Public and corporate governance: The institutional foundations of the market economy

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1. The triumph of the "market economy"?

In historical perspective, the major debate in political economy in the twentieth century was whether it was the "market" or the "plan" that should constitute the institutional foundations for governing a modern economy. By the end of the century that debate had become old-fashioned, as, both politically and economically, capitalism had clearly won out over socialism. The collapse of the Soviet model led nations within the former Soviet bloc to try to transform their modes of economic governance to emulate what they understood to be the institutions of a "market economy". In China, beginning with the post-Mao reforms of the late 1970s, a prolonged transition from the "plan" to the "market" was set in motion -- a transition marked by social disruption and political conflict as well as by high rates of economic growth.

Even then, the unquestioned triumph of the "market" as the dominant mode of economic governance was only secured in the last half of the 1990s with the dynamic growth of the "new economy" in the United States. Building its industrial base on the Internet-driven revolution in information technology, the visible features of the "new economy" that differentiated it from the "old economy" were the heightened mobility of people and money via labor and capital markets as well as rapid changes in product markets.¹

The emergence of the "new economy" was widely viewed as the successful culmination of the market-oriented "shareholder-value" movement that had, in the 1980s and 1990s, come to dominate discussions of corporate governance in the United States. Adopting "maximization of shareholder value" as their corporate goal, by the mid-1990s many long-established US corporations had undergone substantial, and often dramatic, restructuring in attempts to remain competitive in the markets for which they produced. The prime characteristics of this restructuring were the downsizing of corporate labor forces and the increased distribution of corporate revenues to shareholders in the forms of dividends and stock repurchases.² The economic theory that rationalized such restructuring was one that posited that, through the market for corporate control, labor and capital resources being misused by corporations could be reallocated by the labor and capital markets to their most efficient uses.³

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maintained the institutions of lifetime employment and cross-shareholding on which it had built its extraordinary economic success during the post-World War II decades. The ideology of "maximizing shareholder value" also had little broad appeal in most of Western Europe so long as the US corporate governance regime was perceived as generating employment insecurity and income inequality. Indeed, until the late 1990s, in nations such as France, Germany, Italy, and Sweden that sought to maintain the integrity of their "social market economies", the issue of corporate governance was hardly discussed and the ideology of shareholder value little known. The Western European exception, of course, was Britain, where the Thatcher revolution of the 1980s had sought to give a new lease on life to both the City of London financial elite and masses of pensioners with their savings invested in the stock market. But British industry had entered the 1980s in a much more weakened condition than US industry; as the "shareholder-value" corporate governance regime took hold in Britain during the 1980s and 1990s, British industrial corporations that downsized their labor forces had much less cash to distribute to shareholders.

In the late 1990s, however, the rise of the US "new economy", based on the Internet revolution made the "shareholder-value" movement more attractive to the nations of continental Western Europe. No longer was the pursuit of shareholder value tainted with the charge that it was merely a means of laying off workers to benefit financial interests. Now the shareholder-value movement became associated with economic growth that generated innovative products that people used every day at work and at home. The corporate goal of maximizing shareholder value also became associated with a huge growth in new employment opportunities that called for a workforce with high levels of education and knowledge. Rather than complain that the stodgy corporations of the "old economy" could no longer provide them with the employment security that they thought they deserved, former and current corporate employees, it could now be argued, had to equip themselves to participate in the "new economy".

By the late 1990s, as US stock markets boomed as they never had before, the new ideology of a stock-market driven economy began to erode resistance to the shareholder-value movement in the social market economies of Germany, France, Italy, and Sweden. At the microeconomic level, European corporate executives began to see "maximizing shareholder value" as a recipe for turning staid old-line corporations into nimble innovators, while also
perhaps bringing their personal levels of remuneration closer to the extraordinarily high levels that had become the American “norm”. At the macroeconomic level, European government officials began to see “maximizing shareholder value” as a way to generate, on the one side, huge sums of money for state treasuries through the privatization of state-owned companies and, on the other side, high returns on retirement savings that US stock markets were producing and that the public social security systems of Western Europe could not hope to provide.

Although, in the years of negative growth of 1997-98, some Japanese business executives and politicians flirted with the notion that Japan should open its door to the shareholder-value movement, that nation maintained its resistance to the ideology throughout the 1990s, as it kept intact its systems of lifetime employment and cross-shareholding, the key "non-market" institutions that the nation had put in place in its extraordinary ascent from poor to rich nation from the 1950s on. Nevertheless, for the Japanese, the prolonged stagnation of the 1990s, which many came to call the "lost decade", substantially undermined their own confidence in the Japanese model, while in the Western economies, market-oriented economists could now dismiss the employment, financial, and regulatory institutions that had underpinned the Japanese "miracle" as obsolete relics of an "old economy". The time had come, the Western economists argued, for Japan to make the transition to the institutions of a "new" market economy.

Yet, now in the first half of 2001, the US stock market is booming no more. With the speculative excesses of the late 1990s becoming more apparent, a "soft landing" for the US "new economy" is by no means assured. Even during the "new economy" euphoria in the United States, the collapse of financial markets in Asia in 1997 and Russia in 1998 had shown the havoc that could be wreaked when financial markets enabled masses of money to flit from place to place in search of higher returns. If, at the beginning of the twenty-first century, the "market economy" has indeed triumphed as the only possible institutional basis for resource allocation, we now live in a world characterized by profound financial instability and growing income inequality. If one measures superior economic performance in terms of stable and equitable economic growth, then, with the triumph of the "market economy", superior economic performance has become ever more difficult to achieve.
This situation poses a conundrum for social reformers and economic policy-makers in both richer and poorer nations for whom the achievement of stable and equitable growth is a major objective. The market -- and particularly the financial market -- often appears as more a problem than a solution for reaching this goal. Yet, especially with the apparent triumph of the "market economy", the only respectable theory of the economy to which social reformers and economic policy-makers can look for guidance and validation is what can be called "the theory of the market economy" -- a theory that posits that an economy in which market institutions allocate resources is the best of all possible worlds.

I shall argue that the theory of the market economy propounded by Western (and especially US) economists is more a hindrance than a help in understanding the difficult problems that economies, rich and poor, now face. Specifically I shall argue that the way in which economists are trained to think about the role of market institutions in the operation of the successful "market economies" has very little to do with how these economies actually operate when they are successful, much less when they falter. As a result, even when market economists recognize that there are major problems with the operation of the "market economy", they have great difficulty in making a consistent theoretical case for the regulation of highly speculative markets, or even for government programs for developing the capabilities of the labor force, investing in new technology, or bolstering aggregate demand. The fundamental problem, I shall argue, is that Western economists who propound the theory of the market economy -- including those who recognize that markets often work "imperfectly" or "fail" -- lack a theory of economic development that can explain the successful growth of the wealthy economies. As a result they are intellectually ill-positioned -- one might even say that they have a trained incapacity -- for explaining why wealthy economies experience crises or why the efforts by national economies to join the ranks of the wealthy go astray.

Lacking a theory of economic development, market economists wrongly tend to see outcomes of economic development -- namely developed markets in labor, capital, and products -- as causes rather than consequences of economic development. The "market economy" is a very real phenomenon with great economic and political advantages if it can be achieved and controlled. But, in reality, well-functioning markets are much more the outcomes than the causes of economic development. To reap the advantages of a "market economy", a society must first
put in place the organizations and institutions that generate well-functioning markets in capital, labor, and products. Then, having put these markets in place, a society must control the operation of markets to achieve stable and equitable economic growth.

2. The theory of the market economy

An economy is a social system for the allocation of resources to alternative productive uses. Specifically, an economy is a social system that allocates labor and capital inputs to the production of goods and services and that allocates the goods and services that the economy produces to participants in the economy. Through the use of money as a store of value as well as a means of exchange, this allocation process can take place over time as well as at a point in time. As thus stated, this definition of an economy is not controversial.

What are the main political and economic advantages of market exchange as part of a social system for the allocation of resources? The market allocation of labor enables individuals to choose how much and what types of work they wish to do and where they wish to do it. The social advantages of a well-functioning labor market provide the most important political argument for a market economy. Some (more privileged) people cannot control the allocation of other (less privileged) people's labor; people are free to choose how and where to seek out a living.

The market for the allocation of capital means that individuals can potentially choose whether they want to work for themselves or for others since, with access to capital markets, they can purchase means of production. Moreover, the existence of a capital market holds out the possibility that they can get a positive return on their savings, and thus can serve as an incentive to save out of their current income. Indeed, whether they work for themselves or for others, the market for capital makes it possible for people to invest, through education and training programs, in the improvement of their own productive capabilities, and thus can enhance their mobility via the labor market and the value of their own productive contributions to the economy. The social advantages of a well-functioning capital market provide the most important economic argument for a market economy.

The market allocation of products not only creates consumer choice, but, more importantly, permits access to the purchase of goods and services that are means of production
and to the possibility of selling the goods and services that one produces. The existence of product markets thus allows people to combine their labor with access to capital to choose the types of productive activities in which they want to engage. The social advantages of well-functioning product markets are they can provide people with a greater variety of choices as both consumers and producers, and the existence of well-functioning labor and capital markets can enhance these choices. It is possible, however, for well-functioning product markets to exist in a society that has neither well-developed markets for labor or capital, both of which are more fundamental for the political and economic freedom associated with a market economy.\(^6\)

The advantages of markets, first put forth in a coherent way by Adam Smith more than two centuries ago, have since that time been elaborated by economists into a **theory of the market economy** -- a theory that argues that the more "perfect" the markets in terms of the allocation of resources, the better the "performance" of the economy. A "perfect market" is one in which there are no impediments to the mobility of resources from one use to another; labor and capital flow freely and instantaneously to the production of alternative goods and services according to market incentives. Superior performance derives from the ability of individuals to make the best possible use of the allocative mechanisms of labor, capital, and product markets to maximize their satisfaction, or utility. The more "perfect" the market, the more it permits individual utility maximization, and hence (assuming away the thorny problem of interpersonal comparisons of utility), the better the performance of the economy as measured by the satisfaction of its participants.

In this theory, which is readily found in any major economics textbook and which is taken for grant by most of today's professional economists, the key social unit is the household. Although the family household is a small organization that allocates resources internally (and some economists have applied the theory of the market economy to the allocation of resources within the household unit itself\(^7\)), most economists treat the "household" as if it were a utility-maximizing individual. The use of the term "household" is in effect a concession to the reality that individuals are not able in the early parts of their lives to be active participants in the market economy, and hence are dependent on the allocation decisions of older people who are. The household/individual allocates labor to alternative productive pursuits, income to alternative goods and services, and savings to alternative financial instruments. The important point is that
in the theory of the market economy, it is the utility-maximizing decisions of households/individuals acting as atomistic decision-making units that determine the allocation of resources in the economy as a whole. In doing so, they not only maximize their individual economic performance (i.e., as measured by their utility) but they also do so in a social system in which, given the pervasiveness of market mechanisms, no individual exercises any power over anyone else.

It is the theory of utility maximization that, whether they realize it or not, underlies the unquestioning belief of market economists that the "perfect" market economy is an ideal mode of allocating resources, even if, because of "market imperfections" and "market failures", that ideal is not always, or even normally, achieved. "Market imperfections" restrict the free flow of labor and capital to alternative productive activities and of household incomes to alternative goods and services, and hence result in less than optimal performance in the economic system as a whole. "Market failures" occur when there exists a good or a service that society needs, but which is not made available through market resource allocation. Hence the state must step in to supply the good or service directly, or alternatively to influence private allocative decisions so that the "market" now finds it worthwhile to undertake its supply.

The identification of such "market imperfections" and "market failures" then provides market economists with operational concepts with which to focus on reality, and also creates endless possibilities for debate among themselves whether such imperfections or failures exist, and if so, what to do about them. Some market economists of a more "conservative" bent (e.g., Oliver Williamson) argue that market imperfections are inherent in "human nature as we know it", and hence that the organizations and institutions that characterize a market economy are optimal adaptations to these market imperfections. Other market economists of a more "liberal" bent (e.g., Joseph Stiglitz) argue that market imperfections can be reduced through public policy interventions that enhance the free flow of economic resources. Although market economists of different political stripes differ sharply in terms of the efficacy of state intervention, yet both types agree that the theory of the "perfect" market economy is the ideal benchmark against which the reality of resource allocation should be compared.

"Market failure" exists when labor, capital, or product markets simply do not generate alternative sources of employment, finance, and goods and services that (according to some
normative criteria, which can vary dramatically among economists depending on their political perspectives) are deemed to be necessary or desirable in a well-functioning economy. Examples of “market failures” are chronic unemployment and poverty-level incomes, an absence of credit facilities for lower income people or smaller firms, and a lack of necessary “public goods” such as primary education and law enforcement that are deemed to be public because the market allocation of resources based on individual (that is, private) incentives will not generate the demand for these services. Liberal market economists tend to believe in market failure, whereas conservative market economists often argue that state interventions that respond to the existence of purported “market failures” actually subvert the abilities of markets to allocate resources to achieve the same outcomes. For example, liberal market economists often argue that poverty is “market failure,” while conservative market economists tend to argue that, if there is indeed a “failure”, the blame must be laid at the door of the individual for not working hard enough or having sufficient foresight to earn a higher income. What is more, the conservatives would contend, social welfare programs that treat the problem at if it were a “market failure” rather than an “individual failure” (given the opportunities of earning incomes that the market provides) only exacerbate the problem by creating incentives for poor people to work less hard and with less foresight.

If one accepts these basic terms of the debate, one might be led to believe that the basic explanation for the success of the wealthy “market economies” is a progressive eradication of market imperfections and market failures that brings the allocation of resources in these economies closer to the “perfect market” ideal. The clear policy implication of such a perspective for societies that have not achieved such economic success is that their economic future depends on their ability to rely as quickly and as fully as possible on the introduction of markets for labor, capital, and products to allocate resources in their economies. Those national economies that want to join the ranks of the wealthy nations, so the argument goes, should make the transition to the market economy as quickly and as fully as possible, not only within their own political boundaries but also by becoming integrated into the international market economy. And, the policy prescription continues, if these economies continue to experience problems of economic growth, income inequality, or financial instability as they make the transition to the market economy, the sources of their problems reside in the persistence of
"market imperfections" and "market failures" while the possible solutions will be found in the continued transition to a more perfect market economy.

The theory of the market economy sounds convincing, in large part because of the very real political and economic advantages for the individual of living in an economy in which one can freely allocate one's labor, borrow capital, and decide what to consume. The theory of the market economy also seems to be above ideology because there is in fact vigorous debate among market economists with different political perspectives concerning the virtues and vices of state intervention into the resource allocation system. Indeed, in the wealthy economies over the course of the twentieth century, the theory of the market economy attained such a high degree of academic respectability (enhanced immensely by the thirty-year old practice of awarding Nobel Prizes in market economics) that, especially with the collapse of the planned economies, there exists a powerful system of belief that cannot countenance that the theory is fundamentally flawed.

3. Innovation and development in a "market economy"

The fundamental flaw in the theory of the market economy begins to become apparent when one asks how an economy can generate higher and higher material standards of living over a prolonged period of time, and when one recognizes that "innovation" -- precisely defined as the generation of higher quality products at lower unit costs, given prevailing factor prices -- has something to do with the answer. The flaw becomes even more evident once one asks what role business enterprises play in the innovation process, and why indeed business enterprises can grow to employ tens of thousands or even hundreds of thousands of people and persist for decades on end. Can the modern business corporation that controls the allocation of vast amounts of labor and capital be understood as a massive "market imperfection" that restricts the free flow of resources via the market or indeed as a set of activities that manifests "market failure"? Given the importance of the business corporation in a modern economy, might it not make much more sense to have a theory of resource allocation that asks how and under what conditions these business enterprises allocate resources in ways that, by generating higher quality, lower cost products than would otherwise be available, can enhance economic performance? If so, economic theory needs a theory of the innovative enterprise.
The theory of the market economy fails to provide a theory of the innovative enterprise. Indeed, in the theory of the perfect market economy there is no inherent reason why the social unit that we call "the firm" -- an entity whose purpose it to transform purchased inputs into salable outputs -- should exist; households engaging in trade on intermediate product (i.e., capital good) markets should be able to perform this function. To create a role for the firm as a distinct unit in the theory of the market economy, one has to assume that there are "economies of scale" in the production of goods and services that make it impossible, or at least economically undesirable, to rely solely on market exchanges to transform inputs into outputs. Even then, in the theory of the market economy, firms, as units responsible for "production", play a passive role in supporting the process of exchange. The firm turns inputs into outputs according to the dictates of factor prices and production technologies that are externally imposed on it by market competition for the allocation of resources, and which the firm therefore takes as given constraints in its resource allocation decisions. As a concession to reality, there are "firms" in the theory of the market economy, but the theory contemplates only market control, not organizational control, over the allocation of the economy's resources.

This theory of the firm represents the major weakness of the theory of the market economy for understanding the way in which actual "market economies" operate. The main problem with the theory of the firm in the theory of the market economy is that it precludes an analysis of how a business enterprise might allocate resources to transform market and technological conditions in ways that generate "innovation" -- that is, to produce a good or a service that, given the wages paid to labor and rate of return to capital, is higher quality and/or lower cost than the good or service that this firm or other firms had previously been capable of putting on the market. Given their belief in the ideal of the "perfect" market economy, conservative market economists would logically view the modern business enterprise as a massive "market imperfection" -- it exercises organizational control over the allocation of massive amounts labor and capital and often dominates product markets -- while liberal market economists would logically view it as a massive "market failure" -- large scale business organizations exist because, for some reason the market "failed" to allocate resources to the particular activities in which the business enterprise is engaged.
It is the introduction of a theory of innovative enterprise into a theory of resource allocation that transforms "the market" from an explanation to an outcome of economic development, and that, as a result, transforms our understanding of the roles of organizations and institutions, as well as markets, in determining economic performance. Given the importance to the wealthy economies of business organizations of considerable size -- and even one that employ five hundred people is generally considered large -- the adherence to the theory of the market economy leads market economists to ignore systematically the roles of organizations rather than markets in allocating resources to generate superior economic performance. I should stress that markets are important in facilitating the reallocation of resources in the wealthy economies, and the existence of markets for the allocation of labor, capital, and products can offer individuals profound political and economic freedom that, once acquired, is to be highly cherished and protected. The problem is that the existence of such socially desirable market opportunities is much more an outcome of the process of economic development than its cause.

A historical and comparative analysis of "the nature and causes of the wealth of nations", not just say a century ago but even over the immediate past, shows that in the wealthy economies it has been organizations rather than markets that have been primarily responsible for the allocation of resources that generates economic development. As a result the theory of the market economy provides the wrong benchmark for the "ideal" mode of allocating resources. It is economic development that makes the improvement of markets in labor, capital, and products possible, with all the advantages that this improvement brings for political and economic freedom. And it is organizations, not markets, that allocate resources to the production processes that generate economic development. If one wants to learn from the experiences of the wealthy economies, and indeed if a wealthy economy wants to learn critical lessons for the future from its own past, what is needed is a theory of how resource allocation by organizations -- both business organizations and government organizations -- generates economic development.

The fact that the theory of the market economy lacks a theory of innovation, and hence economic development, is by no means new in the history of economic thought. It is now some 90 years since Joseph Schumpeter, one of the most erudite and creative economists of the
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twentieth century, made such an argument in a book called The Theory of Economic Development. Schumpeter then spent the next four decades of a highly productive career seeking to understand how, why, and when innovation contributed to the economic development of the advanced economies. In the 1950s, in an era in which the United States had emerged as by far the most dominant economy in the world, two American economists, Moses Abramovitz and Robert Solow, effectively launched distinguished academic careers by showing, using somewhat different analytical models, that, in the case of the United States from the last decades of the nineteenth century through the first half of the twentieth century, the rate of growth of factor inputs (weighted by their market prices) accounted for only about 10 percent of the rate of growth in per capita output.13 Put differently, a growth model based on the theory of the market economy failed to explain the vast majority of the economic growth that the United States had experienced during the period when it became the world's richest economy.

In his original article Solow called this unexplained residual “technical change”, even though his work, then or subsequently, did not actually demonstrate empirically that “technical change”, as conceptualized in his growth models, was the source of unexplained growth. In contrast, Abramovitz recognized in a 1962 review of the literature on growth accounting that the index of productivity in this work “has been dubbed by some a 'measure of ignorance,' and it often referred to simply as the Residual.”14 Indeed, in an article that Abramovitz wrote in 1993, he argued that, over the decades since he and Solow estimated their first growth models, the empirical work by growth economists had raised more new questions about the causes of growth than they had been able to answer, and hence, relative to what we now know that we ought to know about the growth process, the ‘measure of ignorance’ had if anything increased.15

We can make progress in understanding the wealth of nations, if we analyze the comparative-historical experiences of the wealthy economy using a theory of innovation as a process of transforming inputs into outputs to generate products that are higher quality and/or lower cost than those that existed before. Over the past few decades many scholars, including economists who are intent on going beyond the theory of the market economy in understanding how the economy actually operates and performs have done a considerable amount of empirical research on the process of innovation. Some of this work has been focused on "national
systems of innovation” while other work has focused on case studies of particular technological transformations in particular industries.\(^\text{16}\)

While different scholars have emphasized different key characteristics of the innovation process, taken as a whole these studies suggest that the innovation process is collective, cumulative, and uncertain; the learning process that is the essence of innovation cannot be done all alone, all at once, or with any degree of certainty that what needs to be learned will in fact be learned (productive uncertainty) or that, even if it is learned, competitors will not learn to do it better (competitive uncertainty). The innovation process is collective because the transformation of technological and market conditions to generate higher quality, lower cost products requires the organizational integration of the specialized knowledge, skills, and efforts of large numbers of people with different functional capabilities and hierarchical responsibilities. When the innovation process is collective, there is a need for organizational, rather than market, control over resource allocation. The innovation process is cumulative because the possibilities for transforming technological and market conditions today and tomorrow depend on the development of those conditions in the past. When innovation is cumulative some or all of the collectivity that engages in learning must remain intact over time. The innovation process is uncertain because the collective and cumulative processes that can transform technological and market conditions to generate higher quality, lower cost products are unknown at the time at which commitments of resources to these processes are made. Hence, an innovative enterprise must be strategic in how it engages in collective and cumulative learning. When innovation is uncertain, collective and cumulative organization can enable an enterprise to transform technological and market conditions that other, less powerful, organizations might have to accept as binding constraints.\(^\text{17}\)

What are the implications of the collective, cumulative, and uncertain characteristics for the mode of resource allocation that defines the institutional foundations of the economy? As Mary O’Sullivan has shown, a theory of the market economy in effect sees resource allocation as individual, reversible, and optimal.\(^\text{18}\) That the resource allocation is individual means that people make allocation decisions in isolation from one another (as “households”); that it is reversible means that the decisions that they made yesterday have no bearing on the decisions that they make today; and that it is optimal means that, as individuals who can (but for “market
imperfections") change their allocation decisions, they make these decisions accepting all of the constraints that the economic (and political) system imposes on them. In the theory of the market economy, participants in the economy have no possibility of strategically changing the technological and market conditions that they face.

Yet the strategic transformation of technological and market conditions is what innovation is all about. Indeed, O'Sullivan then goes on to show that, when the innovation process is collective, cumulative, and uncertain, resource allocation to the innovation process cannot be individual, reversible, and optimal as in the theory of the market economy. Rather, allocate resources to a process of transforming inputs into outputs that is collective, cumulative, and uncertain, the mode of resource allocation must be organizational, developmental, and strategic. Markets cannot engage in resource allocation that is organizational, developmental, and strategic; organizations can.

4. The social conditions of innovative enterprise

There are two main types of organizations that are central in the allocation decisions that result in economic development: the innovative enterprise and the developmental state. Enterprises and states exercise control over the allocation of vast amounts of labor and capital but they differ fundamentally in the ways in which they gain and maintain access to the financial resources that gives them control over allocation of productive resources. Enterprises gain access to what can be called "foundational finance" on an ongoing basis through the revenues that they generate from the sale of goods and services, whereas states gain access to foundational finance through taxation. Both enterprises and states can leverage this finance through debt issues, servicing this debt with the flows of foundational finance. It is, however, the different modes of accessing foundational finance that creates the fundamental difference between the governance of resource allocation in an enterprise and a state. In particular, enterprises are under a compulsion to deliver products that buyers want at prices they can afford. These buyers may be households, other enterprises, or even states.

The generation of revenues through the sale of products enables an enterprise to govern "itself". Hence the notion that enterprises operate in the "private" sphere, although the identification of "itself" -- that is, those interests who are deemed to be participants in the
enterprise is a central issue in debates on corporate governance.\textsuperscript{19} When these revenues are more than sufficient to allocate expected returns to all parties who have financial claims on the enterprise, the surplus can provide a foundation for financing new productive investments. Hence the importance of profits for the viability of an enterprise as an ongoing organizational concern. In contrast, the reliance of the state on taxation for foundational finance opens it to societal governance, and hence the notion that the state operates in the "public" sphere. Subject to these very different governance regimes, both the enterprise and the state can choose to allocate resources to organizational learning, with the critical difference that, unlike the enterprise, the state is not normally expected to ensure that the productive resources that are thereby developed are utilized in ways that generate financial returns. The development and utilization of productive resources to generate financial returns is the distinctive role of the innovative enterprise, and constitutes the most fundamental reason by the enterprise is more central than the state in affecting the economic performance of an advanced economy.

Both the innovative enterprise and the developmental state can allocate resources to organizational learning processes. In general, the developmental state will undertake investments in technologies that are deemed to be of strategic (e.g., military or medical) importance when the collective, cumulative, and uncertain character of the learning process renders the expected scale of the commitment of financial resources so large and the expected duration of time before the generation of financial returns so long (with prospective product markets often non-existent at the outset) that existing enterprises are unwilling to make the investments. Nevertheless, the state typically induces enterprises to participate in these developmental efforts, either through investment subsidies or procurement contracts that, for the activities in which the enterprise invests, make the scale and duration of the commitment of financial resources acceptable from a business point of view.

Although space constraints do not permit an adequate elaboration of the evolving relations between innovative enterprises and developmental states in the growth of advanced economies, it is worth noting that, contrary to what has become conventional wisdom, during the twentieth century the developmental state was of much more direct importance in the growth of the US economy than in the growth of the Japanese economy. The Japanese state was of critical importance in mobilizing bank finance to help fund the innovative efforts of business
enterprises. But the US government was much more directly involved in the strategic direction of organizational learning processes that spanned state and enterprise organizations in agriculture and health sciences (including biotechnology), aircraft and engines, computers (including semiconductors), and the Internet. Indeed, it is safe to say that the Internet-revolution that provided the technological foundations for the "new economy" would not have occurred in the United States, but for decades of US government support for the development of information and computer technology.

An analysis of how enterprises, with or without the support of the state, develop the productive resources that are ultimately sold on markets to generate returns requires the identification of the "the social conditions of innovative enterprise". From a characterization of the innovation process as collective, cumulative, and uncertain combined with a comparative-historical analysis of successful economic development in the twentieth century, we can identify three social conditions of innovative enterprise: organizational integration, financial commitment, and strategic control. The form and content of these social conditions of innovative enterprise depend on the relation between prevailing institutional (financial, employment, and regulatory) conditions in and organizational (cognitive, behavioral, and strategic) conditions in the economy (see Figure 1). These three social conditions of innovative enterprise all reflect the importance of organizational control rather than market control over the allocation of resources in the economy.

Organizational integration means that it is the organization rather than the market that creating incentives that affect how people allocate their labor. Financial commitment means that it is the organization rather than the market that controls the allocation of money to alternative uses. Strategic control means that it is the organization rather than the market that determines the types of investments in productive capabilities that the economy makes. Hence, to analyze the process of innovation and economic development, economics needs a theory of the organizational economy rather than a theory of the market economy to understand when, how, and whether these social conditions of innovative enterprise are put in place.
Organizational integration is the social condition that creates incentives for participants in the hierarchical and functional division of labor to apply their skills and efforts to engage in interactive learning in pursuit of organizational goals. As a social condition for innovative enterprise, the need for organizational integration derives directly from the collective character of the innovation process. Hence, a theory of innovative enterprise must show how, given the collective character of the transformation of technology and markets in particular industrial activities, institutions and organizations combine to create the necessary incentives for those who are expected to engage in interactive learning.

Across the wealthiest economies for over a century, the main mode of organizational integration has been the internal career path which has offered employees the expectation that, subject to certain performance criteria, they would find opportunities of stable, remunerative, and, perhaps, creative employment with their existing employer over a long period of time. On these career paths, such employees typically develop skill, knowledge, and experience -- that is, productive capabilities -- that are relevant to the organizations for which they work. Since innovation depends on organizational learning, the enterprise typically has substantial interests in both making investments in "human capital" that enhance the productive capabilities of their
employees and ensuring that it can utilize these capabilities by securing the long-term attachment of these employees to the organization.

Although such "organization" men and women possess the right to quit their employment at any time, and by virtue of their accumulated skill, knowledge, and experience are often well-positioned to make use of the labor market, they generally choose to remain with their current employer because as insiders they tend to receive higher pay, greater employment security, and more financial stability than people who are outsiders to the organization. Indeed, outsiders to established business organizations who are compelled to look constantly to the market to allocate their labor may be fortunate to live in a society in which they have the political freedom to do so, but, within that society, will tend to be those with the least employment security and remuneration.

Financial commitment is the social condition that allocates financial resources to sustain the process that develops and utilizes productive resources until the resultant products can generate financial returns. As a social condition for innovative enterprise, the need for financial commitment derives directly from the cumulative character of the innovation process -- that is from the need for learning. For an enterprise or economy that has accumulated capabilities, financial claims can take on an existence that, for a time at least, are independent of the need to reproduce or augment those capabilities. In effect, financial returns to groups such as employees, creditors, and shareholders may be based on the revenues generated by productive capabilities accumulated in the past without a commitment of financial resources for the regeneration of these returns in the future. But, for innovation to occur within an enterprise or economy, a basic social condition is financial commitment from some source for a sufficient period of time to generate returns. A theory of innovative enterprise must show how, given the financial requirements of the transformation of technology and markets in particular industrial activities, institutions and organizations combine to provide the requisite financial commitment.

To analyze the sources of financial commitment, we must distinguish between new ventures and going concerns. A new venture cannot typically go to capital markets to fund its activities; its ability to generate returns is too uncertain. Hence for most of the twentieth century in the wealthy economies the finance for new ventures came from personal savings, friends, business associates, and special financial facilities set up by governments. In the post-World
War II decades in the United States, specialized venture capital firms emerged, at first to take advantage of the commercialization opportunities made possible by US government spending on military research and development during and after World War II. The US venture capital industry expanded rapidly from the end of the 1970s after federal government legislation enabled pension funds to make portfolio investments in risky assets such as corporate stocks and venture capital funds. But, even in the United States, the allocation of resources by venture capitalists to new ventures is by no means a market process; in committing funds until such time that through an initial public offering or a private sale to an established company the venture capitalists can reap returns, venture capital firms that support innovation recognize the centrality to eventual success of their relations with entrepreneurs who are making strategic decisions and the organizational integration of key personnel.

A new venture becomes a going concern when, through the sale of its products, it can generate sufficient revenues to form the foundation for ongoing financial commitment. These revenues can be used to enhance the financial commitment that it can make to its personnel in the forms of employment stability and increased remuneration as well as to fund the expansion of its organization in terms of both human and physical capabilities. Growing revenues that are retained within the organization, therefore, can enhance organizational integration. The dependence of a going concern on revenues as an ongoing source of financial commitment means that it places great importance on maintaining its existing customers (households, businesses, governments) by generating higher quality, lower cost products; indeed, its relations with these customers often provides the company with the knowledge of how it can improve its products to serve their needs.

Revenues retained within the business organization can also be used to leverage the access of the enterprise to finance that it can use for expansion. When such debt is secured through market relations, as has been particularly the case in the United States, it takes the form of long-term bonds, so that the enterprise does not have to keep going back to the market to fund investments that require financial commitment. With bonded debt, creditors whose only relation to a company is via the market can force an enterprise into bankruptcy, and hence corporations that use bond finance have historically tended to have low debt-equity ratios to ensure that they will not run into financial difficulty. In general, the use of high debt-equity ratios,
with its advantages for funding rapid growth but potential disadvantages for exposing the
enterprise to debt-service problems, requires organizational relations with the banking system,
as for example, in the case of the Japanese main bank system. These relations support the
enterprise by allocating finance based on a company’s long-run prospects for sales revenues
rather than short-run cash-flow problems. In addition, as part of regulated national banking
systems, such bank finance is usually provided at rates well below those that they could actually
obtained on the market.

For market economists, organizational control over revenues and relational bank finance
is a recipe for the misallocation of resources. Yet the fact is that these forms of financial
commitment fueled the post-World War II recoveries of Japan and Germany, enabling them to
emerge as the second and third largest economies in the world. Moreover, the market
economist’s favorite form of corporate finance, stock issues, have been relatively unimportant,
and even insignificant, as sources of funds for productive investments, not only in Japan and
Germany but even in the bastions of shareholder value, United States and Britain. In the United
States over the past half century net stock issues as a percent of all net sources of funds of
nonfinancial corporations was at its peak at about 13 percent in the period 1966-71, when
retentions (undistributed profits and capital consumption allowances) accounted for about 66
percent and net debt issues 22 percent of net sources of funds. Since the mid-1980s, net stock
issues as a net source of funds has often been negative, mainly because of the growing
importance of corporate stock repurchase programs.21

But, for any company, even when stock is issued, it is generally not to raise money for
investments in new productive resources. When a company sells stock on the market, it can
use it a) to transfer share ownership, so that, as is typically the case in an initial public offering
(IPO) the funds raised go to the owner-entrepreneurs who built up the company but not to the
company itself; b) to restructure balance sheets by paying off debt or building the corporate
treasury, a use of stock issues that is particularly attractive to companies during a speculative
stock-market boom; c) to acquire other companies, a use of stock issues that has been of
particular importance in financing the unprecedented “new economy” M&A activity of recent
years; and d) to compensate employees, a major feature of the “new economy” that, primarily
through stock options, has been designed to try to recruit and retain employees who have been highly mobile on the labor market.

The use of stock issues on public markets to transfer share ownership has been important in the history of twentieth-century capitalism not only for permitting original owner-entrepreneurs to cash out of the enterprises that they have built up but also as a way for the publicly-listed company to separate share ownership from managerial control. Indeed, the evolution of financial commitment and corporate control in the US industrial corporation from the last decades of the nineteenth century through the post-World War II decades, and for most corporations even to the present, cannot be understood without a recognition that a fundamental role of the stock market in the United States has been to separate ownership and control. Public stockholders hold shares in a company because of the liquidity of the stock market that enables them to participate as “owners” by making only portfolio investments, not direct investments. As direct investors, managers of US industrial corporations in contrast have been able to exercise control over the allocation of corporate resources in the form of retentions precisely because the so-called “owners” of their companies are (and want to be) portfolio investors, not direct investors.

The use of stock to restructure corporate balance sheets played a very important role in the evolution of the Japanese corporate economy in the 1970s and 1980s, and indeed is part of the explanation of the origins of Japan’s unsustainable “bubble economy” in the late 1980s and the resultant problems of its Japanese financial institutions in the last decade. By the late 1980s, the industrial corporations that had driven Japan’s economic development, and that since the 1950s had been reliant on high levels of bank finance, no longer needed bank loans on the same scale. From the 1970s, these companies restructured their balance sheets by using retained earnings to retire bank debt. In the late 1980s, with the stock market booming -- itself a reflection of the phenomenal growth that the major industrial corporations, especially as they captured foreign markets -- these companies sold huge amounts of stock to the public (while at the same time distributing shares to other businesses to maintain the levels of cross-shareholding) and floated bonds at extremely low rates on foreign capital markets, and used the proceeds to further reduce their reliance on bank debt or build up their corporate treasuries (thus, as it turned out, making themselves less vulnerable to financial pressures in the
stagnation of the 1990s). This at the same time that, as a result of Japan’s successful economic development, the Japanese banks were awash with cash. Having lost much of the business of their best industrial customers, the banks, pressured to find markets for this cash, lent money to real-estate and stock-market speculators, thus fueling the rise in land and stock prices. When in 1990 the bubble burst, the banks were left with massive amounts of bad loans that they are still in the process of trying to write off. In other words, the success of Japan’s industrial economy, based on its powerful business organizations, led Japan’s financial markets to spin out of control, as financial resources were allocated to speculative markets rather than to productive investments.  

The use of corporate stock to acquire other companies and to recruit and retain employees through stock-based compensation played a central role in the US “new economy”. Innovative high-technology companies such as Microsoft (with about 39,000 employees in 2000), Intel (about 70,000 employees), and Cisco Systems (about 35,000 employees) were able to use their highly valued corporate stock as a private “currency” to accumulate human capabilities, extending stock-based compensation to virtually all of their employees as part of a systematic strategy for recruiting and retaining human resources. These companies did not use stock as a private currency because they lacked public currency, i.e., US dollars. On the contrary, their success as innovative enterprises meant that they had huge cash surpluses, and paid little or no dividends to shareholders. Rather they used stock as a currency for accumulating capabilities because the stock market placed an enormously high value on it, and because, by virtue of the alternative employment opportunities created by the expanding numbers of new ventures in the information and computer industries, their highly educated, highly mobile employees demanded this type of remuneration as a condition of employment. The key to the success of these “new economy” companies was and remains the organizational integration of these employees, which in turn put pressure on these companies to maintain high stock prices to keep them from seeking even better stock-based compensation packages elsewhere. For the older “new economy” companies like Microsoft and Intel, the use of stock-based compensation meant that, by the late 1990s they were compelled to repurchase their own stock on the market in order to support the price of their stock; in the period, 1997-1999, for
example, Intel spent $8 billion on R&D, $0.8 billion on dividends, and $14 billion on stock repurchases.

The current downturn in the stock market is putting these "new economy" compensation systems to the test. When the stock prices of these companies were generally rising, it was possible to use stock as a major form of compensation covering a broad base of employees that could enhance organizational integration. But a falling stock price can foster general dissension among employees, while a volatile market can erode organizational cohesion as, for examples, newly hired employees, who received their options at a lower exercise price, find themselves in a better position than long-time employees who find their options "under water". It remains to be seen over the coming years, whether, how and to what extent organizational learning at US high-technology companies will be affected by the use of a currency -- their company's stock -- to provide incentives to large numbers of employees when the value of that currency so subject to market speculation.

Strategic control is the social condition that enables people within an enterprise who have access to financial commitment and who influence organizational integration to allocate resources in ways that can transform technologies and markets to generate innovation. As a social condition for innovative enterprise, the need for strategic control derives directly from the uncertain character of the innovation process. Hence, a theory of innovative enterprise must show how, given the uncertain character of the transformation of technology and markets in particular industrial activities, control over financial commitment and organizational integration rests with those people within the enterprise who, as strategic decision-makers, have a willingness and ability to use that control to attempt innovative transformations of technologies and markets.

Strategic control is "insider" control, i.e., the exercise of control over resource allocation within the organization, as distinct from "outsider" control, i.e., the exercise of control over resource allocation from the market. The innovation process is always uncertain, and hence, other than leaving the outcome of resource allocation to pure luck, the only basis for making investments that might result in innovation is to vest control over the allocation of resources and returns with people who are both able and willing to invest in collective, cumulative, and uncertain learning processes. They will be able to do when they have a broad and deep
understanding of the industries and organizations in which they are investing. They will be willing
to do so when their own individual success is bound up with the success of the organization as a
whole. Put differently, as a basis for investing in innovation that can confront the inherent
uncertainty of the innovation process requires the organizational integration of strategic decision-
makers with the processes of collective and cumulative learning.

Such insiders tend to be career managers, and are rarely people whose main
participation in the enterprise is as public shareholders. Hence, once again, the importance in
the history of successful industrial development of the separation of share ownership and from
managerial control. As outsiders to the corporate allocation of resources, the vast majority of
shareholders would not hold shares in a company, but for the liquidity that the stock market
provides. The outsider status of public shareholders makes it problematic to rely on them to
exercise discipline over managers in the allocation of resources, except insofar as through the
power of collective shareholding, i.e., institutional investing, shareholders can place pressure of
corporate managers to increase the allocation of returns, either in the form of higher dividends
or increasingly stock repurchases. Public shareholders, the major institutional investors
included, generally have neither the ability nor the incentive to participate in the process of
strategic control that allocates corporate resources to innovative investments.

Indeed, especially in the United States, but increasingly elsewhere, the demands of
corporate shareholders for higher returns has been supported by a theory of corporate
governance that claims that superior economic performance in the economy as a whole
depends on "maximizing shareholder value." Yet, as O'Sullivan has shown, rooted as it is in the
theory of the market economy, the shareholder perspective on corporate governance lacks a
theory of innovation. The shareholder perspective has nothing to say about the roles of
organizational integration, financial commitment, and strategic control as social conditions of
innovative enterprise. Rather the shareholder perspective inserts itself into a social environment
in which innovative enterprises and development states have for decades allocated resources
that have resulted created value, and makes the ideological claim that, as the "principals" in the
modern corporation, shareholders should now have the predominant, if not only, voice in
determining the distribution of value that has already been created.
5. Economic theory and economic development

The social conditions of innovative enterprise make organizational control rather than market control over resource allocation central to the development of the economy. Organizational integration requires the management of labor mobility, financial commitment the management of capital mobility, and strategic control the management of the transformation of the resources, human and physical, that the enterprise has accumulated into high quality, low cost goods and services. The economist should not view these social conditions of innovative enterprise as "market imperfections" but as the institutional foundations for economic development.

The identification of organizational integration, financial commitment, and strategic control as the key social conditions of innovative enterprise derives from comparative-historical analyses of the development of the world's wealthiest economies over the past two centuries. While the social conditions of innovative enterprise that we have identified are common to the development of national economies such as those of Britain, Germany, Japan, and the United States, the particular configurations of institutional and organizational conditions that created these social conditions vary markedly across these national economies, even to the present, and, within a given national economy, have undergone significant transformation over time. Moreover, different social conditions of innovative enterprise, including distinct differences in the functional and hierarchical divisions of labor that characterize innovative organizations, vary both across different industrial activities and, for given industrial activities, over time, with different performance outcomes in terms of product quality and cost. The theoretical perspective on the social conditions of innovative enterprise and economic development that I have proposed is not in and of itself an explanation of successful economic performance, but should be seen as a tool for systematic study of the comparative and historical realities of the development of the wealthy economies. Innovation and economic development are processes of change that are highly dependent on the particular institutional, organizational, and industrial conditions under which they occur. A theory of economic development that fails to comprehend how, when, and to what effect specific institutional and organizational arrangements have yielded superior economic performance will soon lose touch with reality. For a social scientist to comprehend these processes of change requires the integration of theory and history.
As for social reformers and economic policy-makers intent on contributing to the wealth of their particular nations, the main implication of the perspective that I have set out is that they have to combine a relevant theoretical analysis of the development process with a deep understanding of the social context in which they expect reforms and policies to have their effects. Specifically, they must understand the ways in which particular institutional, organizational, and industrial conditions will promote or impede resource allocation that is organizational, developmental, and strategic. To do more good than harm, social reformers and economic policy-makers must be both astute observers of the social environments in which they work and insightful analysts of the development processes that they are trying to influence.

Adherence to the logic of the theory of the market economy will not help them in this task. By portraying resource allocation as individual, reversible, and optimal, the theory of the market economy reduces such social phenomena as organizational structures, development paths, and strategic choices to "imperfections" or "failures" of the market mechanism that it would best to eliminate. The result is that the basic policy recommendations that one derives, quite logically, from the theory of the market economy will, in all probability, erode rather than support the social conditions of innovative enterprise.

The market economist would recommend policies that increase labor mobility. But from the perspective of economic development labor mobility is only beneficial if it enables people to choose more attractive employment opportunities than the ones they already have. The process of economic development is not promoted when people are uprooted from their traditional employments, and pushed into the "modern" sector. Rather economic development generally depends on enhancing the capabilities of people in their traditional employments, and then forcing the modern sector, itself often the result of the direct or indirect result of strategic policy choices, to compete for these productive capabilities. A well-functioning labor market will be the result rather than the cause of economic development.

The market economist would recommend the creation of financial markets, and particularly stock markets, to encourage the mobility of capital. But, in and of themselves, financial markets simply create opportunities for those with financial assets to engage in portfolio investment, which, unless highly regulated, tends to evolve into speculative investment. From the perspective of economic development, what is needed is financial commitment, not financial
liquidity, which means that funds have to end up in the hands of direct investors who are able and willing to exercise strategic control over the particular investments that they undertake. Financial markets can be useful for mobilizing savings but the allocation of financial resources to the process of economic development requires organizations and institutions that are designed to protect the innovative enterprise and the developmental state from the "individual, reversible, and optimal" decisions of portfolio investors. The emergence of innovative enterprises that can generate financial returns on the financial commitments that have been made expands the portfolio opportunities for those who, as outsiders to the enterprise, seek to reap financial returns on financial markets. Moreover, the success of innovative enterprises places more disposable income in the hands of employees who can accumulate financial assets, join the ranks of portfolio investors, and thereby increase the liquidity of financial markets. Well-functioning capital markets are the result rather than the cause of economic development.

The market economist would recommend the creation of markets in goods and services that would expand the consumption choices of households. But what is the source of the incomes that enable households to consume beyond their basic needs? And for any particular good or service, what determines the quality and cost of the products that consumers find available product markets? The theory of the market economy cannot provide answers to these questions because it contains no theory of innovative enterprise -- an enterprise that can generate higher quality, lower cost products that, depending on the distribution of enterprise revenues, can simultaneously result in higher returns to labor, higher returns to capital, and lower prices to consumers, even while providing consumers with a higher quality product than previously and leaving surplus revenues in the enterprises to make further investments in innovative processes and products. There is nothing evitable about either the success of innovative enterprises or the way they distribute the gains from successful innovation. But the evolution of the higher standards of living, reflected in both the incomes of the population and the quality and cost of the products that they can consume, cannot be understood without a theory of innovative enterprise. A wide variety of consumer choice of goods and services, including the relation between quality and cost, is the result, not the cause, of economic development.
Innovation and economic development do not just happen. Just as the allocation of resources by the state must be governed, so too must the allocation of resources by the enterprise. In ignoring an analysis of the innovation process and economic development, theories of corporate governance based on the theory of the market economy will not be able to address the difficult organizational and institutional questions concerning the governance of innovative enterprise, nor will they be able to learn from the varied experiences in innovative corporate governance that can be found within and across the wealthy economies. Moreover, without a theory of innovation and economic development, debates on the role of the state in the allocation of resources will be limited to the extent to which its activities are predatory (as most conservative market economists would argue) or regulatory (as most liberal market economists would argue). To be sure, the state often plays both these roles. But at times it also plays a developmental role that, as I have suggested, has been critical to the success of all of the wealthy economies, not least the “new economy” of the United States.

Innovation and economic development are not easy processes. They require hard thinking and hard choices. They are social processes that can generate stable and equitable economic growth if the people who participate in them as workers, managers, investors, and consumers understand and accept the organizational, developmental, and strategic challenges involved. The ideology of the market economy does not further such widespread understanding and acceptance. In a real economy, the widespread and engrained belief in the theory of the market economy tends to render ungovernable those corporate executives and political elites who wield power over the allocation of resources while it tends to leave vulnerable the vast majority of the population who depend on the strategic decisions of the enterprise and the state to create economic opportunity.
NOTES:


5. What I am calling the theory of the market economy is, in academic discourse, called “neoclassical economic theory”, in contrast with “classical economic theory” of the nineteenth century in which the analysis of production of goods and services rather than their exchange constituted the theoretical core. By focusing on production, the classical economists could address the problem of how the process of economic development could overcome scarcity, whereas in focusing on exchange the neoclassical economists posed the economic problem as the “optimal” allocation of scarce resources among alternative ends. Unfortunately a growing majority of the current generation US-trained economists has never read the classical economists of the nineteenth century -- a course in the history of economic thought is not required to obtain a Ph.D. in most leading US economics departments -- and hence the substantive meaning of “neo” in neoclassical has become lost. Throughout this paper, when I refer to “the theory of the market economy”, I mean neoclassical theory with its focus on market exchange in the allocation of resources, and when I refer to “market economists”, I mean neoclassical economists whose thinking, insofar as it is systematic, is guided by a theory of market exchange as the essence of economic theory. For an elaboration on this theme, see also William Lazonick, _Business Organization and the Myth of the Market Economy_, Cambridge University Press, 1991.

6. The slave economy of the southern United States, catering as it did to world tobacco, sugar, and cotton markets, is a dramatic example of such an economy.


11. I should note that in his famous paper, "The Nature of the Firm," (Economica, n.s., 4, 1937), Ronald Coase did not explain why firms exist in a market economy, but just how, through the principle of substitution at the margin, existing "firms" (which in his argument could have just as well have been "households") would, within the logic of "imperfect" market exchange, decide to include a greater or lesser range of activities within the firm as an economic unit.

12. Such is the case even in the theory of monopoly in the market economy, which as I have shown, contains a fundamental logical flaw in comparing perfectly competitive firms with monopoly firms while assuming that both types of firms maximize profits subject to the same cost structures. See Lazonick, "Theory of Innovative Enterprise."


About Growth, Cambridge University Press, 1989. It perhaps explains something about the economics profession that when in 1987, Solow won the Nobel Prize in Economics for his work on economic growth, with his early work on the measurement of "technical change" was specifically cited as his seminal contribution. It would appear that Abramovitz's reward for recognizing that the unexplained residual was in fact a "measure of ignorance" was to be ignored by the Nobel Prize committee, despite an illustrious career in which he contributed numerous penetrating insights into the process of economic growth.

16 A summary of much of this work on innovation, as well as the conceptualization of its implications for the allocation of resources in the economy, can be found in O'Sullivan, "The Innovative Enterprise and Corporate Governance" on which the following draws.

17 For a formal analysis of the implications of innovation that is collective, cumulative, and uncertain for the "theory of the firm" and the social conditions in which it is embedded, see William Lazonick, "The Theory of Innovative Enterprise," INSEAD working paper.

18 Mary O'Sullivan "The Innovative Enterprise and Corporate Governance" and idem., Contest for Corporate Control: Corporate Governance and Economic Performance in the United States and Germany, Oxford University Press, 2000, chs. 1 and 2.

19 See O'Sullivan, Contest for Corporate Control.


21 Lazonick and O'Sullivan, "Maximizing Shareholder Value."

22 It is worth noting that much the same thing happened in the United States in the stock-market boom of late 1920s that resulted in the Great Crash and then the Great Depression. A major difference with Japan in the 1990s was that by the early 1930s US corporations were laying off hundreds of thousands of workers, thus deepening the depression; the unemployment rate reached 25 percent in 1933 and did not fall below 15 percent until 1941, when US entry into World War II ended the Great Depression. Compared with the US experience of the 1930s, the Japanese experience of the 1990s is one of remarkable economic stability, largely because of the responses to adverse conditions of its business and government organizations. In Japan in the 1990s the descent from recession to depression has been avoided by, on the one side, the resolve of Japanese business enterprises to keep people employed and, on the other side, the willingness and ability of the Japanese state, supported by a very high household savings rate despite extremely low returns on savings, to incur unprecedented debt in order to finance massive government spending. See Lazonick, "The Japanese Economy and Corporate Reform."

23 O'Sullivan, "The Innovative Enterprise and Corporate Governance."

