of

Milton Friedman and the Chicago School), state intervention in the workings of the market can only undermine the efficient allocation of resources. In the liberal version of the theory (the legacy of Paul Samuelson and the Harvard-MIT Keynesian School), state intervention can help remedy “market failures” so that the “market economy” can perform its function of efficiently allocating resources. I argue, however, that well-functioning markets are the *outcomes* of the success of innovative business organizations that are supported by developmental government investments (Lazonick 2003). In an advanced economy such as the United States, it was the rise of the large industrial corporation that underpinned the emergence of fluid product markets, capital markets, and labor markets. And the historical record shows that, in supporting innovative enterprise, no government in modern history has been more developmental than the United States (Block 2009; Block and Keller 2011; Lazonick 2011; Mazzucato 2011).

Indeed, inequity and instability arise when these fluid markets are permitted to function without regulation. An understanding of this relation between organizations and markets in economic development is important for the comparative analysis of the operation and performance of national economies. For example, in their well-known contribution to the “varieties of capitalism” debate, Peter Hall and David Soskice (2001) highlight the distinction between a “coordinated market economy,” as exemplified by Germany’s system, and a “liberal market economy,” as exemplified by that in the United States. In effect, Hall and Soskice accept the conventional ideology that, in terms of the coordination of productive activity that results in superior economic performance, the United States – the world’s largest and richest economy – can be understood as a “market economy” with a deregulated state.

There are a number of problems with this perspective. First, to view the United States as essentially a “market economy” is to ignore the role of powerful business enterprises in the allocation of the economy’s resources. Second, the US government has always played a major role in funding the physical infrastructure and the human knowledge base that permit US capitalism to operate at a high level of productivity. Third, insofar as the deregulation of economic activity and the rise of “flexible” capital and labor markets have brought a high degree of accuracy to the characterization of the United States as a “liberal market economy” over the past three decades or so, this variety of capitalism is now resulting in inferior, not superior, economic performance. In the twenty-first century, Hall and Soskice’s characterization of the United States as a “liberal market economy” may be an apt description of what the US variety of capitalism has become. If so, however, it is not a variety of capitalism that yields a high level of economic performance in terms of equitable and stable growth. Government policy-makers need a theory of innovative enterprise to understand the role of the state in supporting an innovative economy that can result in sustainable prosperity.

Besides making developmental investments, the government must enact and enforce regulations that promote the innovative enterprise and proscribe the financialized enterprise. These regulations should a) control speculation on and prohibit manipulation of financial markets, including the stock market; b) ensure that corporate executives cannot gain personally from speculation in or manipulation of the stock prices of the companies over which they exercise allocative control; c) ensure that employees and

other stakeholders who contribute to the innovative success of a company cannot be excluded from sharing in the gains of that success; d) encourage companies to train and, when necessary, retrain workers to engage in productive employment; and e) tax the gains from innovative enterprise to fund new rounds of government investment in human and physical infrastructures that support innovative enterprise. The pursuit of this policy agenda assumes that government policy-makers comprehend the centrality of innovative enterprise to the performance of the economy.

Innovative Enterprise and Sustainable Prosperity

- Informed citizens need a theory of innovative enterprise so that they can elect politicians who recognize that innovation, supported by the developmental state, is fundamental to economic development. At the same time, these informed citizens would understand that the policy challenge is not only to support innovative enterprise but also to find ways in which it can contribute to equitable and stable economic growth.

Ultimately, it is informed citizens who elect the government policy-makers, who in turn can promote “value-creation” through innovation and proscribe “value-extraction” through speculation and manipulation. Each year millions of college students around the world take “principles of economics” courses in which they are taught that “perfect” competition results in the highest possible level of economic efficiency. Yet in a world of perfect competition, firms take technologies and markets as given constraints on economic decision-making. It is an unrealistic world of total certainty and market individualism in which the passage of time plays no role. Nevertheless, on the basis of this “free market” ideology, governments make momentous political decisions in the name of economic efficiency.

In a world of innovative enterprise, in sharp contrast, firms transform technologies and access markets through a process that is uncertain, collective, and cumulative. It is uncertain because, at the time when investments in innovation are made, we do not know what *new* standards of economic efficiency can be achieved. It is collective because the process of organizational learning that transforms technologies and accesses markets involves the integration of the skills and efforts of large numbers of people with different hierarchical responsibilities and functional capabilities. It is cumulative because what the organization and the individuals within it learn today provides a foundation for what can be learned tomorrow. As a result, the social conditions for economic progress in the actual world of innovative enterprise are fundamentally different than they would be in the fictitious world of perfect competition.

An understanding of the social conditions of innovative enterprise leads to a view of the governance of business enterprise that seeks to sustain the collective and cumulative learning processes that lay the foundations for innovation. From this perspective, a democratic government as the representative of informed citizens can play a developmental role in investing in the education, training, and health of a population who can contribute to the innovation process, while making investments in physical

infrastructures that are too expensive and too collective for even the largest business enterprises to undertake on their own.

Innovation creates the possibility, although by no means the necessity, that all stakeholders in the economy can be made better off. Through the generation of higher quality products at lower unit costs, given prevailing factor prices (again, the economic definition of innovation), it is possible simultaneously for workers to have better pay and work conditions, for creditors to have more security in their principal and interest, for shareholder to have higher dividends and share prices, for the government to have higher tax revenues, for the innovating firm to have a stronger balance sheet, and for consumers to have more and better goods and services at lower prices. It all depends on how the gains from innovative enterprise are shared among these stakeholders. It is the structure of power within business enterprises and through government policy in conjunction with “market forces” that determine the distribution of these gains at a point in time and over time (see Lazonick and Mazzucato 2012).

These “market forces”, moreover, are not the result of atomistic competition that neoclassical economists call “perfect”. Rather market forces depend on a distribution of financial assets and productive capabilities across households and businesses that is typically very unequal and potentially very unstable, and that, I would argue, ultimately undermines economic growth. Informed citizens generally want economics outcomes that are just the opposite. Informed citizens need a theory of innovative enterprise as a foundation for understanding how the governance of the economy and society can result in equitable and stable economic growth.

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