

THE "AUSTRIAN" SCHOOL OF STRATEGY

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Although traditional industrial organization continues to serve as one of the conceptual foundations for strategic thinking and research, many of its premises have come under widespread criticism. Industrial organization largely ignores, despite their importance, change, uncertainty, and disequilibrium in the business environment. Because these fundamental characteristics are cornerstones of the Austrian School of Economics, this doctrine offers unique strategic perspectives. The Austrian emphasis on "the market process" and entrepreneurial discovery establishes a framework for both strategy formulation and research.



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According to neoclassical microeconomic theory, profit-maximizing firms in competitive environments earn zero economic profits. They earn a return just sufficient to maintain capital investment. The notion of "perfect competition" sets the standard for traditional industrial organization and provides the foundation for the premise that firms earn supranormal returns primarily by exercising monopoly power (Bain, 1951). Monopoly power, in turn, exists to the extent that the firm or industry has erected barriers to entry that restrict competitive forces. Industrial organization (IO) economists study the linkages among industry structure, conduct, and performance in order to derive public policies that promote competition.

Porter (1981: 617) concluded that "there is gold to mine in applying IO concepts to strategy formulation." He viewed the Bain/Mason paradigm of industrial organization as offering strategic management a systematic model for assessing competition and for strategy formulation. Indeed, theoretical perspectives drawn from IO have exerted a substantial and pervasive influence on strategic thinking. Mainstream strategy topics such as Porter's generic strategies for coping with competitive forces, strategic groups, and mobility barriers have their theoretical base in traditional IO (Caves & Porter, 1977). Indeed, entire research streams (e.g., the PIMS approach, Buzzell & Gale, 1987) build off this same base.

To a large extent, business policy researchers reverse the intent of IO concepts to form strategic recommendations. Much of the current thinking

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about strategic management focuses on ways that firms can create imperfectly competitive product markets in order to obtain greater than normal profits. Whereas industrial organization economists seek to determine what can be done to promote competition, many strategy researchers seek to determine what managers can do to limit competition. Porter (1980: 4) defined the strategic objective of a business unit as to position itself in an industry where it can best defend itself against competitive forces, or at least influence them in its favor.

Despite its widespread influence on strategic thinking, some scholars have questioned the utility of IO concepts because of an inadequate theoretical substructure. For example, Nelson and Winter (1982) criticized IO because of the lack of attention its theorists give to the dynamic environment brought about by technological change. A substantial amount of technical advance results from profit-oriented investment on the part of firms. The profits from successful innovation are disequilibrium phenomena stemming from the lead time over competition that innovation affords. The equilibrium analysis of IO provides insufficient insights into either the motivation for or the consequences of innovation. Nelson (1976) contended that if change, uncertainty, disequilibria, and institutional complexity are important parts of what is going on, then implications derived from the traditional theory based on different assumptions must be viewed with a jaundiced eye.

An inconsistency with public policy concerns has also led to a questioning of the role of industrial organization as a basis for business policy. Perfect competition sets the standard for traditional IO because it leads, at least according to neoclassical economic theory, to economic welfare maximization. Strategy researchers, who under this same theoretical framework emphasize restricting competitive forces, advocate, therefore, restricting economic/customer welfare. Customers pay higher prices or accept inferior quality goods as a consequence of strategies that restrict competition. Rumelt (1988) summarized this market power perspective on strategy as involving in its most basic form *colluding behind strategically erected entry barriers in order to make money*. This implication has made it difficult for strategy researchers who are concerned with public policy to embrace or build upon the IO framework as part of their theoretical base.

Weaknesses in the industrial organization-based strategy literature suggest that other economic perspectives may warrant consideration as a framework for strategic analysis. Austrian economics is one perspective that has considerable potential to enhance strategic thinking and research. Though the term *Austrian economics* suggests different ideas to different people, it is most widely used to refer to perspectives that emphasize "the market process," that is, market dynamics. This school of thought originated in the 1870s with Carl Menger in Vienna and has continued through his direct and indirect disciples, in particular, Ludwig Mises, Friedrich Hayek, and Israel Kirzner. Although differences exist,

the work of Joseph Schumpeter (a student of Austrian economists von Weiser and Bohm-Bawerk) is also often linked to the Austrian School.

Even though relatively few strategy researchers explicitly attribute or link their analysis to Austrian economics (Wensley, 1982, is a notable exception), the influence of Austrian thinking is more widespread than this lack of attribution might suggest. Austrian concepts shaped the work of a number of economists whose theories have had a great impact on strategy research, in particular, Joseph Schumpeter. Rumelt (1984: 560) noted that the chief concern of business policy researchers (i.e., profit seeking through corporate entrepreneurship) "is most closely associated with Schumpeter's vision of competition as the process of 'creative destruction' rather than as a static equilibrium condition." Thus, a substantial component of strategy research has implicitly incorporated and built upon concepts closely associated with Austrian economics.

Interestingly, Porter (1990), noting the need for a new paradigm, advocated a number of views that move away from the static concepts of traditional IO to those that more closely resemble Austrian thinking. For example, he stated that competitive advantage grows fundamentally out of improvement, innovation, and change and that it is sustained only through relentless improvement. Austrian economics warrants consideration as a framework for strategy development because it emphasizes perspectives, courses of action, and research topics that, although regarded as fundamental to business success, currently receive relatively little attention in the strategy literature. In particular, strategic issues relating to (a) continuous innovation, (b) flexibility, (c) intertemporal heterogeneity, and (d) unobservable influences of business performance, all of which have received rather cursory treatment in the strategy literature, are of central importance in Austrian-based strategy.

OVERVIEW TO AUSTRIAN ECONOMICS

No definitive "Austrian litmus test" exists. Austrian views are not completely orthogonal to views arising from neoclassical economics or traditional industrial organization. Indeed, Kirzner (1981) believes that the Austrians view the foundation of neoclassical economic theory as sound. This is not surprising because many of the principles of neoclassical economics have originated with the Austrian economists. Such concepts as marginalism, opportunity costs, and diminishing marginal utility are tied closely to the founders of the Austrian school. As such, the distinction between Austrian-based strategy and industrial organization-based strategy becomes, in some instances, a matter of degree or emphasis. However, certain perspectives tend to differentiate Austrians from non-Austrians. Table 1 summarizes these perspectives and contrasts them with strategic perspectives drawn from traditional industrial organization.

TABLE 1
Differences in Perspective

	Industrial Organization-Based Strategy	Austrian Economics-Based Strategy
Strategic Objective	Restricting competitive forces	Entrepreneurial discovery
Market Conditions	Equilibrium	Disequilibrium
Profitability Modeling	Empirical regularities	Heterogeneity
Nature of Success Factors	Observed strategic factors	Unobservable factors

The notion of *the market process*, in particular, tends to distinguish Austrians from non-Austrians. Though neoclassical theorists concentrate on equilibrium, with a static notion of the nature of competition, Austrian economists view markets as processes of discovery that mobilize dispersed information. The Austrians contend that firms earn profits through entrepreneurial discovery. They focus on *the entrepreneur*, motivated by the desire for supranormal profits, as a vehicle for promoting discovery and for realizing opportunities in a constantly changing (disequilibrium) marketplace. Because competitors imitate strategies known to generate above-normal returns until their return premium is eliminated, the abnormal returns associated with this discovery are only temporary. This suggests that empirically modeling business performance to find systematic strategies (regularities) that firms can implement to earn supranormal returns, as is widely done in strategy research, will be largely unsuccessful. Indeed, business success is depicted as depending critically on many time- and firm-specific unobservable factors.

ENTREPRENEURIAL DISCOVERY AND PROFITS

Perhaps the primary limitation of the neoclassical theory of competition and profit is that it fails to provide a motive for the search for new products and methods (i.e., innovation). The Austrian school highlights profits not as the result of monopoly power but rather as the consequence and the incentive for discovery and innovation. Under this view, the goal of strategy formulation centers not on limiting competitive forces but rather on entrepreneurial discovery.¹ Gluck, Kaufman, and Walleck (1980) maintained that the essence of strategy involves avoiding competition through an indirect approach. This indirect approach is entrepreneurial discovery, which these authors believe includes, for example, a reformulation of a product's function, the development of new manufacturing

¹ This is not to suggest that competition is an unimportant strategic consideration. Rumelt (1987) suggested that isolating mechanisms (i.e., impediments to imitation by competition) need to be present so that the time lag for imitation will be sufficient so as to encourage innovation. In this way the innovator can reap some of the benefits of the innovation in terms of supranormal profit before imitators complete the competitive process. Coping with competitive forces, however, is clearly of secondary importance to discovery.

methods or distribution channels, or the discovery of dimensions of competition that competitors have overlooked.

Profits in an Efficient Market

As a parallel to the Austrian view, consider the behavior of efficient markets in equilibrium. Efficiency characterizes a number of markets (e.g., stocks, bonds, commodity futures, foreign exchange, sports gambling). The price of goods in an efficient market represents the consensus opinion of their present value. This valuation is determined through market participants' incorporating all available information. As soon as a new piece of information becomes available, the market participants analyze it, and the results are reflected immediately in the price of the good. Any profit opportunity resulting from this information dissipates quickly. For example, weather information influences the supply and, therefore, the price of orange juice. Market participants incorporate pertinent weather information into the price of orange juice futures once it becomes available (Roll, 1984). This information provides no profit opportunity if others in the market also are aware of it. The current price already reflects its effect.

The basic assumptions underlying the efficient markets/rational expectations framework preclude persistent profit opportunities and downplay the role of the entrepreneur. Profits exist only in a world of uncertainty and disequilibrium. When subjective probability distributions used by decision makers are the same as the probability distribution of the relevant variables (i.e., economic agents form their expectations as if they had knowledge of the "true" model linking the relevant variables), profits take on a purely random character. In this framework, a firm will earn economic profits only by chance and only for a very brief period of time.

Barney (1986b) noted that when firms that seek to control resources to implement a strategy and firms that currently control these resources have accurate expectations about their future value, then the price paid for resources approximates their value once they are implemented. In this efficient market, all profits that can be obtained from the implementation of a strategy will be anticipated (i.e., reflected in the price of the resource) and, therefore, competed away. Once a profit opportunity becomes obvious, market participants respond by appropriately adjusting prices.

This does not mean that firms cannot earn what might be perceived as an abnormal return. Those firms possessing unique resources, whether it be by design or chance, are rewarded (Barney, 1986b). Neoclassical theorists view these rewards not as profits but rather as returns on scarce resources. Further, by pure chance, an unexpected event may arise that generates abnormal returns for a firm following a strategy that has an expectation under anticipated conditions of normal returns. However, neoclassical theorists concentrate on firms earning supranormal profits primarily by restricting competitive forces and, therefore, the efficient functioning of markets.

Entrepreneurial Profits

Dissatisfied with the neoclassical conceptualization of business profitability, Schumpeter (1934, 1942) discussed the importance of the entrepreneur and innovation as fundamental to business success. He argued, in a distinctly Austrian manner, that economic development takes place when firms implement new products, production processes, and organizational techniques (i.e., engage in entrepreneurship). In the Schumpeterian system, the entrepreneur disrupts the market and moves it away from its equilibrium. When the new innovations are completed and the new products enter the market or when new production processes are in place, the innovator outcompetes the other firms and earns economic profits. Realization of supranormal profits provides the incentive for innovation, but these profits are short lived. As innovations are imitated, economic profits dissipate and finally disappear. The market returns to equilibrium until another innovation occurs. Each innovation is imitated and then replaced by yet another innovation. This is the process of "creative destruction." The gains realized from the innovation give the firm only the means to pursue new innovations. The forces of dynamic competition doom any firm that merely attempts to maintain its present position.

Schumpeter's notion of the market being, at times, in equilibrium separates him from the "mainstream" Austrian viewpoint.² However, similarities also exist. As with Schumpeter, Austrians focus on the entrepreneur and see profits as the incentive that stimulates entrepreneurship. Mises (1949) commented that entrepreneurs are the first to understand that a discrepancy exists between what is currently done and what could be done. According to Mises (1949), entrepreneurship is an action that successfully directs the flow of resources toward the fulfillment of consumer needs. Alertness to opportunities is the hallmark of entrepreneurs. Entrepreneurs discover errors or inefficiencies and try to eliminate them.

Although opportunities for profit are always present, businesses may not discern them. Many potentially advantageous opportunities go unnoticed. The role of the entrepreneur is to see economic opportunities that have been overlooked by others. Kirzner (1973, 1979) argued that at any given time, an enormous amount of *ignorance* stands in the way of the complete coordination of the actions and decisions of the many market participants. As such, innumerable opportunities for mutually beneficial exchange are likely to exist unperceived. Even though some profit opportunities are uncovered by pure chance, certain firms have more information than others, and this knowledge gives them an advantage in ascertaining market inefficiencies. The existence of true entrepreneurial profit

² Austrians argue that for economy to be in equilibrium, innovations must be discontinuous (i.e., appearing only in discrete clusters). They view innovation as a continuous process. Therefore, the market is never in equilibrium.

depends on the possession of superior information. This is the entrepreneurial role: to gather, evaluate, and utilize information. Resources flow toward the firms that are most competent in using information, and the least efficient firms are forced out of business.

Market imperfections or inefficiencies allow a market to be in disequilibrium and are responsible for profit opportunities. In this sense, the entrepreneur acts as an arbitrager. The entrepreneur sees a mismatch between what the resource market has to offer and what customers will be willing to pay. By exploiting this market imperfection, the entrepreneur receives the residue from the arbitrage (i.e., economic profits). Similar to Mises and Kirzner, Rumelt (1987: 143) defined "*entrepreneurial rent* as the difference between a venture's ex post value (or payment stream) and the ex ante cost (or value) of the resources combined to form the venture." The possibility of earning these profits sustains the entrepreneur in a state of alertness. Engaging in entrepreneurial discovery by bringing resources, costs, and prices further in the direction of equilibrium generates profits.

Entrepreneurial Discovery

Entrepreneurial discovery involves a wide range of activities. Schumpeter (1942: 132) viewed the function as "to reform or revolutionize the pattern of production by exploiting an invention, or more generally, an untried technological possibility for producing a new commodity or producing an old one in a new way, by opening up a new source of supply of materials or a new outlet for products, by reorganizing an industry." A variety of researchers have highlighted the fundamental role of discovery in influencing business success.

Some innovation can be termed *scientific* in nature (e.g., the result of research and development). Schumpeter (1934, 1942) emphasized the crucial role of R&D in determining economic well-being and business success. Solow (1957) highlighted technological change (the advancement of knowledge) as the primary determinant of economic growth, and Hayes and Abernathy (1980: 468) argued that "success in most industries today requires an organizational commitment to compete in the marketplace on technological grounds."

However, Hayek (1945) noted that there is a body of very important but unorganized information that cannot be classified as scientific in the sense of knowledge of general laws. Rather, this information is knowledge of particular circumstances of time and place. Knowledge of people, local conditions, and special circumstances is just as important to business success as scientific facts. It is crucial both in ascertaining profit opportunities and in implementing strategies.

Kirzner (1979) agreed that entrepreneurial discovery includes short-run activities fully as much as it does long-run developmental changes. Imitators, attempting to exploit the opportunities generated by the actions of the innovators, exercise entrepreneurship as much as the innovators themselves. Levitt (1986) asserted that no company can survive on its own

innovations. In a world of eager competitors, there will always be others who, on some dimensions, take the innovator's lead. He maintained that even though a company must work hard at being a leader, it must work equally hard at being a systematically eager imitator.

Entrepreneurship occurs whenever a market participant does something even a little different from what is currently being done, so that some market imperfection can be profitably exploited. Bhidé (1986) stated that opportunities to gain lasting advantage through blockbuster strategic moves are rare in any business. In the current business environment where innovations are quickly imitated or quickly become obsolete, he argued that the theory of sustainable comparative advantage has had its day. Accordingly, what counts most is a firm's "nimbleness" to exploit rapidly dissipating and changing opportunities.

DISEQUILIBRIUM

The Austrian emphasis on the role of knowledge and learning in dynamic competitive markets explains differences between the neoclassical and the Austrian views on equilibrium. Hayek (1937) regarded the neoclassical use of the concept of equilibrium as unfortunate because it presupposes an unwarranted degree of knowledge. The neoclassical assumption of perfect knowledge does not recognize the significance of entrepreneurial discovery in an uncertain and changing world. As such, equilibrium is unrealistic because it implies that discovery has ceased.

The changing of plans as a result of the acquisition of new information constantly disrupts the market. As such, an unending stream of knowledge keeps the market in perpetual motion. Because knowledge is continually changing, the market is continually changing. Continuous changes in the state of knowledge produce new disequilibrium situations and, therefore, new profit opportunities. When the competitive process eliminates one opportunity, changes in the stream of knowledge produce other opportunities. Thus, there are constant profit opportunities resulting from ever-changing sources.

The Market Process

As in neoclassical theory, Austrian theory stresses the beneficial role of competition. However, Austrians treat competition as a process rather than as a static notion. Hayek (1948) noted that "perfect competition" in neoclassical economics is a market that is already in equilibrium, that is, a state of affairs in which there is no opportunity "to compete." Adherents of neoclassical economics assume away the fundamental dynamic characteristics of competition and concentrate primarily on specifying the effects of competition after the process of competition has reached its limits. Even though they describe equilibrium, their analysis does not explain the competitive process that led to this outcome. The Austrians focus on this process and, therefore, on the role of the entrepreneur. For

them, the entrepreneur is the mechanism that drives the competitive process to its fruition. Indeed, competition and entrepreneurship are viewed as inseparable.

Hayek (1945) stressed that economic problems arise always and only as a consequence of change. As long as events continue to be the same, or at least continue as they were expected to, there will be no new problems that require a decision. But such a description does not characterize the business situation. The economic problem of business is mainly to adapt to rapid changes in the environment. Some commentators on business performance have expressed the same sentiments. For example, Peters (1987) argued that violent, accelerating change and chaos characterize the business environment. Thus, companies win by constantly adapting and innovating. Peters (1987: 45) admires management styles and organizational structures that respond quickly to shifting circumstances. He stated, "Today, loving change, tumult, even chaos is a prerequisite for survival, let alone success."

Profits as a Disequilibrium Phenomenon

Abnormal profits will not exist indefinitely: Profits will decay to the competitive level as competitors imitate successful practices and market conditions change. Because firms must trade in the marketplace to realize the benefits of its information, they cannot profitably exploit knowledge without conveying hints to other firms. If the information is revealed, competitors will respond and, perhaps, will dissipate the advantage before the firm has had an opportunity to capitalize on it. A number of firms, Frito Lay, for example, have dispensed with some types of test marketing because it gives competitors too much information prior to the launch of the product. Japanese firms are especially reluctant to engage in market research for this reason—when Kao researched its laundry product, *Attack*, it attempted to limit exposure of the product to potential competitors by giving test samples to only a small number of geishas.

Teece (1987) commented that quite often imitators profit more from an innovation than does the firm first to commercialize it. He believes that many science- and engineering-driven firms labor under the illusion that developing new products that meet customer needs will ensure fabulous success not only for the product but also for the innovating firm. There is a long list of companies, for example, EMI (CAT scanner), Xerox (office computer), and Ampex (VCR), that failed to profit from their innovations. Mansfield, Schwartz, and Wagner (1981) reported that about 60 percent of patented successful innovations were imitated within four years. In addition, an imitator's development costs were approximately 35 percent lower than those of the innovator. In their survey of R&D managers, Levin, Klevorik, Nelson, and Winter (1987) found that even major patented innovations could be imitated within three or fewer years in well over half of the 129 lines of business they covered. Approximately 65 percent of "typical" unpatented innovations could be imitated in less than one year.

These authors noted that managers place relatively little faith in the ability of patents to prevent rivals from imitating either their product or process innovations. Lead time was regarded as far more effective than patents in protecting a firm's comparative advantage.

Competitors are delayed from imitating innovators' actions when, for example, knowledge available to them about these actions is ambiguous. Demsetz (1973: 2) noted that "it is not easy to ascertain just why GM or IBM perform better than their competitors. The complexity of these firms defies easy analysis."³ Lippman and Rumelt (1982) discussed how firms are able to earn long-term profits when uncertainty surrounds the factors and actions responsible for superior performance and, as such, competitors are unsure what actions to imitate. Winter (1987) noted that some types of process R&D, because lack of observability may delay imitation, can be expected to give rise to longer lasting advantages than those obtained through new product R&D. The existence of ambiguity (i.e., imperfect information) means that successful strategies may not be imitated and the price of effective resources may not be bid up.

Ambiguity surrounds not just the strategy itself, but also its implementation. Generic strategies are often not detailed in the specificity required for use by managers. For example, the suggestion to raise product quality may be inadequate for managers to act upon. Product quality is a multidimensional construct. Managers may not know which elements of product quality have an impact on profitability. Further, even if these elements were known, it is often unclear how to implement the techniques necessary to improve product quality. General Motors' failed efforts with automation is a classic example (*Economist*, 1991). GM spent \$60 billion from 1979 to 1986 to equip its factories with "21st-century" automation to improve quality. Its joint venture with Toyota, however, uses less automation than the average U.S. car plant, yet is said to produce higher quality cars than GM's most highly automated factory (*Business Week*, 1987).

MODELING THE DETERMINANTS OF BUSINESS SUCCESS

Entrepreneurial discovery and innovation (i.e., doing what is currently being done in a different way to better or more efficiently meet customer needs) induces profits in the Austrian framework. This perspective generates a sharp split between IO-based strategy and Austrian perspectives with respect to the role of empirical methods. In contrast to IO researchers, Austrians contend that empirical models cannot uncover strategies that yield supranormal profits. Undertaking strategies whose

³ Demsetz's example also serves to highlight the transitory nature of profits. Despite their earlier successes, in 1991 GM lost \$4.452 billion and IBM lost 2.827 billion, which are the largest and fifth largest annual losses in U.S. corporate history

value and implementation are known involves little (if any) entrepreneurial discovery and, therefore, will not generate abnormal returns.⁴

Profitability Models

In 1987, the *Harvard Business Review* reprinted a passage from its first issue (1922), which stated: "The theory of business . . . must develop to such a point that the executive, who will make the necessary effort, may learn effectively from the experiences of others in the past what to avoid and how to act under the conditions of the present. Otherwise, business will continue [to be] unsystematic, haphazard, and for many . . . a pathetic gamble."⁵ Strategy research has been responsive to this call. Empirical models of business performance, based on past data and experiences, have been developed under the belief that they depict strategies that managers can follow to achieve superior business performance.

Porter (1981) noted that industrial organization researchers have developed a strong empirical tradition built around the statistical analysis of the populations of firms and industries. A stream of research, both in strategy and IO, is based on the premise that underlying regularities (sometimes labeled strategic laws) govern business behavior and determine profit performance. Schoeffler (1977) noted that the implication for research is that the process of formulating a business strategy is becoming an applied science. Business situations can be understood by an empirical scientific approach.

Heterogeneity

Perhaps no view is a greater antithesis of the Austrian doctrine than the notion of interfirm and/or intertemporal homogeneity that is imbedded in empirical models of business profitability. Austrian economics rejects econometrics as a tool of theory development. Mises (1949: 55–56) defined the Austrian position most clearly. He stated:

There are, in the field of economics, no constant relations, and consequently no measurement is possible. If a statistician determines that a rise of 10 per cent in the supply of potatoes in Atlantis at a definite time was followed by a fall of 8 per cent in the price, he does not establish anything about what happened or may happen with a change in the supply of potatoes in another country or in another time. He has not "measured" the "elasticity of demand" of potatoes. He has established a

⁴ Emphasis on unobservable firm-specific factors as primary determinants of business performance further reduces the value that Austrians place on attempts to explicitly model the determinants of business performance.

⁵ Interestingly, next to this passage is a cartoon in which an executive indicates that his success was due to a chance occurrence (i.e., having "found forty million dollars under a rock").

unique and individual historical fact. . . . Statistical figures referring to economic events are historical data. They tell us what happened in nonrepeatable historical cases. The sole excuse that the econometrician advances is that his hypotheses are "saying only that these unknown numbers remain reasonably constant through a period of years." Now whether such a period of supposed constancy of a definite number is still lasting or whether a change in the number has already occurred can only be established later on.

Absence of constants in economic life makes any attempt at econometric determination of such constants a misleading enterprise. Mises pointed out that each historical event involves a complex interaction among a variety of variables, none of which ever remains in constant relationship with the others. Every historical event is heterogeneous. Therefore, historical events cannot be used either to test or to construct laws. Mises claimed that, given the ever-changing conditions of human will, knowledge, and values, it is inconceivable that econometrics will ever be able to do so.

The exact role of econometrics in the Austrian tradition is unclear. In fact, Littlechild (1978: 22) noted that "no two Austrians have ever completely agreed on methodology." A number of Austrians have asserted that econometrics has no role in the advancement of knowledge. Rizzo (1978) commented that although this view may serve as a tolerable first approximation of the truth, statistical regularities can serve as a starting point for an investigation. The central role of econometrics involves the use of statistical methods in providing insights into historical events. The econometrician is an economic historian. However, these historical relationships are not interpreted as constants applicable to all situations in all times. Extrapolating the future from the past is an inductive leap that Austrians are very reluctant to make.

This view is not unique to the Austrian school. The rational expectations critique of econometric models contends that econometric models estimated from past data may not be relevant for policy evaluation because the parameters of such models can be expected to change along with the policy. Lucas (1981: 126) stated, "Given that the structure of an econometric model contains optimal decision rules of economic agents, and that optimal decision rules vary systematically with changes in the structure of series relevant to the decision maker, it follows that any change in policy will systematically alter the structure of econometric models." Kristol (1988: 18) observed that econometric models assume "all other things being equal." However, he argued that "human beings are not things, they are purposive creatures shaped by history and expectations. So, when one deals with human behavior, 'other things being equal' is a premise that is conditional, not absolute, and has a transiency as well as an indeterminacy that makes large economic theories less solid than economists would have us believe."

The criticism of econometric models is especially pertinent with re-

gard to models of business profitability. If these regressions have detected regularities in business performance, why don't all businesses follow those strategies that are known to lead to supranormal profits? Managers should be expected to continue to invest in activities or to follow strategies that are known to increase returns until the return premium is exhausted. Profitability, or the lack thereof, is a signal that directs resources toward their most advantageous use. Techniques are imitated and the price of those resources that contribute to supranormal profits are bid up. The adjustment of resources and output into areas earning excess profits and away from areas earning below-average profits brings returns back to competitive levels.

The very nature of competition suggests that no replicable strategy will allow businesses to earn long-run supranormal profits. It is the very uncertainty of a given strategy or its implementation that makes it a candidate for determining business success. The return premium on easy-to-implement strategies dissipates quickly. Few would argue that product markets adjust at, say, the same speed as the stock market. But, product markets will react to, and eliminate, abnormal profit opportunities. Therefore, factors identified in the past as generating supranormal returns should not be expected to have this effect in the future.

Consider, for example, empirical analysis that indicated that advertising expenditures systematically generated supranormal profits (e.g., \$1 spent on advertising generated incremental profits of 50¢). The very fact that some firms have exploited the opportunity of increased advertising spending brings its benefits to the attention of other market participants. These other firms respond by increasing their own spending on advertising until the return on advertising expenditures tends to equilibrate with other uses of funds. The return premium from advertising expenditures, which existed previously, dissipates. The profit opportunity from advertising cannot be expected to exist forever. In fact, the only question is whether the empirical analysis brought the benefits of advertising to the attention of the firms so that the return premium will be subsequently competed away or whether the firms were aware of the benefits of advertising prior to the empirical analysis so that the return premium has already been competed away.

Wensley (1982) questioned the assumption of some scholars that the marketplace ignores underlying regularities governing business performance uncovered in profitability models. He asserted that the observed regularities that serve as the basis for, or confirmation of, strategic theory also form the basis for action. Wensley emphasized the importance of private, as opposed to widely available (public), information as the primary source of comparative advantage and profit opportunities. He indicated that researchers should expect that effects of first-order significance will already be acted upon by the market participants. Having found a statistically significant relationship in a profitability model, Wensley contended that theorists need to be aware of possible misinter-

pretation before concluding that this relationship is evidence of blatant market inefficiency.

UNOBSERVABLE FACTORS

Critics of the Austrian approach often argue that because its proponents place great emphasis on unobservable factors they are inherently incapable of saying anything about observable factors.⁶ Austrians believe that the truth is the other way around. Their methods provide insight about the real world because they take into account unobservables. Kirzner (1976: 7) noted, "The real world includes a whole range of matters beyond the scope of the measuring instruments of the econometrician. Economic science must be able to encompass this realm." Rizzo (1978) indicated that not all issues or variables of interest are quantifiable. Explaining complex phenomena only by reference to quantifiable variables neglects available information, which Austrians believe must be considered in order to obtain insights into business performance.

Invisible Assets

According to Itami and Roehl (1987: 1), "Analysts have tended to define assets too narrowly, identifying only those that can be measured, such as plant and equipment." They noted that "invisible assets" (e.g., a particular technology, accumulated consumer information, brand name, reputation, corporate culture, and management skill) are the real source of comparative advantage. How strategies affect and are affected by these invisible assets influences a firm's competitive success. Similarly, Bonoma (1985) suggested that certain areas of interest to marketers simply defy counting approaches; that is, they are not amenable to quantification. He indicated, for example, the nature of *good practice* in marketing management and the coordination of marketing activities with other business functions are currently unquantifiable. They are so complex at this time it is impossible to know what to count.

These invisible assets are key success factors because they are difficult to obtain. Accumulation of these assets requires ongoing, conscious, time-consuming, and uncertain efforts. For example, there is no

⁶ The general criticism of Austrian economics is that although it highlights shortcomings in traditional analysis, it fails to provide a framework for making a positive contribution (Klein, 1975). In particular, disequilibrium analysis does not have the degree of precision, completeness, or lack of ambiguity characterized by equilibrium models. Even though Austrians counter that this uncertainty characterizes "the real world," traditional economists view equilibrium models as a valuable first step or organizing framework. The reluctance to use analytical tools or to develop testable propositions is also viewed as a deficiency in the Austrian approach. Research that has embraced the Austrian framework (e.g., Nelson & Winter, 1982) lessens the validity of these criticisms as inherent flaws of adopting an Austrian perspective.

easy way to obtain a desired corporate culture (Barney, 1986a). This is something that competitors, even those with substantial resources, cannot buy or readily obtain. Therefore, it is these invisible assets that are likely to have the greatest and longest lasting impact on performance (Reed & DeFillippi, 1990; Winter, 1987).

While acknowledging the existence of unobservable factors and their effects on profitability, strategy researchers contend that modeling the linkages among observed strategic factors provides reasonable approximations of business performance. The assumption is that the effect of observed strategic factors can be assessed irrespective of the firm's unobserved strategic factors. Buzzell and Gale (1987: 50–51) stated, "If we knew literally all the factors that influence profits, we could explain 100% of the variation. How close can we get to this standard of perfection? The Par ROI [return on investment] model explains over 70%."⁷

However, profitability models, such as the Par ROI model, that ignore unobservable factors should be viewed cautiously. In a world with imitation and competition dissipating abnormal profits, adapting to a changing environment is crucial for a firm. Invisible assets help to position a firm to exploit new opportunities. Given a firm's invisible assets, some strategy choices will prove more effective than others. Strategies developed in the absence of an appreciation of these invisible assets are unlikely to prove successful. As such, studies that fail to control for a firm's invisible assets are unlikely to assess accurately the influence of observed strategic factors on business performance. Yet, most empirical studies of business performance, both in industrial organization and in strategy, ignore the role of the unobserved factors.

The Extent of Influence of Unobservable Factors

Making use of statistical techniques designed to help control for unobservable factors, Jacobson (1990) finds that a serial correlation model of the form:

$$ROI_{it} = \beta X_{it} + \epsilon_{it} \text{ with } \epsilon_{it} = \rho \epsilon_{it-1} + \eta_{it}$$

approximates the manner in which ROI is associated with strategic factors (X_{it}) and unobserved factors (ϵ_{it}). The fact that the unobservable factors are autocorrelated induces serially correlated residuals, as depicted by the coefficient ρ in the structural equation. As discussed by Hsiao (1986), for example, the lagged value y_{it-1} is informative in the structural equation's reduced form solution, that is, the estimating equation

$$y_{it} = \rho y_{it-1} + \beta x_{it} - \beta \rho x_{it-1} + \eta_{it}$$

⁷ The Par ROI is a multivariable regression equation developed by the Strategic Planning Institute to ascertain what the expected ROI of a business should be if its market environment, competitive position, and marketing strategy are considered.

because it helps predict the effect of the autocorrelated unobservable factors.

The fact that the unobserved factors are correlated with some of the observed strategic factors results in biased estimates of the effect of strategic factors and an overstatement of their explanatory power. The influence of these unobservable factors is so pervasive as to invalidate many of the conclusions drawn from studies failing to control for their effects. In fact, Jacobson (1990) showed that failure to control for firm-specific latent factors can result in a bias so substantial as to reverse the sign of the estimated effect of strategic factors. For example, the negative correlation between ROI and marketing intensity reported in some PIMS-based studies (e.g., Buzzell & Gale, 1987) results not from an adverse impact of marketing expenditures but rather from the failure to control for unobservable effects. Unobservable effects that shift the demand curve, for example, jointly influence ROI and sales (the denominator in the marketing intensity measure) and so induce a spurious negative association. Once these unobservable effects are controlled, marketing intensity is estimated to have a positive influence on ROI.

Further, although observed strategic factors have a statistically significant influence on profitability, it is the unobservable factors that for the most part determine business performance. The failure of observed strategic factors to accurately predict future business performance can be seen by assessing the predictive performance of the Strategic Planning Institute's Par ROI estimate. Contrary to the assertions of the ability of the Par ROI equation to explain 70 percent of the variation in ROI, when researchers take into account the role of unobservable factors, the Par ROI model is able to forecast about 1 percent of the year-to-year variance of business performance. The explanatory power of the Par ROI model is largely attributable to the failure to account for serially correlated residuals generated by autocorrelated unobservable factors influencing business performance.⁸

⁸ Failing to deal with the potential problems highlighted by serially correlated residuals has led to a number of classic articles that warn of and illustrate the misuse of econometric methods (e.g., Hendry, 1980; Plosser & Schwert, 1978; Yule, 1926). The consequences of ignoring the warning signs provided by serially correlated residuals are perhaps best illustrated by the work of Jevons (1884). Jevons developed what is known as the *quantity theory of sunspots*, that is, that sunspot activity causes economic activity. The empirical evidence for this relationship seems overwhelming. A 1 percent increase in sunspots is associated with a 72 percent increase in income. The association is "significant" at the 99.9 percent confidence level. The R^2 value suggests that sunspot activity explains 82 percent of the variation in income. But, of course, this correlation is spurious. It merely reflects the fact that both income and cumulative sunspot activity are increasing over time. The correlation of income with sunspots vanishes once a serial correlation correction is made to the model. Many empirical regularities reported in the strategy literature seem to be based on a similar misuse of statistical methods.

AN AUSTRIAN ECONOMICS-BASED STRATEGY AGENDA

Austrian economics raises perspectives and, therefore, managerial and strategic research directions that are different from those of traditional industrial organization. With respect to the dimensions delineated in Table 1, continuous innovation, strategic flexibility, factors influencing the speed of the market process, and unobservable factors useful in adapting to a dynamic environment, for example, are agenda items for Austrian-based strategy. Each of these topics deals with the distinct feature of Austrian economics of the market process.

Entrepreneurial Discovery: Continuous Innovation

The Austrian School highlights entrepreneurial discovery/innovation as central to business success. Although it includes more than R&D, this perspective puts great emphasis on R&D. Interestingly, some scholars have commented that it seems that the more R&D-based innovations U.S. firms develop, the further they ultimately end up falling behind foreign, in particular, Japanese, imitators because of the efficiency and speed of these competitors (Mansfield, 1988a,b). Each new innovation provides another opportunity for a foreign rival to out-imitate a U.S. company in producing it. The success of the Japanese firm has shown that profitable innovation is obtained not just through major breakthroughs but also through continuous improvements. Indeed, the limitation of attempting to compete on the basis of major breakthroughs is that it confers a comparative advantage but only until this breakthrough is imitated by competitors. This is the Schumpeterian notion of the market equilibrium being disrupted by innovations and then returning to equilibrium. To regain an advantage, the firm must develop a new breakthrough product, which is an uncertain, time-consuming, and expensive process.

Some firms have realized the benefits of incremental process-oriented R&D (*Business Week*, 1989). NEC, for example, is said to view innovation as *the result of tiny improvements in a thousand places*. As long as the firm continues to undertake incremental improvements, it (because of lags in competitive response) continues to have a comparative advantage. However, even this comparative advantage will dissipate as major breakthroughs circumvent the incremental process-generated gains. Still, managers at Ford Motor Co. contend that the cumulation of a large number of small improvements in products and processes is the surest path, in most industries, to competitive advantage. The importance of continuous innovation is in keeping with the Austrian tradition of entrepreneurial discovery and its characterization of markets as disequilibrium processes.

Companies, even when they develop a major breakthrough innovation, often credit their success to the ability to continually refine the original product and production processes. For example, when Sony in-

roduced the Walkman in 1980, creating a new market, imitators quickly reacted. Not only did Sony's market share steadily decline to a low of approximately 18 percent in 1983, but its sales actually declined during that year. Sony was able to reverse this trend, increasing its market share to approximately 40 percent and tripling its sales, because of a stream of new and better models and improved process techniques. In particular, it cut the number of parts and the assembly time for a Walkman in half.

Disequilibrium: Adapting to Change

Even though strategy researchers have emphasized the effect of strategy on the level of return, as if a successful strategy ensured constant supranormal returns over time, studies of the time series properties of ROI report that it can be characterized as a mean-reverting process (Beaver, 1972; Lookabill, 1976). That is, firms' abnormal returns dissipate over time. This is an expected consequence of the market process, and it supports the characterization of profits as a disequilibrium phenomenon. Investors tend to move funds toward areas generating supranormal profits and away from areas generating less than normal profits.

Because the returns to a given strategy dissipate, firms must adapt and respond to changing conditions. As such, flexibility becomes a critical strategic factor. Indeed, a number of firms have effectively used flexibility as a key strategy. Motorola is one such firm: for example, its customized pocket pagers go into production 17 minutes from the time of order, are shipped within 2 hours, and are received by the customer the next day. Much of Compaq Computer's success can be traced to its ability to respond quickly to and take advantage of others' innovations. One of Honda's advantages over other auto makers is its ability to bring a new model to market within three years, as opposed to four to five years required for its competitors.

Generally, because flexibility allows small firms to respond more quickly to changes in industry demand, they can often compete effectively with large firms, even in the face of higher minimum average cost. Taiwanese firms, for example, use flexibility as a strategy when competing with much larger competitors, in particular, Korean firms. Although Korean firms tend to focus on high volume, high productivity, and standardized products, Taiwanese firms emphasize the advantages brought about by flexibility in responding quickly to changing market conditions and in marketing nonstandardized products. Indeed, Taiwanese companies provide a good illustration of Austrian economics' depiction of entrepreneurial firms dissipating profits. Levy (1988) noted, "Taiwanese firms nip at the heels of innovators, each firm content with a small market share of some new, highly profitable market even as they drive down returns for the industry as a whole."

De Meyer, Nakane, Miller, and Ferdows (1989) asserted that flexibility will be the next competitive battleground as manufacturers strive to overcome the trade-offs that have existed in the past between flexibility and

cost efficiency. Their survey of Japanese manufacturers indicated an emphasis on *cost-efficient flexibility*. Japanese respondents cite *rapid design changes* as their second highest competitive priority (behind low prices) and rate *flexible manufacturing systems* as the most important action plan. De Meyer and his colleagues concluded that U.S. and European manufacturers that thought they would be on par with their Japanese competitors once they were able to compete on product quality will come to find that the next form of competition will be waged on overcoming the efficiency-flexibility trade-off. Obtaining superior business performance will require new entrepreneurial discovery (e.g., efficiently implementing flexibility), as the market process continues to dissipate the benefits firms realize by offering high-quality products.

Empirical Regularities: The Persistence of Returns

The usefulness of empirical models of business performance, even those controlling for unobservable effects, is limited because the market process leads firms to adjust to and, therefore, to dissipate the effects of strategies shown to lead to supranormal profits. These models describe what happened in the past, not what will happen in the future. The models have value to the extent that they point out regularities that may have been overlooked by firms or suggest how a firm might use its unique resources or skills.

Empirical methods also might be used to assess the aspects of the market process (e.g., how strategic factors influence the speed of dissipation of abnormal returns). Miller and Rock (1985) noted that the effect of an earnings announcement on stock price (i.e., shareholder value, a primary performance criterion measure) depends not only on the magnitude of the return, but also on its persistence. The greater the persistence (i.e., the slower abnormal profits dissipate over time), the greater the effect. Therefore, the market process determining the persistence of return is an important strategic consideration.

Jacobson (1988) found that market share and marketing expenditures, for example, tend to slow the decay of ROI. A number of other factors can be expected to influence this process. For example, even though attention has been directed at the effect of order-or-entry (pioneering) on the level of return, its effect might be additionally, or even exclusively, hypothesized to influence the persistence of return. Jacobson (1991) reported, based on analysis of PIMS data, that the first-order autoregressive process that characterizes the time series behavior of ROI for pioneers is more persistent than that of nonpioneers, .81 versus .71, respectively.⁹ Further, once the statistically significant difference in the autoregressive coefficient for pioneers versus nonpioneers was taken into account, the

⁹ An AR(1) coefficient of 1.00 indicates no dissipation of ROI; a coefficient of 0.00 indicates immediate (within-year) dissipation.

coefficient indicating the direct effect of pioneering on ROI became statistically insignificant. How strategies and tactics influence the persistence of returns is an area for future research. The types of R&D used after the initial innovation (e.g., product- versus process-oriented innovation) might be one possibility.

Unobservable Factors: Monitoring and Control

Griliches (1974) noted that unobservable factors can be viewed as including unobserved and hard to proxy, as well as truly unobservable, variables. Peters (1987: 488) maintained that "our fixation with financial measures leads us to downplay or ignore less tangible nonfinancial measures, such as product quality, customer satisfaction, order lead time, factory flexibility, the time it takes to launch a new product, and the accumulation of skills by labor over time. Yet these are increasingly the real drivers of corporate success." Some of these essential yet typically "unobservable" factors can be measured to some extent. Hansen and Wernerfelt (1989) reported that their measures of organization factors (e.g., corporate culture) explained twice the amount of variation in ROI as did economic factors. Narver and Slater (1990) constructed a measure of market orientation and found that it exhibited a significant positive association with business performance. Latent factors such as *corporate culture* and *market orientation* can be monitored over time. Increased attention to these unobservable factors, which can be expected to influence long-term business success because they are difficult to copy or imitate, can lead to reduced reliance on measures such as ROI that encourage a short-term orientation. Further, the use of such factors can provide an indication of the firm's ability to adjust to a dynamic environment and to exploit market opportunities.

It is reasonable to conclude, however, that important strategic factors influencing business performance will never be measured completely or without error. Such important factors as corporate culture are fuzzy and ill-defined. The difficulties in quantifying the unobserved strategic factor *luck* seem insurmountable. Yet, it can have important and persisting effects on business performance and on observed strategic factors (Alchian, 1950; Mancke, 1974). Therefore, the question remains as to how a researcher might control for unobservable factors in empirical models in order to assess the previous effect of strategic factors. Hausman and Taylor (1981: 137), articulating current econometric practices, suggested the benefits of panel data. They noted:

An important benefit from pooling time-series and cross-sectional data is the ability to control for individual specific effects—possibly unobservable—which may be correlated with the other included variables in the specification of an economic relationship. Analysis of cross-sectional data alone can neither identify nor control for such effects

This current perspective places into question many of the conclusions drawn from empirical strategy research, which is based almost exclusively on cross-sectional analysis. This stream of research has not included the effects of unobservable factors. Further, it suggests that future empirical strategy research should emphasize the use of panel data and statistical methods that help control for the influence of unobservable factors.

CONCLUSION

Perhaps the closest correspondence between Austrian economics and "established" strategic perspectives pertains to the concept of strategic windows. Advocating dynamic rather than static analysis, Abell (1978) noted that frequently market changes are so far-reaching that the competence of the firm to continue to compete effectively is called into question. There are only limited periods (i.e., a strategic window) during which the fit between the key requirements of a market and the particular competencies of a firm competing in that market is at an optimum. Investment activities should coincide with periods in which such a strategic window is open, and divestment should be contemplated if what was once a good fit has eroded. Broadly speaking, Austrian economic theory depicts the business environment as a continual process of strategic windows.¹⁰ Opportunities constantly arise and then dissipate. Although it includes a wider view of the concept, Austrian economics can be regarded as the theoretical foundation for strategic windows.

In addition, some more recent strategy research, though seemingly disconnected, is distinctly Austrian in nature. Rumelt's (1984) and Levitt's (1986) emphasis on entrepreneurial activities, Peters' (1987) and Bhidé's (1986) depictions of market dynamics and disequilibrium, Itami and Roehl's (1987) and Jacobson's (1990) concern for unobservable factors, Wensley's (1982) view on learning dissipating empirical regularities in profitability models, for example, fit squarely into the Austrian school of thought. To a large extent, these analysts are articulating the Austrian perspective as it pertains to strategic issues. Thus, their research can be seen as forming an "Austrian School of Strategy."

Because Austrian concepts have been incorporated by other schools of thought, a variety of strategic frameworks share commonalities with Austrian perspectives. This occurrence is consistent with the perspective of Milton Friedman that "there is no Austrian economics—only good economics and bad economics" (cited in Dolan, 1976: 4).¹¹ Friedman indicated

¹⁰ Peters (1987) expounded on this notion of continuous strategic windows. He contended that chaos and uncertainty are—will be—*market opportunities for the wise* and that capitalizing on fleeting market anomalies will be the successful business's greatest accomplishment.

¹¹ Kirzner (1989), however, discussed the advantage of the Austrian label.

that what is good about Austrian economics would be incorporated in generally accepted mainstream analysis. So it is not surprising that Austrian thought and the resource-based theory of the firm, in particular, exhibit a great many similarities. For example, theorists from both schools of thought place similar emphasis on firm heterogeneity and invisible assets. They differ from Schumpeter in noting the role of incremental improvements in generating profits (Conner, 1991). However, differences also exist. In particular, the resource-based perspective does not focus on the market process but rather makes use of equilibrium concepts and analysis. For example, Barney (1986a, 1991) emphasized sustained competitive advantage (where current and potential competitors are unable to duplicate a strategy) as opposed to temporary (i.e., dissipating) competitive advantage, whose importance has generally been downplayed in the strategy literature. Austrians do not make this distinction. Strategies that can be duplicated have value in that lags in imitation allow the firm to earn supranormal profits. Indeed, Austrians emphasize the gradual dissolution of all entrepreneurial profit as more and more people discover the knowledge needed to imitate a strategy. A further integration of Austrian perspectives into resource-based theory would involve placing greater emphasis on, for example, organizational learning (Stata 1989), the importance of imitable strategies as sources of profits, and analysis of the market processes influencing the erosion of supranormal profits.

As more markets become subject to intense foreign competition, rapid technological change, and shorter product life cycles, even many former advocates of IO-based strategy have begun to articulate views that move closer to Austrian thinking. However, inconsistencies can arise when attempting to integrate other frameworks with Austrian paradigms. For example, Porter failed to reconcile his continued advocacy of restricting competitive forces as a means of achieving higher profits (1990: 35) with his conclusion that a company should actively seek out pressure and challenges, not try to avoid them, to provide sufficient pressure for innovation (1990: 586).¹² Even though in his early view he advocated attempting to limit the power of customers and competition, he later maintained that a home base containing demanding buyers with stringent needs and able competition is a distinct advantage to a firm.

Though it has a number of different dimensions, the strategic implications from Austrian economics are closely related, if not saying the same thing. Rumelt (1988) commented that if a phenomenon is understood well enough to model it, it is too late to make money from it. Opportunities for profit are rooted in private information, ambiguity, special situations, and entrepreneurial insights. Thus, no general laws of business exist.

¹² As discussed previously, Austrians believe the possibility of earning supranormal profits provides the incentive for innovation.

Rather, business success is a "science of the specific" that depends on private information and specialized resources. The key strategic resources of a firm are the special knowledge and skills of its employees and the perceptions of its customers. These strategic insights from Austrian economics offer perspectives that need to be more fully incorporated into future strategic thinking and research.

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