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Methodology and Ideology in Schumpeter's Economics

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Innovation as a Social Process

If one accepts Joseph A. Schumpeter's argument that innovation is the "fundamental phenomenon of economic development," then to understand the process of economic development requires that we study how and under what conditions innovation occurs. If one also accepts that an understanding of the process of economic development is of central concern to economics as a social science, then economists should possess the capability to study innovation (for an extended argument on which this essay draws, see Lazonick, 1991a).

How does one study innovation? I shall argue that the study of innovation, and thereby economic development, requires a methodology that integrates theory and history. I shall also argue that the study of innovation requires a rejection of individualist ideology—an ideology that assumes that individual incentives and actions lead to superior economic outcomes than collective incentives and actions.

From the perspective that I shall present, a critical task of both theoretical and historical analyses is to identify the collectivities responsible for innovation. If one takes Schumpeter's economics seriously—that is, if one

seeks to relate his theoretical focus on innovation to the real world of economic development—then one must acquire a theoretical approach that can investigate the historical evolution of those collectivities that generate innovations. The economist who wants to study innovation and economic development must learn, through formal education and/or on-the-job training, to integrate theory and history.

Such a research agenda is not one for which the vast majority of today's "well-trained" economists are equipped. Their professional education emphasizes a static methodology that separates theory from reality and an individualist ideology that presumes that the relevant unit of analysis is the individual. For at least two generations the vast majority of economists, in the English-speaking world at least, have received a training that is antithetical to understanding how a successful economy actually works. In effect, through their professional formation and subsequent career demands and rewards, most economists have acquired a trained incapacity to study the most fundamental phenomenon of economics.

Why does the study of innovation require a methodology that integrates theory and history? Following Schumpeter, an innovation can be defined as a new combination of existing resources that results in products that are more desirable (higher quality) and/or more affordable (lower cost) than those products that had previously been available. A practitioner of static, individualistic theory could argue that the essence of innovation is an instantaneous flash of insight, and hence that innovation need not be studied as a *process*, let alone as a *social process*. A practitioner of static equilibrium theory might even argue that "subsequent" to the appearance of an innovation, other individuals instantaneously adopt the innovation, thus establishing a new equilibrium between supply and demand.

Of course, what an economist argues and what is in fact possible in the real world need not have anything to do with one another. In the real economic world, the essence of innovation is the transformation of inputs into outputs over an extended period of time, during which there is uncertainty whether the innovative strategy will be a success. Innovation must be studied as an evolutionary process in which strategic decision makers learn to manage the sources of uncertainty that they face in transforming innovative investments into higher quality/lower cost products than would otherwise exist [Lazonick, 1993a]. For purposes of both research and policy, economists need a theory of innovation. But the derivation of general theoretical principles of how innovation occurs requires the study of the actual process of innovation at different times and in different places.

The derivation of theoretical principles is only the beginning, not the

end, of the intellectual task. By its very nature, each innovation is unique so that there can be no presumption that theoretical principles, once derived, will be sufficient to explain subsequent innovation. Theory must rather serve as a guide to the study of the reality of innovation, with hypothesis testing providing the basis on which to amend, elaborate, or even, if necessary, reject received theory. Put differently, the study of innovation requires a methodology that integrates theory and history.

Why does the study of innovation require the abandonment of individualist ideology? Innovation is a social process that requires the conscious involvement—or what I call the planned coordination (Lazonick, 1991a)—of many people with a variety of specialized skills and functions. Innovation requires collective organization because it is complex, cumulative, and continuous. Innovation is complex insofar as the knowledge that must be integrated and consolidated requires the participation in the innovation process of a specialized division of labor. Innovation is cumulative insofar as the attainment of certain types of knowledge is a prerequisite for acquiring other types of knowledge. Innovation is continuous insofar as a disruption in the accumulation of knowledge dissipates to some degree the knowledge that has already been accumulated.

The more complex, cumulative, and continuous an innovation, the more collective the innovation process is likely to be. Complexity means that many people must not only contribute their knowledge and skills to the innovation process, but also communicate with each other to integrate their individual contributions toward the common goal of achieving a higher quality product at a lower unit cost. Cumulativity means that the collective knowledge and skills that are built up at a point in time must form the foundations for the acquisition of new knowledge and skills at a later point in time. The collective entity that possesses collective knowledge and skills is in the best position to accumulate relevant knowledge. The collectivity can also contribute to the continuity of innovation by ensuring that individuals who possess important knowledge and skills continue to contribute their services to the innovation process.

The complex, cumulative, and continuous character of innovation makes the unit of analysis that one chooses to study of central importance to understanding how innovation actually occurs. The "correct" unit of analysis is the one in which the "key" decisions and actions that contribute to innovation are made. An important part of the intellectual task is to identify the "key" decisions and actions and to justify the reasons for designating them as "key." The correct unit of analysis may be, for example, an individual, a household, an enterprise, an industry, an industrial sector, a

technological community, or a government. It is my contention that the more complex, cumulative, and continuous the innovation process, the more collective is the unit of analysis.

More collective organization does not automatically lead to more innovation, and different types of innovation require different types of collective organization. But to study innovation one must be willing to contemplate that individuals can work collectively in a planned and coordinated way to generate higher quality/lower cost products. One must abandon a commitment to individualist ideology. At the same time, one must acquire a dynamic integrative methodology in which theory serves as an intellectual tool for explaining a constantly changing real world rather than as an excuse for ignoring it. As Joseph Schumpeter (1947a, p. 9) put it toward the end of his essay, "Theoretical Problems of Economic Growth":

> The time may have come (that is not for me to judge) to co-ordinate and to organize [historical] work by means of comprehensive "programs" and to provide, for the use of the individual research worker, orderly schemata of possibilities and problems. It is here, and in its instrumental capacity, not as a master but as a servant of historical research, that theory may prove useful.

Schumpeter and Methodology

In *The Theory of Economic Development*, Joseph Schumpeter [1961, p. 60n] argued that "changes of technique and productive organization require special analysis," and he went on to say that "non-recognition of this is the most important single reason for what appears unsatisfactory to us in [neoclassical] economic theory." Schumpeter added that his own view of how to study the process of economic development "is more nearly parallel to that of Marx" than to that of contemporary neoclassical economists (he cited, in particular, the American economist, J.B. Clark). "For according to [Marx] there is an internal development and no mere adaptation of economic life to changing data." Schumpeter concluded by stating somewhat cryptically that his own "structure covers only a small part of Marx's ground."

Schumpeter published *The Theory of Economic Development* in German in 1911 and reiterated his approach to economic analysis in the opening chapters of his two-volume work *Business Cycles*, published 28 years later. In both works, Schumpeter's method reflects the Marxian influence. Marx constructed his labor theory of value to depict an exchange economy in equilibrium as a prelude to his theory of surplus value that sought to explain the process of capitalist development. In *The Theory of Economic Development*, Schumpeter constructed his static model of resource allocation ("Circular Flow of Economic Life as Conditioned by Given Circumstances") as a prelude to his dynamic model of economic development ("Fundamental Phenomenon of Economic Development") to illustrate that economic development depends on a disruption of the tendencies toward an equilibration of supply and demand.

Schumpeter's circular flow—or "Equilibrium and the Theoretical Norm of Economic Quantities" to use the description of the static model in *Business Cycles* (Schumpeter, 1939)—is the Walrasian theory of the market economy that forms the microeconomic foundations of modern neoclassical economics. To this day, neoclassical economists have elaborated the theory of the circular flow as an end in itself. Indeed, they have tended to view what goes on within the circular flow as the full extent of relevant economic activity.

In focusing his analysis on the theory of economic development, Schumpeter shows what cannot be explained by the Walrasian system. Schumpeter's "Fundamental Phenomenon of Economic Development" is entrepreneurial activity that results in innovation, a concept that includes the introduction of a new process or product, entry into a new market, access to new supplies of inputs, and creation of a new organization, by which Schumpeter essentially meant building up or breaking down a barrier to entry (Schumpeter, 1961, p. 66). In *Business Cycles*, Schumpeter specifically included under the heading of innovation such things as "Taylorization of work, improved handling of materials, [and] the setting up of new business organizations such as department stores" (Schumpeter, 1939, p. 84).

Schumpeter's entrepreneur is a businessperson who is not caught up in the circular flow of economic life, but rather is able to create new profitable opportunities for the firm by the "setting up of a new production function [which] covers the case of a new commodity, as well as those of a new form of organization such as a merger, or the opening up of new markets, and so on." Innovation, according to Schumpeter, "dominates the picture of capitalistic life" by causing the "intrusion into the system of new production functions which incessantly shift existing cost curves" (Schumpeter, 1939, pp. 87, 91).

These *internal economies* (to use Alfred Marshall's term) form the basis for entrepreneurial profits, a return that Schumpeter viewed as resulting from entrepreneurial leadership in "carrying out New Combinations" of means of production [Schumpeter, 1961, p. 143; 1939, p. 88]. The determination of entrepreneurial profits, therefore, occurs outside the complex of interacting market forces that constitute the circular flow. With

entrepreneurial innovation seen as the essence of economic development, Schumpeter's economics takes leave of the neoclassical theory of the market economy.

Schumpeter's theory of economic development contains, however, at best an incipient conception of the innovation process. Entrepreneurs "conceive and work out with varying promptness plans for innovations associated with varying (and ideally correct) anticipations of profits, and set about struggling with the obstacles incident to doing a new and unfamiliar thing" (Schumpeter, 1939, p. 130). The success or failure of the entrepreneurial strategy appears to depend solely on the energy and the ability of the entrepreneur.

This view is consistent with Schumpeter's earlier arguments in *The Theory of Economic Development*, in which he adopted Alfred Marshall's perspective on the rise and decline of firms. In *Principles of Economics*, Marshall (1961, p. 621) recited the aphorism "from shirtsleeves to shirtsleeves in three generations" to signify how the entrepreneurial vigor that constitutes the vital substance of the business enterprise is bound to decline with intergenerational succession. Those who inherit a successful business are not likely to have the energy and creative genius of the original entrepreneur, and therefore, as Marshall (1961, p. 323) argued, "a business firm grows and attains great strength, and afterward perhaps stagnates and decays." Schumpeter (1961, p. 156) quite literally clothed Marshall's notion of the rise and decline of firms in different garb, saying, "An American adage expresses it: three generations from overalls to overalls."

It was on the basis of this view of the rise and decline of firms that Marshall introduced into economic analysis the concept of the "Representative Firm"—a concept that then permitted him (as well as his followers) (see Lazonick, 1991a, ch. 5) to focus on the cost-minimizing adaptations of the firm in response to changing market forces rather than the innovative activities of the firm that could indeed shape market forces. In *Business Cycles*, Schumpeter (1939, p. 92n) referred to Marshall's "concept of the Representative Firm [as] one more of those devices used to hide the fundamental problem of economic change."

Writing in 1928 in the *Economic Journal* as part of a debate over increasing and decreasing returns in the Marshallian firm, Schumpeter (1928, p. 362) recognized that a historical transition had taken place between the 19th and 20th centuries from competitive capitalism to (as Schumpeter variously expressed it) "trustified," "organised," "regulated," or "managed" capitalism. Schumpeter (1928, p. 384) argued that in "trustified" capitalism, "innovation is . . . not any more embodied *typically* in new firms, but goes on, within the big units now existing, largely independently of individual persons."

In the 1930s, however, Schumpeter was still grappling with the issue of the type of enterprise that fostered innovation. In *Business Cycles*, Schumpeter (1939, pp. 94–95) made what he deemed to be the realistic assumption that all innovations are "embodied in New Firms founded for the purpose," a statement quite at odds with the view he had expressed a decade earlier. He went on to say that "everybody who looks around knows the type of [old] firm we are thinking of—living on the name, connections, quasi-rent, and reserves acquired in their youth, decorously dropping into the background, lingering in the fatally deepening dusk of respectable decay." Schumpeter (1939, p. 96) noted "that process of incessant rise and decay of firms and industries which is the central—though much neglected—fact about the capitalist machine."

In *Capitalism, Socialism, and Democracy*, first published in 1942, however, Schumpeter restored to the large corporation the leading role in what he now called the process of creative destruction. As a prime example of such an enterprise, he cited U.S. Steel, a somewhat ironic choice in the light of that company's history of "lingering in the fatally deepening dusk of respectable decay" (Schumpeter, 1950a, p. 82; on U.S. Steel, see McCraw and Reinhart, 1989). Schumpeter (1950a, pp. 118, 132) now admitted that "technological 'progress' tends, through systematization and rationalization of research and management, to become more effective and sure-footed" and becomes "the business of teams of trained specialists who turn out what is required and make it work in predictable ways."

By the last decade of his life, therefore, Schumpeter had apparently abandoned his earlier ideology that attributed innovation to the entrepreneurial individual. He had only a casual understanding of what (following Alfred Chandler, 1962) we would today call the strategy and structure of "big business," but he was well aware that innovation had become a highly collectivized process. In a 1949 paper entitled "Economic Theory and Entrepreneurial History" that was presented to the participants of the Research Center in Entrepreneurial History, Schumpeter [1949a, pp. 52–53] explicitly recognized the evolution of entrepreneurship into a cooperative activity, the organization of which varied across social environments and that might even be successfully carried out by the state:

> [As] has been often pointed out the entrepreneurial function need not be embodied in a physical person and in particular a single physical person. Every social environment has its own ways of filling the entrepreneurial function. For instance, the practice of farmers in [the United States] has been revolutionized again and again by the introduction of methods worked out in the Department

> of Agriculture and by the Department of Agriculture's success in teaching these methods. It is another important point in our research program to find out how important this kind of activity has been in the past or is in the present. Again the entrepreneurial function may be and often is filled co-operatively. With the development of the largest-scale corporations this has evidently become of major importance: aptitudes that no single individual combines can thus be built into a corporate personality; on the other hand, the constituent physical personalities must inevitably to some extent, and very often to a serious extent, interfere with each other. In many cases, therefore, it is difficult or even impossible to name an individual who acts as an "entrepreneur" in a concern. (On the state as collective entrepreneur, see also Ferleger and Lazonick, 1993)

In his life's work as an economist, therefore, Schumpeter not only recognized the need for a theory of economic development, but also came to understand that such a theory would have to comprehend the ongoing role of collective entrepreneurship in the innovation process. Beginning his career as what he himself would have called a "pure theorist," Schumpeter ended up seeing the importance of historical analysis to elaborate his theoretical arguments and to establish their relevance. The analysis had to be historical because the forces for, and impacts of, innovation were subject to continuous change.

As Schumpeter (1950a, p. 82) argued in *Capitalism, Socialism, and Democracy*: "The essential point to grasp is that in dealing with capitalism we are dealing with an evolutionary process." He continued: "It may seem strange that anyone can fail to see so obvious a fact which moreover was long ago emphasized by Karl Marx." In Schumpeter's view, Marx was the pioneer among economists in integrating theory and history in the study of economic development. As Schumpeter (1950a, p. 44) put it in *Capitalism, Socialism, and Democracy*, there was "one thing of fundamental importance for the methodology of economics that [Marx] actually achieved."

> Economists always have either themselves done work in economic history or else used the historical work of others. But the facts of economic history were assigned to a separate compartment. They entered theory, if at all, merely in the role of illustrations, or possibly of verifications of results. They mixed with it only mechanically. Now Marx's mixture is a chemical one; that is to say, he introduced them into the very argument that produces the results. He was the first economist of top rank to see and to teach systematically how economic theory may be turned into historical analysis and how the historical narrative may be turned into *histoire raisonnée*. (Schumpeter, 1950a, p. 44)

In *History of Economic Analysis*, written in the 1940s but published after his death, Schumpeter reinforced his understanding of the methodological implications of a theory of economic development by stating that

if starting his work in economics afresh he were to be told that he could study only one of history, statistics, and theory, he would choose economic history.

> And this, on three grounds: First, the subject matter of economics is essentially a unique process in historic time. Nobody can hope to understand the economic phenomena of any, including the present, epoch who has not an adequate command of historical *facts* and an adequate amount of historical *sense* or of what may be described as *historical experience*.
>
> Second, the historical report cannot be purely economic but must inevitably reflect also "institutional" facts that are not purely economic: therefore it affords the best method for understanding how economic and noneconomic facts *are* related to one another and how the various social sciences *should* be related to one another.
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> Third, it is, I believe, the fact that most of the fundamental errors currently committed in economic analysis are due to the lack of historical experience more often than to any other shortcoming of the economist's equipment. (Schumpeter, 1954, pp. 12–13, emphases in original)

What did Schumpeter mean by "historical experience"? Clearly, he did not see the study of economic history as simply the collection of historical data, nor did he view the study of economic history as the application of received theory to the analysis of historical facts. Rather, he saw the study of the historical process as the means by which one acquired the intellectual capability to study the process of change. Theory had to function "not as a master but as a servant of historical research." For "historical experience" to represent the most important analytical equipment of the economist, the historical research must reshape the theoretical framework that is indispensable for doing that research in the first place. To paraphrase his comments on Marx's method, "historical experience" required that economic theory be turned into historical analysis and that the historical narrative be turned into *histoire raisonnée*.

In the opening sentences of his essay, "The Creative Response in Economic History," Schumpeter (1947b, p. 149) called for intellectual communication between economic historians and economic theorists:

> Economic historians and economic theorists can make an interesting and socially valuable journey together, if they will. It would be an investigation into the sadly neglected area of economic change.

Schumpeter's notion of "historical experience" implies that the division of labor between the economic historian and economic theorist must be eliminated. To study the process of change, theory and history must be integrated in the mind of the economist.

Schumpeter and Ideology

By the 1940s, when Schumpeter articulated the importance of the integration of history and theory in economics, his own analysis emphasized the ways in which the social organization of the process of innovation was undermining capitalism as an economic and social system. By capitalism, Schumpeter meant a mode of economic organization in which the main agent of innovation was the individual entrepreneur. He argued that the entrepreneurial function "is losing its importance and is bound to lose it at an accelerating rate in the future even if the economic process itself of which entrepreneurship was the prime mover went on unabated." His contention was that "innovation itself is being reduced to a routine."

> Technological progress is increasingly becoming the business of teams of trained specialists who turn out what is required and make it work in predictable ways. The romance of earlier commercial adventure is rapidly wearing away, because so many more things can be strictly calculated that had of old to be visualized in a flash of genius. (Schumpeter, 1950a, p. 132; see also Solo, 1951)

The ideological implication of this transformation of the innovation process is clear. Economic development still continued apace but innovation—the driving force of economic development—had been collectivized.

If the social transformation of the innovation process meant that the entrepreneur was no longer the agent of the "fundamental phenomenon of economic development," it also rendered untenable perfect competition as an ideal mode of industrial organization. In *Capitalism, Socialism, and Democracy*, Schumpeter (1950a, p. 84) pointed out that, when innovation results in the concentration of industry into "a few big firms," the orthodox economist's notion that deviations from perfect competition result in economic inefficiency no longer holds. Schumpeter argued that "the problem that is usually being visualized [by economists] is how capitalism administers existing structures, whereas the relevant problem is how it creates and destroys them. As long as this is not recognized, the investigator does a meaningless job."

In his 1946 contribution to the *Encyclopedia Britannica*, Schumpeter provided a clear statement of this critique:

> The proposition that monopolists will sell smaller quantities of product at higher prices than will firms in conditions of perfect competition is true only under the proviso that other things—cost structures in particular—be strictly equal, and therefore has but little practical importance. Almost without exception, largest-scale concerns do alter the cost structure of their industry, by introducing new methods of production and in other ways that are beyond the reach of numerous competing concerns of medium size. Therefore it does not follow that their outputs are actually smaller and their prices actually higher than would be the outputs and prices with the methods within the reach of perfectly competitive business. (Schumpeter, 1946, p. 195)

In historical retrospect, by the 1940s Schumpeter's insights into the evolution of capitalism and his critique of neoclassical economics were long overdue. We now know that in the early 20th century a managerial revolution had occurred in a number of the most industrialized economies (Chandler, 1990). The characteristic feature of the managerial revolution was the planned coordination of a highly specialized division of labor in which salaried employees played key roles as both technical specialists and managerial generalists. The rise of planned coordination was typically, but not invariably, accompanied by the separation of legal asset ownership from strategic control over the disposition of these assets, with the strategic control in the hands of managerial generalists. As Chandler (1977) has argued for the case of the United States, the managerial revolution in American business occurred in the last half of the 19th century and the first decades of the 20th so that "by World War I, modern business enterprise had come of age" (Chandler, 1977, p. 455; see also Lazonick, 1991a, ch. 7).

So, too, by the second decade of this century a managerial revolution had occurred in Germany and Japan (Chandler, 1990; Morikawa, 1989; see also Morikawa, 1992). In Britain, by way of contrast, owner-managers failed to build managerial organizations, and the widespread separation of ownership from control took a few decades longer to occur (see Hannah, 1983; Elbaum and Lazonick, 1986; Lazonick, 1986; Chandler, 1990). As I have argued elsewhere (Lazonick, 1991a, ch. 1; Elbaum and Lazonick, 1986), the persistence of proprietary capitalism in Britain, far from unleashing a gale of entrepreneurial innovation, was a key factor in Britain's long-run economic decline. In Japan, however, where an early transition to managerial capitalism occurred, a central determinant of the post-World War II economic "miracle" in industries such as automobiles and electronics was an extension of the principles of managerial capitalism further down the organizational hierarchy to include male shop-floor workers as permanent members of the firm, and across legally distinct firms to create planned and coordinated enterprise groups.

It is because of this greater role for planned coordination in the Japanese model of business organization that I have labelled it *collective capitalism* (Lazonick, 1991a, ch. 1). Over the course of the 20th century, competitive advantage and industrial leadership has gone to those enterprises, industries, and economies that have engaged in more, not less,

planned coordination of their economic activities. Hence American managerial capitalism won out over the highly individualistic British proprietary capitalism earlier in this century, and Japanese collective capitalism has won out over American managerial capitalism over the past few decades.

Fifty years ago, Schumpeter had the insight to see that this collectivization of economic activity was occurring not only or even primarily at the level of the state, but more fundamentally at the level of the "capitalist" enterprise. Surely, Schumpeter would have viewed the Japanese experience since World War II as further evidence of the 'march into socialism' of which he was already writing in the early 1940s (Schumpeter, 1950a), and which was the theme of his last piece of writing before his death in 1950 (Schumpeter, 1950b). In an age of collective capitalism, as in an age of managerial capitalism, individual entrepreneurship still counts for something. But for innovation to occur, the individual entrepreneur must build an organization that can develop and utilize productive resources in ways that have not been done before. As Schumpeter (1950a, p. 227, emphasis in original) put it in *Capitalism, Socialism, and Democracy*: "We shall see that gradual socialization *within the framework of capitalism* is not only possible but even the most obvious thing to expect."

Today, despite the even further collectivization of economic activity in the most successful industrial economies, we still call the advanced industrial economies "capitalist." Why? What in the 1990s is capitalist about the economies of, for example, the United States, Germany, and Japan? The obvious response is that they are economies that permit the private ownership of the means of production; that is, they permit the individual entrepreneur to invest in whatever line of business he or she wishes, provided it is legal. Indeed, the legal, cultural, and political structures of these economies do much to promote such entrepreneurship, as both an ideology and an economic activity. Yet, despite the continued importance of private entrepreneurship in these economies, the foundations of their long-run prosperity are, as Schumpeter recognized clearly during the last decade of his life, business organizations in which innovation is a collective process. To permit the collectivity to govern its actions generally requires the separation of ownership of the corporation's assets from control over the corporation's productive resources.

In the case of the United States, the separation of ownership from control was already an established fact by the early 1930s when Adolph Berle and Gardiner Means (1968) wrote *The Modern Corporation and Private Property* (for a retrospective on this landmark book, see McCraw, 1990). Berle and Means remained undecided about the economic consequences of the separation of ownership from control. On the one hand, control now rested with those who were in continuous contact with, and had intimate knowledge of, the activities of the corporation. On the other hand, there was concern that managers would become a self-perpetuating group of insiders immune to, and perhaps even in conflict with, the interests of the shareholders and society at large.

Berle and Means (whose work Schumpeter did not cite) did not possess a theory of innovation. Their intellectual effort was rather to document a central institutional transformation that had occurred in the American economy. They had no coherent perspective on this transformation as a phenomenon of economic development. If Berle and Means had embedded a theory of innovation in their work on the social transformation of the modern business enterprise, they might have placed more weight on the fact that the separation of ownership from control had put economic power in the hands of those with the knowledge of technology and organization to make the modern corporation an engine of continuous innovation. At the same time, they might have recognized that the ability and incentive of these professional managers to engage in continuous innovation derived from their participation in a collective organization that included middle and lower level managers, production workers, suppliers and distributors.

They might have also perceived that a problem of maintaining continuous innovation would arise when, as occurred increasingly from the 1950s, the professional managers who ran the corporations came to identify more with the interests of shareholders as portfolio investors than with the interests of the direct participants—employees, suppliers, and distributors—within their business organizations (for an elaboration, see Lazonick, 1992). Especially in the 1980s the advanced industrial economies experienced an onslaught of financial entrepreneurship and financial innovation that seriously undermined the productive capabilities of these economies. In effect, the actual and potential wealth of these nations was adversely affected by a reversion to entrepreneurial capitalism that preempted Schumpeter's "the march into socialism" as well as his "process of creative destruction."

The Schumpeterian Legacy

I have argued that any economist who takes seriously Schumpeter's economics, with its focus on the process of innovation, must recognize its methodological and ideological implications. The methodological implication is that economists must acquire the "historical experience" to integrate theory and history in their economic analysis. The ideological

implication is that innovation, and hence economic development, is increasingly a collective process. That, since the time of Schumpeter's death, mainstream economists have clung to an ahistorical methodology and individualist ideology goes far to account for Schumpeter's relative lack of influence on Anglo-American economics in the post-World War II decades.

In the concluding paragraph of his 1949 address to the Research Center in Entrepreneurial History, Schumpeter (1949a, pp. 63–64) called for the integration of theory and history.

> New hypotheses and the marshalling of factual data, old and new, must proceed together . . . In the handling of old and new facts, the historian will gain from keeping in touch with theorists. Neither group should ever be distant from one another—but here the promise from collaboration is particularly great for both parties. As I have said before (see Schumpeter, 1947b), the study of economic change is an area of research where "economic historians and economic theorists can make an interesting and socially valuable journey together, if they will."

Elsewhere I have ventured an explanation of why mainstream economists and historians have not embarked on this "interesting and socially valuable journey together" (see Lazonick, 1991a,b). Let me summarize the main elements of the argument. Over the course of the 20th century prominent economists increasingly defined the subject matter of economics to be the optimal allocation of scarce resources rather than the process of economic development in which, as Schumpeter recognized, the constraints that create scarcity are constantly being overturned. Ignoring the requirements of the process of innovation for collective organization, orthodox economists argued that the optimal allocation of scarce resources required the maximum amount of mobility of factors of production from one use to another. They elaborated a theory of the market economy in which it was "perfect" markets that offered this maximum amount of mobility.

A system of perfect markets is by definition one in which individuals act autonomously of one another and collective organization does not exist. A belief in a system of perfect markets as a mechanism for optimal resource allocation is tantamount to a belief in the efficacy of individualism in economic life. By neglecting to construct a theory of economic development, mainstream economists not only avoided studying the collective realities of advanced industrial development but also were able to portray the optimal economic system as one populated by highly individualistic economic actors. Whether intended or not, by ignoring the process of

economic development and focusing on static problems of resource allocation, mainstream economists have been able to portray the nature of economic activity in highly individualistic terms. Mainstream economics is first and foremost an ideology of individualism.

While economists were elaborating the theory of the market economy, the reality of successful economic development was undermining its basic premises about factor mobility and the triumph of individualism. Innovation requires collective organization, and the essence of collective organization is long-term relations among participants in the specialized division of labor (see Lazonick, 1991a, ch. 1–3). Intellectual prisoners of the ideology of individualism, mainstream economists have simply ignored this evolving reality.

The ahistorical methodology of mainstream economics derives from the way in which the ideology of individualism has been defended. Once mainstream economists had embarked on their flight from reality, they required some justification other than the historical record for the relevance of their theoretical approach. They found that justification by defining economics as a universal, self-contained science that would be independent of prevailing social institutions. They let the individual (or "household") be the unit of economic analysis because they saw any movement toward collective organization as creating a market "imperfection" in the form of a barrier to the optimal allocation of scarce resources. They saw no need to consider the possibility that such collective organization might be a necessary condition for innovation because they had already deemed the analysis of innovation to be outside the purview of economic analysis. Indeed, in analyzing the operation of "imperfect markets," economists make no attempt to break with ahistorical methodology. Rather they hold up perfect markets, and hence the ideology of individualism, as an economic ideal (the most prolific economist of this genre is Joseph Stiglitz; see, for example, Stiglitz, 1985, 1986).

Schumpeter himself did not sufficiently attack the irrelevance of the theory of the market economy inherent in the "circular flow." He tended to portray the underlying Walrasian vision as a purely "scientific" achievement, devoid of ideological content (see Schumpeter, 1949b, p. 274; 1951, ch. 2) Yet what Schumpeter (1951, p. 76) called Walras's "structure of purely economic relationships"—that is, a structure of market relationships—may or may not exist in reality and may or may not yield beneficial economic results. Such relationships are laden with ideological content, as has amply been borne out by the inability of Walrasian economists, especially since the time of Schumpeter, to recognize that their system cannot deal with the "fundamental phenomenon"—innovation.

Schumpeter's own emphasis on innovation and his recognition that innovation was increasingly becoming collectivized should lead economists to look for structures of economic relationships other than market-mediated ones. In pushing this research agenda forward, it has been the work of historians rather than economists that has led the way. Back in the 1950s, even as the mainstream of the economics profession was ignoring Schumpeter's call for the integration of theory and history, his call for the study of the historical process was leading to some outstanding results. The immediate academic source of intellectual advance was the Research Center in Entrepreneurial History, located at Harvard University for a decade beginning in 1948. The creator of the center was the economic and business historian, Arthur H. Cole. Schumpeter was a senior member of the center from 1949 until his death in early 1950. Most of the work of the center focused on the sociology and psychology of the entrepreneur—his social background, personality, and social status—rather than on the impact of entrepreneurial activity on economic outcomes (Aitken, 1965; Sass, 1986). But in launching the careers of both Alfred Chandler and David Landes, both of whom did their doctoral dissertations there, the center left an intellectual legacy that can help today's economists avoid (to repeat Schumpeter's words) "most of the fundamental errors currently committed in economic analysis" (Schumpeter, 1954, p. 13).

Chandler (1962, 1977, 1990) documented in detail the collectivization of economic activity within the industrial enterprise, a process that, as we have seen, Schumpeter had become increasingly aware of but on which the state of empirical knowledge had been at best anecdotal. Landes (1969) outlined the comparative impact of social institutions on national economic development, with a particular focus on the rise of the British economy and then its relative decline in the face of German industrial development.

As for the integration of history and theory, Chandler has stressed the importance of generalizing on the basis of the historical record, but has not himself used these generalizations well for the purposes of subsequent hypothesis testing (see Chandler, 1990; Lazonick, 1993b). Moreover, recent attempts by Chandler (1992) to link his work up with economic theory suffer from a lack of explicit attention to innovation as the driving force in the development process (for my own work in this area, see Lazonick, 1991a, 1993a). As for Landes, he has responded to my combined appreciation of his work and critique of its failure to influence economists by expressing strong doubts that the integration of theory and history is possible (Landes, 1991, pp. 19–20).

Nevertheless, as is evidenced by this volume as well as the proceedings

of the biannual International Joseph A. Schumpeter Society (Hanusch, 1988; Heertje and Perlman, 1990; Scherer and Perlman, 1992), in recent years a number of economists have begun to push the Schumpeterian research agenda forward (see the seminal work by Nelson and Winter, 1982; the contributions of Scherer, 1984; Dosi et al., 1988; Best, 1990; Lazonick, 1991a; and the journal *Industrial and Corporate Change*). As suggested in this essay, that agenda must document the historical evolution of organizations as economic entities in different times and places, and must integrate this empirical research with a theory of innovation and development. To gain the "historical experience" of which Schumpeter spoke, economic theorists must become economic historians, and economic historians must become economic theorists, until the methodological divide between history and theory is brought to an end.

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