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Frank Knight on Business Strategy

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Abstract
Much of the economic foundation of business strategy stems from industrial-organization economics via Michael Porter and from institutional perspectives via Oliver Williamson. Frank Knight was one of the leading economic theorists of the twentieth century who profoundly influenced micro theory, especially the theory of the firm and the theory (and practice) of finance. Yet the business-strategy literature largely ignores Knight's writings that are closely aligned with business strategy. This paper focuses on Knight's book *Risk, Uncertainty, and Profit*. The links with Knight include forecasting demand, forecasting new products, managerial selection, and the link between managerial selection and managerial control.

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I. Introduction

Business strategy has an important but ambiguous link with economic theory. This conclusion follows from important reviews of the economic foundations of the business school subject known as strategic management or just strategy (Rumelt, Schendel, and Teece 1995*).* An important observation is that prominent economists view strategy from different perspectives and therefore form different conclusions regarding the economic foundations of strategy. For example, Porter (1980) extends the structure-conduct-performance paradigm to identify alternative generic business strategies so that managers can select the most appropriate means to dominate the (product market) competition and thus obtain positive abnormal returns. More recently, Porter (1995) attempts to develop a dynamic theory of strategy. Porter endeavors to identify the sources

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of success of real-world enterprises. In sharp contrast, Williamson (1995) extends the new institutional economics to business and corporate strategy. Williamson builds on Hayek in eschewing strategy that focuses on competitors and focuses on controlling costs and stimulating cost-reducing innovation, A third view is associated with Nelson (1995), who builds on his work with Winter (Nelson and Winter 1982) and ultimately on Penrose (1959). Nelson focuses on the diversity of firms and the design of unique strategies to enhance the probabilities for survival and success. Other notable economic perspectives on strategy exist, including game theory (Saloner 1995) and historical approaches (Chandler 1962, 1977, 1990).

My purpose in this paper is to show that these links between economics and the study of strategy are incomplete. The writings of the eminent twentieth-century economist Frank Knight contain considerable relevant commentary for students of business strategy. Although Knight is recognized somewhat in the strategy literature, such as in Rumelt, Schendel and Teece (1995, p. 15), Williamson (1985, pp. 243, 301), and Williamson (1995, pp. 366–67), the literature ignores Knight's most distinctive observations on strategy. For example, Michael Porter's (1981) discussion of the contributions of the economics subfield of industrial organization to the study of strategic management does not mention Frank Knight. However, Knight's purpose in writing *Risk, Uncertainty and Profit* was to understand the operation of a free-enterprise system. Moreover, Knight clearly devotes substantial attention to the operation of firms within the free-enterprise system. These subjects address important issues in management strategy.

The remainder of this paper is organized as follows. Section 2 describes the meaning of strategy. Section 3 identifies relevant assertions and arguments raised by Knight and related to Knight's observations regarding important strategic decisions that firms make. Section 4 places Knight within the context of the study of strategy, and section 5 contains a summary and conclusions.

II. The Meaning of Strategy

A. Strategy in Game Theory and Economics

The term "strategy" connotes different ideas to different readers. For economists, strategy has historically meant the consideration of rivals' expected behavior in markets where a small number of decision-makers are involved. In this view, strategy is roughly equivalent to game theory (Shapiro 1989). This perspective has merit, but it

provides little basis for empirical analysis or for addressing numerous issues for managers. It is not surprising, then, that for an extended period, the biggest contribution of economics to strategy had roots in game theory.

Dissatisfaction with the competitive-strategy approach with foundations in Bain (1956) stimulated a search for a more general explanation of competitive advantage, and the limited applications of game theory to real markets led to scholarly innovation. The resource-based theory of the firm (Wernerfelt 1984) provides a framework well beyond the structure-conduct-performance paradigm as in Porter (1980).

B. Strategy among Strategic-Management Scholars

For business school scholars in strategic management, the concept is much broader than either game theory or the applied structure-conduct-performance framework. It consists of the major decisions a firm must make in product markets with both small and large numbers of buyers and sellers. Strategy also includes the formation of a firm's goals, choice of products, product attributes, scale and scope, organizational design, and administrative design as in Rumelt, Schendel and Teece (1995). For some scholars the concept includes nearly everything that could resemble Coase's (1937) "coordination within the firm" (Milgrom and Roberts 1992).

C. Other Views of Business Strategy

The eminent business historian Alfred Chandler influenced the study of strategy. He put forth an inclusive view of strategy. Chandler distinguishes between strategy, with a focus on long-term problems and opportunities facing the firm, and tactics, with a focus on the broad array of problems dealing with day-to-day operation of an enterprise. The difference surely is relevant, but the distinction does raise some other important questions. For example, Brickley, Smith and Zimmerman (1997) distinguish between business strategy and corporate strategy. The former entails questions of cost leadership and product differentiation and focuses on the effective use of information regarding consumer demand and competitive behavior. The latter entails questions of scale and scope and focuses on the appropriate selection of optimal firm size and product mix. The scholarly literature is replete with analysis of both types of strategy, and both have long-term and short-term dimensions. In short, a strategy is nearly any systematic decision a firm makes—formalized

or not—that aims at ensuring the firm's long-run survival and success.

III. Frank Knight on Business Strategy

The modern theory of the firm and the study of economies generally owe much to Knight's *Risk, Uncertainty, and Profit*. In that work, Knight identifies the nature of coordination within the firm, entrepreneurship, competitive equilibrium, and the free-enterprise system. Moreover, Knight traverses a broad range of topics, including many of the topics of modern Austrian, neoinstitutional, and neoclassical economics. While much of his work has at best a modest link with strategy, four topics seem to be enormously relevant to strategy. The persistent theme deals with issues of information acquisition and processing on the part of firms. Knight's themes for business strategy are forecasting demand, forecasting new products, forecasting and managerial control, and managerial selection.

A. Forecasting Demand

Profit arises from the fact that entrepreneurs contract for productive services in advanced at fixed rates, and thus profit is realized when the product is produced and sold in the market (Knight [1921] 1971, pp. 271–74). Entrepreneurs and managers face uncertainty precisely because demand is uncertain. Other factors of production receive a fixed promised payment (provided of course there is sufficient cash flow to pay as promised) while the entrepreneur/owner receives the residual profits. Profit arises by upsetting anticipations and producing a product that exceeds the broadly defined costs.

Rumelt, Schendel and Teece (1995) identify the four key questions regarding strategy. These questions do not define strategy but constitute a research agenda for scholars studying strategy. When entering a productive activity, the producer must estimate future demand that they are striving to satisfy and their operations in attempting to satisfy that demand. In brief, forecasting demand is an essential ingredient for producers/sellers.

The problem of forecasting demand provides some insights into the reasons for the existence of firms and the nature of coordination within the firm. The profit residue is the margin of miscalculation on the part of non-entrepreneurs and unsuccessful entrepreneurs that do not force the successful entrepreneurs to pay as much for productive services as they should be forced to pay (Knight [1921] 1971, p. 284). This discrepancy arises because the entrepreneur and firms specialize

in forecasting. Forecasting consumer wants involves a violation of the conventional features of specialization of labor. In general, people predict the future and adapt their conduct more effectively when the results accrue to themselves rather than when they accrue to others. However, consumers do not predict their wants even though they have their own best interests in mind. They usually do not even contract in advance for goods, relying on production for the market to satisfy their wants. Why is this so? Knight's answer ([1921] 1971, p. 240) is consumers do not know what their demands will be in the future, but firms whose managers specialize in acquiring and storing information from the market have a comparative advantage in predicting consumers' behavior—what they will want and their willingness to pay. Producers (at least producers organized as firms) can foresee the wants of a multitude with more ease and accuracy than a single individual (consumer) could. The rationalization for this circumstance is that firms have lower costs than consumers in estimating demand. Coase (1937) criticizes Knight for failing to specify the relevant market costs that lead to the existence of firms, but Williamson (1985, p. 78) affirms Knight's specification of the costs of ascertaining prospective market costs and prices that give rise to the existence of firms.

Knight notes that beneficial specialization regarding forecasting is twofold. First, great heterogeneity exists regarding human ability in forecasting the future in different contexts. People possess different abilities, and specialization results (Knight [1921] 1971, p. 242). Second, the law of large numbers leads firms as sellers to reduce uncertainty about demand and cost. A frequent observation by Knight is that grouping instances reduces uncertainty. Accordingly, the successful firms as sellers can "produce for the market."

B. Evidence on Forecasting Demand

Chandler (1977) also addresses the problem of forecasting with special reference to large firms. A much-ignored observation by Chandler is that a principal reason for the rise of large industrial enterprise in the American economy was the ability of large firms to synchronize production with consumer demand in ways that generated production-cost savings and reduced inventories. Chandler attributes great importance to scale and scope in the emergence of large enterprises. However, a strong complement is the role of forecasting demand to smooth production so that scale and scope economies could be achieved.

Chandler cites a number of examples where the ability to forecast enhances scale and scope economies. Chandler's assertion (1977, pp. 456, 460–64) also emphasizes the role of forecasting demand, especially in the case of continuous-process manufacturers, retailers, and railroads, as a reason for the emergence of large businesses in the US economy, including General Motors, General Electric, Westinghouse, Montgomery Ward, the New York Central and Atchison, Topek & Santa Fe railroads, and Sears, Roebuck. Thus, Chandler's account illustrates Knight's theory of the firm. Those firms and others dominated their competition because they integrated production *and* distribution and did so because they performed the forecasting function superbly.

Readers of Chandler and researchers following in his wake have tended to stress other topics: vertical integration, the multidivisional enterprise (M-form), the rise of professional managers, and the simple issues of scale and scope. It might be useful to view the term "visible hand" as including the coordination benefits from forecasting and monitoring developments related to the invisible hand.

O'Brien (1997) builds on Chandler and notes that the relevance of forecasting periodic demand varies by the nature of the businesses involved. In some businesses, short-run production synchronization with final market demand played a modest role. For example, I. M. Singer never achieved large-scale production and McCormick Harvesting Machine Company produced largely for seasonal demand. Consequently, neither firm had as strong an incentive to synchronize production with retail demand as firms with large-scale, continuous-process production and annual production runs. However, in other businesses where large-scale, nearly continuous-process production for cyclical or seasonal demand existed, forecasting demand and adjusting output to demand fluctuations were central to the nature of the business and the ultimate dominance of certain firms. The point was particularly relevant where the survival of large industrial enterprises was at stake. For example, the Ford Motor Company achieved large-scale production economies with more or less continuous production. Ford developed an information system that linked manufacturing production with final consumer demand. O'Brien contends and gives some evidence that Ford developed an impressive information-processing system that permitted the synchronization of high-volume production with final consumer demand before other automobile manufacturers as well as large firms

in other industries. The contrast between Ford and the other firms simply underscores the relative benefits and costs of information processing with respect to final consumer demand. Of particular relevance for notions of competitive advantage is that O'Brien argues that Ford dominated General Motors in terms of synchronizing its production and sales until the mid-1920s, when General Motors substantially improved its forecasting and information-processing activities in response to a deliberate strategic change by Alfred P. Sloan. Thus, O'Brien (1997) provides a more detailed illustration of Chandler's observation.

Other analysis of the forecasting/production nexus exists. For example, Nelson (1961) develops a model wherein there are costs associated with forecast errors for market prices. Nelson's model is a simple application of the theory of the firm. Nelson identifies the costs of poor forecasts in terms of both insufficient and excess production. Accurate forecasts result in optimal production decisions. Inaccurate forecasts result in either forgone sales when demand is underestimated or costly excess inventories when demand is overestimated. Profits increase directly as firms improve forecast accuracy, increasing production for high-demand periods and contracting production for correspondingly low-demand periods. Nelson's model provides a specific framework for some of Knight's observations. Moreover, Knight's ([1921] 1971, p. 317) contention that the great challenge to the manager is forecasting—especially price forecasting—amplifies the strategic value of Nelson's model.

Chandler notes General Motors exhibited a mixed record regarding forecasting consumer demand. The record of both the inadequacies and later successful synchronization of General Motors' production is a straightforward illustration of Nelson's model and affirms Knight's observation on the value of forecasting in the theory of the firm. Sloan ([1963] 1990) describes General Motors' initially poor performance. He cites both insufficient production in 1923 when the operating divisions lost sales by not producing enough to meet consumer demand and excessive production by failure to anticipate and react quickly enough to consumer-demand changes in the 1924 recession. Consequently, the firm endeavored to improve the synchronization of production with final consumer demand through a change in strategy in the mid-1920s.

There is empirical evidence that the change in strategy benefited General Motors. Apparently, one reason General Motors was able to achieve its remarkable ascendency in the US domestic automobile

industry is competitive advantages in information processing, synchronizing production with retail demand, and lower inventories (Kashyap and Wilcox 1993; Norton 1997). More importantly, Norton (1997) shows not only that Sloan's strategic changes at General Motors led to better links of production with final consumer demand, but that the closer links are also directly related to General Motors' increased rate of return and market share during the 1920s.

The specific studies cited by Chandler and the remarkable innovations at General Motors are extraordinary, but they should not obscure the more general nature of forecasting for short-run production advantage. The point is not restricted to the case of large firms in the distant past. Spulber (1999) echoes Chandler and amplifies the point by asserting that many simple features of business behavior have roots in the demand-forecasting, monitoring, and production-synchronization activities of firms. He observes (1999, p. 350), "Carrying out transactions, such as recording orders, sending bills, and acknowledging receipt of payments appear secondary to the more glamorous activities of innovation and manufacturing. Yet transaction costs can be substantial. By performing such tasks rapidly, accurately, and inexpensively, companies can gain a comparative advantage. Information gathering and distribution by companies is valuable for both its customers and suppliers. This implies that managers must give priority to the company's information systems and transaction processing. Inventory management by companies clears markets. Managers have found they can earn economic rents by quickly adjusting inventories to meet customers' demands."

Elsewhere, Spulber (1998) cites Walmart as a contemporary example of competitive dominance that is linked to quick adjustments to demand changes. Walmart pioneered the monitoring of specific store sales via advanced telecommunications and computer technologies so that inventories and shipments could adjust to market conditions. Spulber also cites the retailer The Gap as able to dominate various traditional retailers by monitoring consumer demand—color, fashion, and styles—to forecast consumer demand and shorten order cycles. The Gap illustrates information-process efficiency with respect to demand changes that are not closely linked to general business fluctuations.

In short, Knight asserts that accurate forecasting is a requisite for successful firms. His assertions are consistent with the more formal theoretical work. More importantly, there is evidence that forecasting

and adjusting production are central to the nature of the firm and it is a common feature of dominating competitive strategy.

C. Forecasting New Products

Knight argued that the comparative advantage of firms entails the ability to forecast consumer demand beyond the link with short-run production plans. In an important sense, consumers have the most interest in the accurate forecasting of consumer demand. However, consumers have limited information regarding the aggregation of their wants and preferences into market demand and in turn prices. Moreover, the link between projected market price and the costs of supplying products is nearly completely in the domain of firms (Knight [1921] 1971, pp. 240–41). Accordingly, the comparative advantage of firms includes the ability to forecast market demand and ultimately prices of nonexistent products. The logical implication is that successful new products are at the core of surviving and thriving firms' strategies.

Knight ([1921] 1971, p. 265) also identifies two particular challenges for new-product forecasting—the extended period for developing new products and the inherent complexity of human wants. Several factors affect the amount of uncertainty to be recognized and warrant attention. The first to be noted is the length of the production process, for the longer it is, the more uncertainty will naturally be involved. Of noteworthy importance is the general level of economic life. The lower wants of people, those having to the greatest degree the nature of necessities, are the most stable and predictable. The higher up the scale we go and the larger the proportion of the aesthetic element and of social suggestion in motivation, the greater the uncertainty connected with foreseeing wants and satisfying them. Notably, these difficulties of the forecasting problem give firms and managers existence. Thus, they form the foundation of the enterprise and superior performance (Knight [1921] 1971, pp. 267–69).

It is noteworthy that Knight's view differs from Schumpeter's. Although a link between new products and profits is common to both Knight and Schumpeter, Knight stresses the role of understanding consumer wants, pooling information, and examining the feasibility of providing products to satisfy the latent wants (Knight [1921] 1971, p. 241). The Schumpeterian entrepreneur also develops new products. Knight ascribes the same function to entrepreneurs, but goes a step further in describing the information-processing nature of developing new products.

More to the point, McClure and Thomas (2021) note that Knight differed significantly from Schumpeter on the broader role of the entrepreneur as financier of new enterprises, a perspective that presaged the venture capital revolution, which Foss and Klein (2012, p. 238) label "Knightian entrepreneurs."

D. Evidence on Forecasting New Products

The systematic study of firms' marketing decisions fits well with Knight's view of the value of forecasting consumers' desires. The evidence is threefold. First, like the link between forecasting consumer demand and short-term production synchronization as a source of profits, there is ample evidence that new products can generate substantial value for the firm. For example, Chaney, Devinney and Winer (1991) found that new-product introduction resulted in an average increase in market value of the firm of $84,196,000 in 1991 dollars. While that result simply links new products with enhanced performance, that finding fits with both normative and positive analyses of the process of new-product introductions.

Second, the process of new-product introductions rests on an active role for entrepreneurs in discerning customers' wants and preferences as well as willingness to pay. As Deschamps and Nayak (1995) note, customers do not generally inform sellers of what they want. Deschamps and Nayak also note that there is a basic paradox in much of business life. They illustrate the paradox by observing that customers did not say they wanted fax machines before the invention of fax machines. Deschamps and Nayak cite the example of Ford's failure to develop the minivan.

The details of the story merit attention. Hal Sperlich conceived of a minivan at Ford but could not convince his bosses to approve its development. Part of the difficulty in doing so, Sperlich says, was that "in ten years of developing the minivan, we never once got a letter from a housewife asking us to invent one." Ford executives, he continues, "lacked confidence that a market existed, because the product didn't exist." Seeing no way to argue Ford out of this historical perspective, Sperlich took his personal conviction to Chrysler, which turned the minivan into a profitable line of vehicles.

The story serves to illustrate Knight's point that at least some firms have a comparative advantage in ascertaining what customers want. The advantage is with respect to the mass of unorganized and

disaggregated potential consumers and to firms that discover the advantage—Chrysler in this case and specifically not Ford.

More important in Knight's analysis is that the exercise in comparative advantage typically entails considerable seller investment in resources to discover the sources of people's problems and develop products and services that ameliorate some of those problems. The process of learning potential consumers' wants and willingness to pay, especially vis-à-vis competitors and potential competitors, is a sophisticated process. Urban and Hauser (1980) report on a host of measurement and scaling techniques to identify relevant product attributes as well as attributes of potential products. Product strategy rests on careful analysis of what consumers want and what might matter to them in product development. The market-research procedures cover a range of actions, but many rely on the pooling of information, even when the techniques entail interviews.

Knight ([1921] 1971, p. 241) stressed the value of pooling information. Firms are better at forecasting information about consumers and groups of consumers because firms acquire information from many consumers and potential consumers. The fact is the innovative new-product component of Knight's emphasis on the law of large numbers is a key feature of the nature of the firm and presumably a potential source of comparative advantage. The product innovations discussed by Chaney, Devinney, and Winer (1991) presumably entailed extensive analysis and sales forecasting—interviews, sampling, test marketing, and competitor analysis relying heavily on the information-processing advantages of the innovating firms.

In addition, there is the complicated issue of commercialization of idealized products that potentially solve human problems and hence are desired by potential consumers. The issue is complicated. It is noteworthy that there is a counter view among marketing scholars that de-emphasizes the firm-based analysis of consumer wants. Von Hippel (1988) stresses the role of users as the source of many product developments. Customers, especially firms as buyers, work with suppliers to develop products that make their own businesses more productive.

Von Hippel's perspective is ostensibly contrary to Knight's, but upon closer inspection it only amplifies the robustness of Knight's arguments. Von Hippel's point is well taken. Moreover, there is ample reason to believe that even in consumer markets, there is some room for customer complaints as a source of product innovation.

However, in both business and household markets, the firm is a repository of information on the demand side. More specifically, the point is that both desired customization on the part of business buyers and customer complaints or dissatisfaction in consumer markets provide useful information. A similar condition exists on the cost side regarding the commercial feasibility of new products. Knight's contention is that the law of large numbers permits firms to ascertain consumers' wants better than consumers themselves could and to ascertain the costs of the firm satisfying those wants in the marketplace (Knight [1921] 1971, p. 317). The dual task of forecasting consumer markets and firms' costs is well described by Knight ([1921] 1971, pp. 237–38).

E. More Evidence on Forecasting New Products

Deschamps and Nayak (1995) and Urban and Hauser (1980) provide evidence regarding real-world firms addressing the two forecasting issues. If Knight is correct, then examples must abound because he asserts that these features are endemic to the free-enterprise system.

Consider, however, just one example. Berndt et al. (1997) provide a detailed econometric study of competition in the US antiulcer market. Their study provides remarkable detail about consumer and competitor behavior. They document Schumpeterian competition in developing new products, but they also document the antiulcer pharmaceutical firms' information-intensive competition—observing sales by categories of customers, product attributes, and marketing tactics and promotions, down to the minutes of sales forces' contact time with prescribing physicians. Presumably, the firms also relied on proprietary cost information as well that was not part of the study, but the published record shows that competing firms sample the prospective marketplace and existing markets regarding patterns of demand and purchasing. The process involves a lot of inference regarding product attributes, willingness to pay, communication costs, competitive reactions, and others. As in most inferential analysis, the law of large numbers generates benefits to the parties who can attain data at low cost. The record shows that inference is precisely how firms conduct business and try to achieve competitive advantage. The centrality of information processing is evident. Thus, Knight's assertions from a distant era fit the real-world facts regarding the most recent products and current business practices.

F. Forecasting and Control

Knight also argues that forecasting and control are related by necessity. Managers and firms exist because of uncertainty. Forecasting is a response to uncertainty, but coordination of forecasts with actions—"deciding what to do and how to do it"—becomes the central task of social organization and particularly the organization of production within the firm (Knight [1921] 1971, p. 268). Given different human abilities and interests and the gains from specialization, a natural economy of coordination of forecasting and control emerges. Knight suggests that firm survival and dominance rest on the effective linking of forecasting and control (Knight [1921] 1971, p. 268). Knight's point is subtle. The link of forecasting and control stems from the difficulty and value of forecasting. Where forecasting is relatively costless, the necessity for linking forecasting and control is diminished.

G. Evidence on Forecasting and Control

There are instances in business history as well as empirical analysis that lend credence to the forecasting/control nexus. One case is ownership structure of the publicly held corporation. One important feature of corporate strategy is the structure of ownership. Diffused ownership entails a widely dispersed base of stockholders with the owners of the largest number of shares only holding a relatively small percentage of the number of shares outstanding. In contrast, concentrated ownership occurs when a small number of shareholders hold a large number of shares. Demsetz (1983) argues that concentrated ownership and hence more active control is the appropriate ownership strategy when firm performance is difficult to predict. Accordingly, concentrated ownership permits specialization of a relatively small number of shareholders who specialize in forecasting the performance of the subset of firms for whom forecasting by outsiders is difficult. If the firm's performance does not meet expectations, the active stockholder can compel explanations and pressure the firms' managers to alter their strategies. In businesses where predicting performance of the firm is easier, there is no necessity for groups of specialized shareholders to emerge to predict firm performance and monitor the outcome. Empirical evidence provided by Demsetz and Lehn (1985) generally affirms the point. Thus, Knight's link of forecasting and control is consistent with certain ownership strategies of the modern public corporation.

A second example is business-format franchising, the contractual arrangement that is common in fast food and hotels. In those cases, there is reason for local-outlet-franchisee ownership (as opposed to parent-company-owned outlets) to be linked with difficulty in forecasting retail sales. The logic is that difficulty in forecasting retail sales results in difficulty in assessing performance of local store managers. Consequently, it is difficult for central management to determine whether good or bad sales are due to market conditions or due to the efforts of distant local managers. One solution is to make the local manager also an owner (franchisee) and thus have an incentive to control performance directly. Indeed, Norton (1988) shows that in some industries that is precisely the case, especially when there are powerful free-rider incentives as in Lafontaine and Shaw (2005).

A third example is the role of central headquarters of the multidivisional firm. Chandler affirms the crucial importance of control from the headquarters at General Motors. The success of General Motors under Sloan, compared to its turbulent times under its founder William C. Durant, reflected, *inter cilia*, virtually no control over certain functions of the operating divisions under Durant but judicious and effective control in the Sloan years after Durant. The successful control took the form of developing "divisional indices" that the central staff developed each year based on macroeconomic forecasts and divisional expectations. These indices served as the basis to evaluate divisional performance. The forecasting and control functions of the headquarters' staff were intertwined. The strategy proved successful at General Motors and elsewhere.

H. Managerial Selection

Knight also stresses the great importance of human capital in firm performance. He stresses the relevance of selecting the best people for various jobs, with special emphasis on selecting the right managers. His points merit attention: "The first necessary step in understanding the distribution of control and responsibility in modern business is to grasp this fact: What we call 'control' consists mainly of selecting someone else to the 'controlling'. Business judgment is chiefly judgment of men. We know things by knowledge of men who know them and control things in same indirect way" (Knight [1921] 1971, pp. 291–92). A few pages later, Knight expands on the economics of management selection: "The paradox of the hired manager, which has caused endless confusion in the analysis of

profit, arises from the failure to recognize the fundamental fact that in organized activity the financial decision is the selection of men to make decisions" (Knight [1921] 1971, p. 297).

Knight raises a different issue for the competitive nature of firms. In addition to conventional forecasting issues—the synchronization of production with demand, forecasting the insufficiently fulfilled wants of potential consumers, and the link of the problem of forecasting with the problem of control—Knight raises an additional type of forecasting: forecasting human abilities. The free-enterprise system requires ex ante judgment about which individuals will best perform a set of tasks associated with particular positions within the firm. Presumably, because Knight identifies the managerial-selection problem as foundational to the operation of firms, the survival and superior performance of firms rests on performing the managerial-selection function well.

I. Evidence on Managerial Selection

There is wide-ranging evidence that firms' strategies also focus on the issue of managerial selection. Consider the case of business-format franchising. One motive for this type of franchising falls under the rubric of "resource constraints." Financial constraints are one putative reason for franchise arrangements, but the argument has limited applicability (Norton 1995). A more relevant argument is that the chief resource constraint is the supply of competent managers for local outlets. Offering a franchise contract serves as a screening mechanism to identify competent managers willing to commit to long hours and a deferred payoff. In the fast-food industry's language, the goal is to identify people who are excellent management prospects. Norton (19888) provides some evidence consistent with the hypothesis and congruent with Knight's observations.

Consider also the practice of rank-order tournaments as developed by Lazear and Rosen (1981). In this arrangement, compensation is based on relative performance. While this arrangement entails potential benefits and costs, its existence surely attests to its value at least in some contexts. Often this form of compensation is viewed as a motivational device, and logically it must have motivational properties. However, tournaments and promotion ladders more generally can serve as screening devices to identify managers best suited to certain positions, especially managerial positions. The same point could be made for other compensation systems.

The case of the turnaround specialist is another illustration of Frank Knight's assertions regarding both the relevance and commonplace nature of managerial selection. His treatment certainly makes mention of subjective features of human judgment in managerial selection. No doubt, subjective judgments do play a role in managerial selection. Pierpont Du Pont's selection of Alfred P. Sloan and Henry Ford III's firing of Lee Iacocca are conspicuous illustrations. However, Knight stressed the centrality of performance, not necessarily the mechanism by which it is achieved. Franchising, intrafirm tournaments, and promotion ladders are examples of mechanisms that plausibly achieve what Knight in near intellectual antiquity deemed was crucial for viable enterprises. There exists a high-profile literature that strongly affirms the role of managerial selection, including Allgood and Farrell (2003) and Bertrand and Schoar (2003). Thus, Knight again offers perspective on firms' strategies that are consistent with contemporary scholarship and real-world practice.

IV. Summary and Conclusion

The analysis above indicates that Knight emphasized the role of forecasting as central to the behavior of firms. Regarding the first big question of strategy, Knight argues that there are differential abilities and differing performance in nearly all dimensions of firm behavior, but especially in forecasting demand and new products (Knight [1921] 1971) 241–44. Moreover, Knight's discussion of the importance of managerial selection points to differences in a firm's actions in both designing strategies that match positions with abilities and presumably ultimately with respect to the abilities of its managerial workforce.

The study of strategy has relied heavily on other economists, notably Porter (1980) and Williamson (1995). The richness of Knight's analysis and its link with contemporary economics suggests that there is compelling reason to pursue research on strategy using Frank Knight's framework.

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