BEYOND THE REACH OF THE INVISIBLE HAND:
IMPEDEMENTS TO ECONOMIC ACTIVITY, MARKET FAILURES, AND PROFITABILITY

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In this paper it is argued that failures of the competitive market are necessary conditions for supranormal profitability. Three fundamental causes of these market failures—production economies and sunk costs, transactions costs, and imperfect information—are developed from the theory of competitive markets and discussed in terms of their impact on profitability. The identification of these 'impediments to economic activity' is useful for determining successful strategies to exploit market failures.

INTRODUCTION

Economics informs us that perfectly competitive markets lead to long-run profits that are average or normal. In such a world 'good' strategy is rewarded not with supranormal profits but with survival. Nevertheless, we do observe companies that make excess profits over a long time horizon. Assuming that these observations are not just statistical artifacts, what might account for such outcomes?

Bain (1956), Caves and Porter (1977), and others argue that the sources of these excess profits are barriers to entry—industry characteristics that make new entry into an industry difficult and, therefore, buffer the industry from the forces of competition. The version of the entry barriers story generally used in the strategy literature is not totally satisfactory, however, in the sense that commonly agreed-upon barriers such as product differentiation and capital requirements do not always lead to restrictions on competition or supranormal profits.1 The key insight of this approach is not the notion of barriers to entry per se, but that 'imperfect' competition is a necessary condition for profitability or, in the parlance of welfare economists, that the market in question 'fails to be efficient'.

In this paper the market failures idea is examined and a framework is suggested for thinking about it.2 Conditions that economists use to define a 'competitive' market suggest a set of opposing conditions which lead to market failures. These conditions will be referred to as 'impediments to economic activity'. The significant presence of at least one of the impediments—production economies and sunk costs, transactions costs, or imperfect information—is seen as the source of market failures.

An organizing principle is presented which gives a different perspective on the origins of excess profits and, in so doing, informs discussions of entry barriers and provides some criteria for evaluating strategic choices. Because it is not my intent to catalog the actions which firms can take to exploit existing market failures, this paper will be illustrative rather than exhaustive. In addition, it will focus on business strategy within a specific industry segment, although the framework does have implications for corporate strategy as well.

1 Throughout this paper the term 'entry barriers' will be used to refer to industry characteristics that result from actions taken by firms. This usage is in the spirit of Porter (1980) and includes vertical integration, capacity, product differentiation, etc. Porter's inclusion of economies of scale in his list of entry barriers seems somewhat anomalous in the sense that scale economies underlie many of his other entry barriers.

2 There is a considerable literature in public economics concerning market failures. See, for example, Schultze (1977) and Bator (1958). This literature is concerned with social welfare rather than private-sector profits.
Previous literature using economics to understand strategy content has focused primarily on barriers to entry. For example, neither Porter (1983) nor Teece (1985), in examining the relationships between economics and strategy, discuss market failures, although the notion is necessarily implicit in their discussions of entry barriers. Individual market failures have received some attention in the literature, but the impediments to economic activity that lead to market failure have not been systematically related to the entry-barriers theory and have only been related to profitability on a case-by-case basis.3

In the next section some examples suggest the limitations of the entry barriers theory as it currently stands in the strategy literature. This is followed by a discussion of the relationships among the impediments to economic activity, market failures, and profitability. A selected set of entry barriers is then reinterpreted in light of the impediments theory, and the paper concludes with a consideration of the implications of the impediments theory for strategy.

SOME LIMITATIONS OF THE ENTRY BARRIERS THEORY

In his influential book on competitive strategies, Porter (1980) lists seven different barriers to entry: economies of scale, product differentiation, capital requirements, switching costs, access to distribution channels, government policy, and a grouping that I will refer to as ‘barriers to imitation’. While thinking in terms of these barriers is a useful exercise for managers, the theory provides no systematic way to assess the significance or importance of a barrier in any particular application. In order to make this assessment, one needs to consider additional factors.

For example, product differentiation based on perceived rather than actual product differences constitutes a formidable barrier only when a buyer is relatively uninformed about the products in the market. This lack of information makes possible ‘incorrect’ perceptions which are needed for perceptual product differentiation to work. The degree to which a buyer is uninformed depends not only on his or her initial state of knowledge but also the presence or absence of cost-effective credible information about the relevant product that might be provided by the market, say through independent product reviewers. Thus, the effectiveness of product differentiation as an entry barrier is contingent on a set of underlying factors: product differentiation will not work unless those factors are present.

Similarly, the difficulty associated with gaining access to distribution channels depends on information considerations. A portion of a retailer’s power over a manufacturer and over consumers originates from its ability to inform buyers about the various products it carries (Porter, 1976). When buyers are already well-informed, the ability of the retailer to stock and promote what it chooses is diminished. Retailer power is also a function of the level of concentration in the retailer market, which depends on the existence of economies of scale or scope.

These examples suggest that there is a set of factors more basic than entry barriers that may be used to assess the potential profitability of a market. These factors—impediments to economic activity—which are derived from the economic theory of competitive markets, are analyzed in the next section. These impediments may be used to identify profitable markets and appropriate strategies for those markets.

IMPEDIMENTS TO ECONOMIC ACTIVITY (IEA), MARKET FAILURES, AND PROFITABILITY

The struggle to break the grip of profit-constraining market forces is a critical concern of both business policy and corporate strategy. For business policy, identification of potential (or actual) market failures and their causes directs attention to the types of actions most likely to be successful. For corporate strategy, identification of market failures suggests industries that are most likely to be profitable.

Because ‘efficient’ markets are anathema to the strategist, an understanding of the characteristics of such a market is a useful preliminary to an analysis of the profit potentials of various
markets. Economic theory tells us that when consumers and producers act as price takers, when markets exist for all commodities (i.e. markets are ‘complete’), and when buyers and sellers have complete information, the market will be efficient and all firms will make normal profits. The violation of these conditions implies that the market may be inefficient; prices may not correspond directly to cost and above-normal profits are possible.

Violation of the price-taking condition may occur, for example, when a monopolist is able to set price, taking into account production costs and demand. Incomplete markets result in prices and costs used for decision-making that may not reflect their correct ‘value’, as in the case where pollution costs to a neighboring community may not enter into a polluter’s economic decision because no market for the pollution disamenity exists. Similarly, imperfect information may lead buyers and sellers to make different decisions than they would if they had perfect information.

These conditions lead to the breakdown of efficient markets and are suggestive of a set of causes for market failures that will be referred to as ‘impediments to economic activity’ (IEA). These impediments are not choices of producers or consumers, so one can think of them as intrinsic characteristics of the technology of production and exchange. The three impediments—production economies and sunk costs, transactions costs, and imperfect information—correspond respectively to violations of the price-taking, complete markets, and perfect information conditions. As causes of noncompetitive markets these characteristics may be useful in identifying potentially profitable markets. In addition, because each impediment has associated with it a set of strategic actions that best exploit the impediment, the identification of the impediments in the relevant market is suggestive of an appropriate strategic direction. The remainder of this section will discuss separately each impediment.

Production economies and sunk costs

In the absence of government interference the number of firms that will be sustained in an industry is bounded in part by the relative sizes of the production economies in the industry and the size of the market. Concern with the number of firms is important because, with few firms in an industry, it is less likely that the price-taking assumption of the purely competitive model is valid and prices may, therefore, be noncompetitive. Few firms and the presence of production economies and sunk costs suggest that strategies oriented toward entry deterrence via product positioning, capacity choice, and pricing are particularly relevant. Such strategies exploit the entry and exit costs associated with large irretrievable investments. A highly concentrated market structure also suggests that strategies oriented towards lessening intra-industry competition are feasible.

Production economies

There are three types of production economies: those of scale, those of learning, and those of scope. Because these concepts are extensively covered in the literature, they will be only briefly discussed.\footnote{See Arrow and Hahn (1971). Normal profits is an implication of the First Theorem of Welfare Economics, which guarantees that if consumers and producers act as price-takers, complete present and future markets exist, and there is complete information, then, if an equilibrium exists, it will be Pareto-efficient. (Pareto-efficiency is satisfied if no means can be found that will improve at least one person’s welfare without reducing any other person’s welfare.) This, in turn, implies that the marginal cost of production will equal the market price for all commodities and that all firms make zero (normal) profits.}

\footnote{Actually a firm may prefer efficient to inefficient input and output markets. What is not preferred is efficiency in the primary market.}

\footnote{Greenwald and Stiglitz (1986) have shown that competitive markets with incomplete markets and/or imperfect information are essentially never Pareto-optimal.}

\footnote{The degree to which a cost is sunk depends on the resale market and, therefore, depends on the market. Here the sunkness of costs is thought of in terms of the physical aspects of the investment that make it difficult to sell (i.e. nontransferability of human capital).}

\footnote{Actually a firm may prefer efficient to inefficient input and output markets. What is not preferred is efficiency in the primary market.}

\footnote{Stigler (1964) argues that implicit and explicit collusive behavior is most likely to be successful in industry environments with few firms. The conditions for successful collusion: ease of monitoring, understanding signals, etc., seem to be inversely correlated with the number of firms in the industry.}

\footnote{See Baumol, Panzar and Willig (1982) for a thorough discussion of production economies.}

\footnote{This is a rather loose definition of the concept; see Baumol, Panzar and Willig (1982).}
industry in which production is characterized by U-shaped costs (i.e. there is a production quantity that results in lowest average costs) with efficient scale considerably smaller than total demand. In such a case more than one firm is likely to exist, but it is unlikely that demand will correspond exactly to integral multiples of the efficient scale. This would mean that the firms in the industry are producing at inefficient quantities which, in turn, allows for above-normal price-cost margins.\(^{11}\)

In and of itself this observation has no particular implications for strategy; it specifies a condition in a mature or static market under which firms can obtain supranormal profits, but does not explain how to arrive at that condition. When the relevant market is expanding, however, a strategy stressing information acquisition about future demand and the development of ‘understandings’ among incumbents may permit incumbent firms to protect their supranormal profit stream via preemptive capacity additions. Such a strategy may work in this case for two reasons. First, the incumbents’ current activities in the market give them an information advantage that allows the incumbents to get a jump on potential entrants. Second, when only a few firms dominate an industry, an ‘understanding’ regarding capacity-addition competition among the incumbents may be possible. Without such an understanding competition among the incumbents would dissipate all of the potential profits. Schmalensee (1978) argues that firms in the ready-to-eat breakfast cereal industry were able to maintain above-normal profits through similar strategies.

A related production economy results when marginal cost declines as cumulative volume increases. Competition in industries where the learning curve is important (e.g. the airframe industry) is often characterized by intense price competition for market share in early periods as current profit reductions are treated as ‘investments’ in future cost reductions (Spence, 1981). Where competition takes place in the context of a series of winner-take-all procurement auctions (e.g. defense procurement), bidders often offer unrealistically low initial prices, effectively ‘buying in’ to production that will give them a cost advantage that will be useful in subsequent rounds.\(^{12}\) Although future profits are normally expected to be bid away in the initial bidding competition, this will not always be the case. In defense procurement, perceptions of ‘reasonable’ bids, and the signal that a bid gives about quality, often make it impossible for contractors to bid away their entire expected future stream of profits.

Economies of scope arise when increases in the number of products offered decreases average cost. Suppose the variability of output of one product leaves an expensive machine idle for certain periods of time. Economies of scope can be captured if that machine is used to produce another product during its low-usage periods. Such economies may partially explain why some manufacturers have broad product lines, and suggest benefits to related diversification.

**Sunk costs**

The extent to which profits under production economies lead to supranormal profits depends critically on the presence or absence of sunk costs. Costs are sunk when they cannot be eliminated even by ending production, e.g. costs that cannot be recovered by exit from the market. In the absence of sunk costs, entry and exit become essentially costless and the market is ‘contestible’ so that noncompetitive pricing cannot be sustained (Baumol, Panzar and Willig, 1982).

The idea behind contestible markets is that absent sunk costs, the threat of entry by a ‘hit-and-run’ firm will induce incumbent firms to price at marginal cost; higher prices will result in entry. While economists differ in their opinions about the applicability of contestibility theory, there is general agreement that considerations about potential competition and, in particular, sunk costs, are critical to understanding pricing, and therefore, profitability. An important lesson of contestibility theory, then, is that concentration alone does not imply noncompetitive pricing; it is also essential to consider the extent to which production in an industry involves sunk costs. The success of entry deterrence strategies is, therefore, dependent on the extent to which entry costs are sunk.

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\(^{11}\) Marginal supply cost will be higher than the average supply cost so that firms in the industry will earn above-normal profits.

\(^{12}\) See, for example, Anton and Yao (1987).
Transactions costs

The second impediment to economic activity, transactions costs, is often cited as a basic cause for the nonexistence or 'incompleteness' of markets (Arrow, 1970). Arrow suggests two sources of transactions costs that are most germane to this discussion: (1) the costs of excluding nonbuyers from the use of a product or service, and (2) the costs of communication and information. For a market to fail to exist, the magnitude of the transactions costs must be greater than the value of exchange in the market. In the first category, for instance, the costs of excluding 'nonsubscribers' from the benefits of product review information is so high that a market for reviews will sometimes not exist because no-one is willing to pay for something that he or she can receive for free. The second category includes the problems associated with writing long-term contracts when all future contingencies cannot be predicted.

The basic problem with incomplete markets and transactions costs is that the various market participants have different goals and act opportunistically in pursuit of those goals (Williamson, 1975). Thus, the significant presence of transactions costs suggests that goal-alignment strategies such as vertical integration, creation of a culture which alters employee goals to better match organization goals, and development of long-term relationships with important outside organizations will be valuable. For example, a natural response to the large transactions costs sometimes associated with market arrangements is to replace market arrangements with nonmarket arrangements, i.e. vertical integration.

Labor markets provide an interesting example of how transaction costs can affect production costs and, as a result, profitability. The inability of an employer to capture rents from worker training programs (because transactions costs preclude contracts that could solve this problem) reduces the amount of employer-sponsored general training of low-paid, but mobile, unskilled workers. If workers could contractually bind themselves to work for firms, or if wages could be reduced to reflect the value of the general training, then general training could become a profitable investment for the firm (Becker, 1975). However, as suggested by Baumol and Oates (1975: 21), government laws that prevent voluntary servitude in conjunction with minimum wage laws create an incomplete market that prevents this efficiency-enhancing arrangement. Given governmental restrictions that outlaw certain types of contracts, other considerations such as national or corporate culture may assume increased importance. For example, when culture promotes loyalty to one's employer, the probability of retaining workers (for a given cost) will increase, and so should the amount of general training. To the extent that general training is valuable in these settings, some firms, or in some cases countries, may have on average lower production costs than others.

A similar problem caused by transactions costs involves the provision of product review information by independent reviewers. In this case production of objective reviews is discouraged because of the ease with which consumers can 'free-ride' on the information purchased by others. Potential users of reviews may prefer to acquire the information for free via public libraries, friends, or through word-of-mouth about the reviews. In many cases a review will not be undertaken because the reviewer, anticipating the effects of the buyer's incentive to free-ride, does not expect that sales revenues will cover costs. This outcome can occur even when the value of the reviews to consumers far exceeds the cost associated with developing and distributing the review.

The free-rider problem exists because the transactions costs associated with excluding non-buyers from access to the information (i.e. establishing property rights) is greater than the value of the information. As a result, markets for many types of information will not exist. Less information, as discussed below, can lead to market failures. Thus, transactions costs, operating via the free-rider effect, hamper market solutions to the imperfect information problem.

Imperfect information

An important requirement for efficient markets is perfect information, the third impediment to economic activity. Buyers with perfect information will not purchase a higher-priced good if a lower-priced good of equal quality exists. When

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13 Essentially, when one party purchases the information, the cost of information consumption to many other parties becomes zero.
purchasers lack perfect information, however, they may be 'ripped off' by fly-by-night operators. As noted by Scitovsky (1950), the absence of perfect buyer information can lead to above-average price–cost margins.

These information problems can be exploited (or solved) via information-oriented strategies: development of reputations, product differentiation through advertising, and signalling quality through warranties. The idea is to provide buyers with positive information about one's product which will cause the buyer, who has little or no other information, to choose that product.

The buyer's information problem is particularly acute for goods or services for which quality cannot be physically ascertained before purchase. Since price somewhat reflects quality (especially when there are many well-informed buyers in the market), buyers often use price as a signal of quality. This decision criterion reduces the ability of sellers to use a product introduction strategy involving discount pricing because low prices signal low quality, thereby inhibiting economic efficiency and perhaps providing an opportunity for profitability. The usefulness of the often-noisy price signal is further reduced in heterogeneous product markets or when value is subjectively determined.

Because price is a noisy (and sometimes unreliable) signal of quality, imperfectly informed buyers utilize personal experience and information that they have about a firm's reputation. Porter (1976) and others have noted that reliance on personal experience results in brand loyalty, the avoidance of the costs associated with searching for a new product and the risk that the new product may be a dud. Brand loyalty gives the original seller an advantage over its competition that, in turn, allows supranormal price–cost margins to be sustained. Note that loyalty to particular brands depends on imperfect information. With perfect information a buyer would not have any search or risk costs—the buyer would 'know' all of the products and their characteristics—and the first-tried seller would lack leverage.

The link between reputation, the noisy aggregate of the personal experiences, and profits is similar. On the basis of a positive reputation, customers will often prefer a higher-priced reputable product to an unknown product even if both products are of the same quality (because the customer does not know this). Thus, ex post rents are generated from positive reputations. Because reputations are maintained through experiential 'confirmation' by buyers, consistency of product or service quality is critical for any reputation-based strategy.

While positive reputations can always lead to ex post profits, most, if not all, of those profits may be dissipated in the cost of building a reputation (Klein and Leffler, 1981). Clearly, this holds for sellers who wish to build reputations in a mature industry environment because the current and future benefits to reputation correspond in part to the additional cost that another producer with a poorer reputation would incur to build the good reputation. If the rents were greater than the cost, there would be an incentive for the poorer-reputation firm to change reputations. Thus, sellers that establish their reputation before the market matures are most likely to make above-normal profits from their reputation.

While imperfect information may reflect the initial state of buyers, an important question to address is why imperfect information often characterizes the final state of buyers as well. If information is valuable, why won't the market provide it? To some extent the market does provide information. Information originates from seller actions (warranties, informative advertising, etc.) as well as from independent information providers. Neither solution, however, will always be sufficient. In the case of warranties, the definition of an 'unsatisfactory' product or service can often be at issue, especially when the quality of the product or service is subjective (Faulhaber and Yao, 1987), while for advertising, credibility is a problem. In the case of independent information sources, the problem is that these sources will often not provide information because

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14 For example, in markets where price conveys information, Farrell (1986) has shown that firms that have developed a cheaper process for making an existing product may find it difficult to use pricing to induce customers to try their product. Since a seller possessing an established 'good' reputation can lose its reputation by providing bad products, future rents to reputation are equivalent to 'good faith' bonds that reputable sellers will forfeit if they decide to cheat on their reputation by, say, reducing the quality of their product. When the assurance of noncheating is important to the buyer, a reputation-based economy of scope may exist in that the extension of a seller's reputation to a wide range of products via branding will provide a more cost-effective signal of quality than reputation over a single product.
of the free-rider problem, and, even when information is available, not all buyers will be willing to pay for it.\(^\text{16}\)

**REINTERPRETING BARRIERS TO ENTRY: SOME APPLICATIONS OF THE IEA PERSPECTIVE**

Although both the IEA and entry barriers perspectives may be used without reference to the other, the two are closely related. Metaphorically, in the ‘physics’ of profitability, the impediments and barriers to entry may be seen respectively as particles and atoms. Thus, entry barriers may be thought of as operational combinations of the impediments. While barriers to entry may cause market failures, the underlying basis for these failures is in the significant presence of the impediments to economic activity; the absence of such impediments implies that barriers to entry will not provide profit opportunities via market failures. For example, the profitability of product differentiation strategies depends on imperfect information on the part of the consumer. These relationships are shown in Figure 1. In this light, a value of the impediments perspective is that this approach will help a strategist predict the strength of various barriers to entry in a particular industry, as well as provide an independent means of assessing profitability.

Commonly acknowledged entry barriers were listed earlier. Of these, scale and scope economies correspond to the production economies and sunk costs impediment while the others are composed of combinations of the impediments. Rather than addressing each entry barrier in terms of the IEA perspective, this discussion is restricted to some of the more interesting connections among the impediments and entry barriers.

**Production economies and product differentiation**

Product differentiation exists when products are not viewed as perfect substitutes: (i) because there are actual product differences or (ii) because of perceived product differences. The second category was considered earlier. Here the focus is on the first type of product differentiation.

What causes product differentiation through actual differences to be an entry barrier? One appealing explanation relies on Lancaster’s (1975) idea of conceptualizing products as combinations of attributes. In Lancaster’s model each consumer has a particular combination of attributes that is most desired. In the automobile market, for example, consumer A might prefer high-speed handling over comfortable ride, and head-jerking acceleration over fuel economy, whereas consumer B prefers the opposite. The demand for an automobile model is determined by the number of consumers which prefer that model’s attributes over the attributes of the other models (or no purchase). Product differentiation poses an entry barrier if the constellation of existing attribute combinations (currently available models) in the market is such that no new attribute combination (new model) exists that will generate enough demand to justify entry by a new firm. Note that even if all new firms will find it unprofitable to enter, it is still possible for incumbents to make profits; product ‘spacing’ may be far enough apart to prevent intervening entry while still maintaining above-normal rents.\(^\text{17}\)

\(^{16}\) When independent reviews do exist, however, they reduce the value of pre-review reputations because the buyer’s informational problem is now lessened, and because reviews provide a relatively inexpensive avenue through which reputations can be established by new entrants. Thus, it may be in the interest of sellers with established reputations to take actions that will reduce the credibility usefulness of reviews.

\(^{17}\) Breaking into such markets may require shifts in the underlying demand (which will open up niches between existing products) or finding a new dimension of product space. The latter consideration can be construed as an application of what Buaron (1981) calls the ‘new-game’ strategy, which emphasizes the benefits of discovering or creating ‘new’ submarkets as a way to achieve profitability.
The ‘spacing’ necessary to deter entry is critical for strategies based on product positioning and differentiation (Schmalensee, 1978). The basic factor determining this spacing is the significance of production economies and sunk costs. To see this, consider the extreme case where there is no minimum efficient scale (i.e. no production economies). In that case, the cost to make different products for each separate ‘type’ of consumer is the same as the cost to make one product for all consumers. Therefore, it is not possible to deter entry through product spacing. While this case is clearly unrealistic, the point is that the effectiveness of product differentiation through actual product differences is based on the significant presence of the production economies and sunk cost impediment.

Information failures and capital requirements

Large capital requirements and the outcome uncertainty associated with new entry constitutes a substantial barrier in some industries, but not in others. One key to identifying industries where the barrier is likely to be large comes from an analysis of the ability of a potential entrant to borrow funds at a reasonable rate, and from an analysis of what costs can be recovered if exit from the market is necessary. These analyses, in turn, are shaped by the extent to which imperfect information exists in the capital market and the extent to which entry costs are sunk.

In a world of perfect capital markets and perfect information, constraints on borrowing should not exist because a lending rate appropriate to each level of risk will always be available. When information is imperfect, however, lending institutions have problems determining the credit-worthiness of the borrower (or the discounted value of the borrower’s project) and will be unable to monitor and control downstream actions of the borrower. These problems lead to restrictions on capital availability for some projects which the lending institution would fully support if it had the same information on the project as has the borrower.

The amount of capital required for entry depends on efficient scale considerations. If production, distribution, and marketing economies are reached at low levels, capital requirements will not be a major obstacle to entry. Even if capital requirements are large, however, if sunk costs are small, the barriers to obtaining capital and, therefore, the capital requirements barrier itself will be small. Similarly, the risk premium associated with the uncertainty component of this entry barrier can be understood in terms of imperfect information, minimum efficient scale, and the degree to which costs are sunk.

In this interpretation the capital requirement entry barrier is derived from two impediments: production economies and sunk costs in the product market and imperfect information in the ‘upstream’ capital market which makes borrowing unattractive.

Sunk costs and switching costs

Switching costs result from idiosyncratic investments (Williamson, 1975) in human or physical capital (e.g. specialized education, tooling that is only useful for one model of automobile) on the part of the seller, the buyer, or both. The investments are idiosyncratic in that they have much less value in any other relationship. Such investments make it relatively more expensive for one party to switch to an alternative partner, thereby opening up the possibility of exploitation by the current partner.

The relationship between switching costs and the impediments to economic activity can be understood in the context of the following simple example. Consider the leverage that a word-processing software vendor has with respect to one of its users. Suppose the user purchases a new-generation computer that is incompatible with the current version of the software. In choosing among various word-processing alternatives the user is likely to favor the vendor of the old software because of the learning cost (the switching cost) associated with buying and using an alternative vendor’s word-processor. The consumer faces a decision over different word-processing outputs (not just over software) that are functions of software and the knowledge necessary to use the software. Here the basis for the switching cost is a sunk cost that the consumer has made in operating knowledge which affects the ‘producing costs’ of word-processing output;
the consumer has given the old vendor an economy of scale over the other vendors. Interestingly, at least in subsequent interactions, the software producer gets some of the rents to the user’s investment.19

Note that the specificity of the knowledge (e.g. the extent to which it is sunk) as well as the ‘production economies’ that are involved determine the size of switching costs. For the case described above, one would expect that as user formats become more standardized, switching costs will decline. Along the same lines, we observe that new entrants and firms with low market shares try to reduce switching costs by designing their systems to be compatible with existing high market share systems.20

Imperfect supply-side information and barriers to imitation

A different angle on the IEA perspective on imperfect information comes from examining information problems on the supply side of the market and how these problems relate to barriers to imitation. Simple economic theory assumes that all firms face the same production possibilities. This assumption implies that no firm has any productive advantage over another outside of the market and how these problems relate to barriers to imitation. Simple economic theory assumes that all firms face the same production possibilities. This assumption implies that no firm has any productive advantage over another outside of access to some scarce resource or proprietary technology. Profits due to the scarcity of some resource are not considered here because they have little strategy content.21

There is, however, reason to believe that firms do not all have the same production possibilities, even over the long term. Similarity of production possibilities depends crucially on the ability of firms to copy the innovations and improvements developed by other firms. Asymmetries across firms can come about because lack of information about the productive process makes imitation difficult. Nelson and Winter (1982) argue that the complete productive knowledge of the firm may not be known to any single member of the firm and, in fact, is unlikely to be codified in any useful way within the firm. The basis for this notion is the idea that production involves an important organizational aspect: the organization of work, flow of information, etc. These organizational aspects of the firm are ‘learned’ through experimentation and remembered by being incorporated in corporate culture and organizational routine. In the same way that an athlete may be unable to describe the motions that comprise his or her skills, members of a firm may be unable to explain how their firm works. Teece (1985) notes that this lack of codified production knowledge not only makes outside imitation difficult, but may be a partial explanation for why some firms have difficulty in replicating their own successful plants.

This argument implies that firms can be different in their respective abilities to produce, and this difference may translate into long-term above-average profits.22 It is not a scarcity rent since the ‘advantage’ cannot be sold. It is a rent derived from imperfect information because, otherwise, imitation would wipe out long-run excess profits. Asymmetry in and of itself is not a sufficient condition for profitability, of course, since different production processes can result in essentially similar costs. Nevertheless, when competitive imitation is difficult, the competitive discipline imposed by the market will be weakened.

Recently, considerable attention has been focused on corporate culture as a source of sustainable profits. Culture is an important element of production and, more so than other aspects, may be the most difficult for any individual to describe or ‘know’. Thus, as noted by Barney (1986a), culture is inherently difficult to imitate and may permit a firm to earn a stream of excess profits. A necessary condition for

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19 When all possible contingencies are foreseen before the initial investment, switching costs will be anticipated and priced into the exchange so that neither party will be able to take advantage of the other. Thus, an information problem is a necessary first condition for supernormal profits generated through switching costs.

20 Klemperer (1987) has shown that switching costs will not always increase firm profits. The reason is that competition among sellers for the initial sale will cause sellers to compete away future switching cost rents in the price of the initial purchase. Nevertheless, buyers will still find it a strategic necessity to garner as large a market share as possible in the initial ‘buy-in’ period.

21 The expected value of investing in a potentially scarce resource should be zero since the market will anticipate the future value of the resource. Therefore, rents to such resources are the result of serendipity rather than due to good strategy.

22 In a portfolio planning setting in which firms have varying advantages and are considering what industry to invest in, Wernerfelt and Montgomery (1986) show that the relative differences amongst firms will determine how attractive a particular industry is for a particular firm. For example, less-efficient firms will prefer less-profitable industries to more-profitable industries.
sustainable supranormal profits through such a strategy is imperfect supply-side information that prevents imitation.

**IMPLICATIONS FOR STRATEGY**

Economic theory emphasizes the effectiveness of markets in limiting profits to an average level. The mechanism underlying this outcome depends on the efficiency of markets which, in turn, relies heavily on assumptions about price-taking behavior on the part of firms and consumers, complete markets, and perfect information. When one or more of these conditions is absent because of the presence of impediments to economic activity (production economies and sunk costs, transactions costs, and imperfect information), opportunities to generate sustained supranormal profits via market failures may also be present. Among the impediments most affecting strategic choice and profitability, imperfect information seems particularly important and pervasive.

While economic theory suggests that market failures are necessary for supranormal profits, clearly, they are not sufficient. An additional requirement seems to be that of asymmetry between firms (Rumelt, 1979) which will mitigate the dissipating effect of competition for the excess profit stream offered by the existence of market failures. Since most asymmetries appear to originate from first-mover advantages, it might be argued that entrepreneurial or innovative activities are the key to sustained profitability—though these profits are realized through exploitation of the impediments discussed above.

In discussing the creation of asymmetries, however, economists often start from the premise that economic agents are initially symmetric, they possess similar possibilities, have similar forecasts, etc. From that perspective, first-mover advantages—in so far as they can be known beforehand—can still be competed away because there is *ex ante* symmetry.

It seems clear, however, that many asymmetries come about through actions that do not involve the dissipation of profits. Good ideas such as the Ford Mustang, fast-food breakfasts, and cash management accounts fall into this category. Similarly, it is arguable as to whether or not competition to develop a productive organizational culture will necessarily dissipate all of the culture’s potential benefits, especially given the role of history in determining asymmetric ‘starting points’ for the directed development of a culture.

First-mover advantages stemming from a good idea may extend beyond that of temporary profits: a good idea may allow a firm to exploit one or more impediments at a lower cost than if the firm had been a follower. For example, the costs of establishing a high-quality reputation in a market saturated with high-reputation firms should be at least equal to the incremental value of that reputation, since otherwise low-reputation firms will find it in their interest to change their reputations. As a first-mover, however, the costs of establishing a reputation are not directly related to the value of that reputation as is the case in the ‘equilibrium’ situation. Of course, the length of time that the asymmetric opportunity to develop a reputation will persist will vary depending on the relationship between imperfect information and imitation, as discussed earlier.

This example suggests the types of insights that a market failures approach, generally, and the impediments to economic activity perspective, specifically, offer the strategy literature. The style of research underlying these insights reflects the view that understanding the fundamental economic mechanisms that lead to profitability is an important step toward informing strategic action.

From a managerial perspective, moreover, the value of the impediments perspective is that it provides a basis from which market failures can be identified and appropriate strategies can be determined. While strategies that attempt to exploit market failures may not always be successful in generating excess profits, ignoring the implications of market failures for strategy (while competitors are not ignoring them) will

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23 See, for example, Barney (1986b).

24 In a model based on brand-loyalty rather than on reputation, Schmalensee (1982) has shown that being first into a new market may provide sustainable above-average profits because the brand-specific information accumulated by consumers who lack perfect information about the brands of later products will lead to a rational information-based loyalty to the pioneering brand. Some empirical evidence from the prescription drug market (Bond and Lean, 1979) and the cigarette market (Whitten, 1979) support this idea. Urban *et al.* (1986) have also shown that market share is positively correlated with early entry.
generally lead to subnormal profits. Thus, identifying impediments and exploiting the market failures associated with those impediments are more than just necessary for profitability, such actions may also be necessary for survival.

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