

CHAPTER 2: Economies of Scale and Scope

CHAPTER OUTLINE

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CHAPTER SUMMARY

This chapter intends to help the student understand how to more fully answer the following questions in strategy: How do we define our firm? What activities do we do? What are our firm's boundaries? While the vertical boundaries of the firm (discussed in Chapter 3) illustrate which activities the firm would perform itself and which it would leave to the market, the horizontal boundaries of the firm refer to the size (how much of the total product market will the firm serve) and scope (what variety of products and services does the firm produce). This chapter argues that the horizontal boundaries of the firm depend critically on economies of scale and scope.

Economies of scale and scope are present whenever large-scale production, distribution, or retail processes provide a cost advantage over small processes. *Economies of scale* exist whenever the average cost per unit of output falls as the volume of output increases. *Economies of scope* exist whenever the total cost of producing two different products or services is lower when a single firm instead of two separate firms produces them. In general, capital intensive production processes are more likely to display economies of scale and scope than are labor or materials intensive processes. By offering cost advantages, economies of scale and scope not only affect the sizes of firms and the structure of markets, they also shape critical business strategy decisions, such as whether independent firms should merge and whether a firm can achieve long-term cost advantages in the market through expansion. Likewise, diversification as a means to achieving

scale and scope economies is discussed as a business strategy.

APPROACHES TO TEACHING THIS CHAPTER

Horizontal Boundaries

Horizontal boundaries are those that define how much of the total product market the firm serves (scale) and what variety of related products the firm offers (scope). The basic question is: "What strategic advantages are conferred on a firm by being large or by having a broad scope of products?" Size/scope can represent an advantage for three reasons. The first two reasons below will be discussed later in the text. Reason #3 below is the focus of this chapter.

- Size = Market Power. Larger/diversified firms may be able to exercise monopoly power or set the terms of competition for other firms in the industry.
- Size = Entry Barriers. Once a firm owns a large position in the market, it may be very difficult to dislodge it. That is, potential entrants and existing firms may be deterred from attacking this firm's core business. A good example of this is brand proliferation in breakfast cereals.
- Size = Lower Unit Costs. A large firm may be able to produce at a lower cost per unit than a small firm and this cost advantage becomes a barrier to market entry by competitors.

Learning Curve

Make certain students can distinguish the difference between economies of scale and the learning curve, which speaks to cumulative output, not levels of output. Example 2.3 points to this precise concept. Heart surgeons treating an increased number of patients due to the retirement of a geographically proximate colleague reduced the probability of patient mortality. The increase in cumulative output (patient load) by a cardiac physician may reduce average costs, but it also increases product quality (mortality rates) due to the learning curve.

Diseconomies

There are certainly limits to how big a firm can be and still produce efficiently. For example, labor costs increase as firms get bigger (e.g., unionization, employees are less satisfied with their jobs, commuting time increases as the firm gets bigger because it draws from further away). Smaller firms sometimes have an easier time motivating employees; moreover, rewards are much more closely linked to profits. The trick is for the big firm to create the right motivations for workers. Finally the source of your advantage may not be "spreadable." That is, a patent is not spreadable, nor are personal services such as in restaurants.

Economies of Scale/Scope Determine Market Structure

By studying the history of an industry and examining the characteristics of successful firms, managers can assess the importance of size and other firm characteristics.

Ask students to prepare thoughts on the following questions before the lecture:

- Consider the industry you worked in before coming to school. What role, if any, did economies of scale or scope play in determining the number and size of firms in this

industry? Did economies of scale or scope affect the ease with which new firms could enter the industry?

- Example 2.1 discusses the hub-and-spoke system and makes the point that it leads to economies of scope and has had an important effect on the structure of the U.S. airline industry. Yet, the most profitable firm in the industry (Southwest) does not have such a system. Explain how an industry could have a production technology characterized by economies of scale or scope, yet a small firm could be more profitable in the long run.

Diversification as a Scale/Scope Business Strategy

Discuss the various rationalizations for diversification of firms. The concept of diversifying product lines to achieve economies of scope, as well as spreading the costs of capital over increased production should be fully explored. Likewise, the problematic reasons for diversification such as shareholders' portfolios and acquiring undervalued firms are non-scale/scope reasons for diversification. The market for corporate control is also a non scale or scope managerial reason for diversification.

DEFINITIONS

Complementarities: Synergies among organizational practices. When benefits of introducing one practice are enhanced by the presence of others. Also referred to as '*strategic fit*'.

Conflicting Out: When a conflict prevents a company from obtaining business, such as a firm losing additional work to a new client because they already do work for that client's competitor.

Core Competency: The collective know-how within an organization about how to work with particular technologies or particular types of product functionality (e.g., 3M in coatings and adhesives and Canon in precision mechanics, fine optics, and microelectronics).

Economies of Density: Economies of scale along a specific route, or reductions in average cost as traffic volume on routes increase.

Fixed Costs: Costs that do not vary with output.

Horizontal Boundaries: Related to the variety of related products or services the firm sells.

Indivisibility: Some inputs cannot be scaled down below a certain minimum size, even as output shrinks to zero. Examples include railroad and airline service.

Learning Curve: Reductions in unit costs that result from the accumulation of know-how and experience.

Long-Run Economies of Scale: Reductions in unit costs attributable to a firm switching from a low low-fixed/high high-variable cost plant to a high high-fixed/low low-variable cost plant. These arise due to adoption of technologies or larger plants that have higher fixed costs but lower variable costs. The distinction between long and short-run scale is very important—mistaking short-run economies of scale for long-run economies could lead a firm to the false conclusion that its unit costs will continue to fall if it expands capacity once its existing capacity is full.

Marketing Economies: 1) Economies of scale due to spreading advertising expenditures over larger markets, and 2) economies of scope due to building a reputation of one product in the product line benefiting other products as well. For example, Budweiser's cost per effective message is lower than Anchor Steam's since because Bud is widely available and its ads would thus have a higher impact. Also think of Coke/Diet Coke economies.

Minimum Efficient Scale: (MES) The point on the average cost curve where it becomes "L" shaped and marginal costs no longer decrease or increase. All firms operating at or beyond MES have similar average costs.

Plant-Level Economies of Scope: Reductions in unit cost attributable to a firm's diversification into several products produced in different plants. Examples include airline hub-and-spoke systems.

Product-Level Economies of Scale: Reductions in unit cost attributable to producing more of a given product in a given plant.

Product-Level Economies of Scope: Reductions in unit cost attributable to a firm's diversification into several products produced in the same plant. Examples include any process in which there are chemical by-products from the same reaction such as crop rotation and oil refining. Another example is a product that shares a key component or set of components whose production is characterized by economies of scale, such as digital watches and electronic calculators. A final example is a firm that utilizes off peak capacity such as ski resorts,

garden stores, and sporting goods stores.

Progress Ratio: The slope of the learning curve; the percentage by which AC declines as the firm doubles cumulative output.

Purchasing Economies: Reductions in unit cost attributable to volume discounts. Large volume buyers may be able to achieve quantity discounts that are not available to smaller-volume buyers. Examples include hospital and hardware store purchasing groups.

R&D Economies: Reductions in unit cost due to spreading R&D expenses. For example, R&D labs require a minimum number of scientists and researchers whose labor is indivisible. As the output of the lab expands, R&D costs per unit may fall.

Short-Run Economies of Scale: Reductions in unit cost attributable to spreading fixed costs for a plant of a given size. These arise because of increased utilization of a plant of a given capacity.

SUGGESTED HARVARD CASE STUDIES¹

De Beers Consolidated Mines (HBS 9-391-076). This case describes the problems facing De Beers at the start of 1983. De Beers had, since its formation in 1888, exercised a large measure of control over the world supply of diamonds. In 1983, the company itself mined over 40% of the world's natural diamonds and, through marketing arrangements with other producers, distributed over 70%. For 50 years up to 1983 the company never lowered its prices and, overall, had raised them significantly ahead of the rate of inflation. However, in 1983 the company was faced with a series of problems that threatened the structure it had so carefully built. First a large producing nation had stopped selling through De Beers. Second, new discoveries meant that the annual supply of mined diamonds would double by 1986. Finally, the industry was experiencing its worst slump since the 1930s, resulting in a significant deterioration in the company's financial position. It also describes the structure and economics of the diamond industry and asks the student to decide whether or not De Beers should abandon the business strategy it had pursued for nearly a century. This case can be taught with some combination of the following chapters: 11, 13, 14 and 16. You may want to ask students to think of the following questions in preparation for the case:

- a) What are the characteristics of rough diamonds that create challenges in sustaining a monopoly of this trade?
- b) Why does De Beers require different countries to pay different commission to participate in the syndicate?
- c) Why might diamond producers agree to participate in the syndicate as opposed to selling their output on their own?
- d) What forces prompt diamond producers to exit the syndicate?

House of Tata (HBS 9-792-065). This case traces the evolution of the largest business group in

¹ These descriptions have been adapted from *Harvard Business School Catalog of Teaching Materials*.

India. Its primary focus is on the organizational structure of the group and how it changed in response to internal and external forces. The instructor can link the absence of infrastructure as well as governmental policies to firm activities and overall performance. This chapter is useful for illustrating some of the concepts in the following chapters: 3, 4, 7, 16, and 17.

The Acquisition and Restructuring of Kia Motors by Hyundai Motors (HBS 909M15). In recent years, greater competition and diminished profits, due to domestic and global oversupplies as well as higher development costs, have led the automobile industry to engage in domestic and international mergers and strategic collaboration. This case examines one of the largest mergers and acquisitions (M&As) in the Korean automobile market in recent years: the acquisition of Kia Motors (Kia) by Hyundai Motors (Hyundai). The case describes the background conditions of the acquisition, the integration processes after the acquisition, and the requisites for Kia Motors to normalize management within a short time. Hyundai, in acquiring Kia, enhanced its competitive power in both domestic and global markets, achieving economies of scale and scope and strengthening its global market basis. That said, Hyundai/Kia faced several pressing challenges, among them the cooperation of Renault and Samsung Motors, the unclear domestic treatment of Daewoo Motors, and M&As taking place among top motor companies worldwide. This case study asks students to analyze the process of post-acquisition restructuring and the resulting synergy effects, inviting them to think through the strategies by which Hyundai/Kia may thrive in the global automobile market. Further, it illustrates both the current state of the domestic Korean automobile industry and recent trends in the global automobile market.

- a) What synergies in both scale and scope were achieved through the acquisition and merger of these two companies?
- b) What were the integration processes after the acquisition and merger?
- c) How was the learning curve affected for both companies as a consequence of the integration processes?
- d) What role did Renault and Samsung Motors play in limiting the realization of scope and scale economies after the merger?
- e) In normalizing the combined management, were the processes effective in realizing scale economies by spreading management?

Sime Darby Berhad—1995 (HBS 9-797-017). Sime Darby is one of South Asia's largest regional conglomerates. At the time of the case, 1995, it is contemplating entry into the fast growing financial services sector in Malaysia through acquisition of a Malaysian bank. This is in keeping with its activities mirroring those of the Malaysian economy. The case study presents a discussion of whether to proceed with the acquisition, and gets at the underlying sources of value creation of the conglomerate in the institutional context, which affects the costs and benefits of broad corporate scope, especially the evolving capital market and the tight interrelationship between business and politics. This case study can be taught with some combination of the following chapters: 7, 8, 14 and 18. You may want to ask students to think of the following questions in preparation for the case:

- a) What are the sources of competitive advantage for a firm that is affiliated with Sime Darby?
- b) Evaluate the quote in the beginning of the case: "You need to carry a fair amount of weight to make an impression in Asian markets."
- c) Why is opportunistic behavior a concern? Does reputation matter more in Malaysia than in the U.S. (or in other advanced economies)? How does Sime Darby address these concerns?
- d) What are some of the institutional voids filled by Sime Darby through acting as an intermediary in the financial markets? To what extent is being diversified important for filling these institutional voids?
- e) Should Sime Darby have a common brand name used in all its companies?
- f) Why might a talented individual prefer to work at Sime Darby rather than at an undiversified company?
- g) Is Sime Darby's relationship with the government anything but an asset?
- h) How is Sime Darby doing relative to other Malaysian companies?
- i) Should Sime Darby acquire UMBC?

EXTRA READINGS

The sources below provide additional resources concerning the theories and examples of the chapter.

Boston Consulting Group, *Perspectives on Experience*, Boston, Boston Consulting Group, 1970.

Chandler, A., *Scale and Scope: The Dynamics of Industrial Capitalism*, Cambridge, MA, Belknap, 1990.

Servaes, H., "The Value of Diversification During the Conglomerate Merger Wave," *Journal of Finance*, Vol. 51, Number 4, 1996. pp. 1201- 1225

Stigler, G. J., *The Organization of Industry*, Homewood, IL, Richard D. Irwin, 1968.

Wittman, D., "Nations and States: Mergers and Acquisitions; Dissolutions and Divorce," *The American Economic Review*, 81, 1991, pp. 126–129.

SUGGESTED ANSWERS TO END-OF-CHAPTER QUESTIONS

1. A firm produces two products, X and Y. The production technology displays the following costs, where $C(i,j)$ represents the cost of producing i units of X and j units of Y:

$$\begin{array}{ll} C(0,50) = 100 & C(5,0) = 150 \\ C(0,100) = 210 & C(10,0) = 320 \\ C(5,50) = 240 & C(10,100) = 500 \end{array}$$

Does this production technology display economies of scale? Of scope?

This technology does not display economies of scale. The cost per unit of making 50 units of Y is \$2, and the cost of making 100 units of Y is \$2.10. Since the cost per unit does not decrease as the quantity of Y increases, this technology does not display economies of scale in the production of Y. The result is analogous in looking at the costs of making X, as well as looking at the costs of making X and Y together in greater quantities.

This technology does display economies of scope in the production of X and Y. The cost of making 5 units of X is \$150 and the cost of making 50 units of Y is \$100. Made separately, the total cost of making 5 units of X and 50 units of Y is \$250. The cost of making 5 units of X and 50 units of Y together is \$240.

2. **Economies of scale are usually associated with the spreading of fixed costs, such as when a manufacturer builds a factory. But the spreading of fixed costs is also important for economies of scale associated with marketing, R&D, and purchasing. Explain.**

Fixed costs are those costs that do not vary directly with output. Fixed costs must be expended in order to initiate production, but also for activities such as selling the output or developing improvements to the output. As the firm's scale of operation increases in terms of volume of output and number of products produced, functions related to marketing, R&D, and purchasing are spread over more units—hence reducing the cost of each of these activities per unit sold. For example, once a firm invests in developing a new product, those R&D costs are fixed regardless of the scale of that product.

3. **How does the globalization of the economy affect the division of labor? Can you give examples?**

As first identified by Adam Smith, "the division of labor is limited by the extent of the market." In light of globalization, this means that specialization of productive activities will increase.

The increased magnitude of the market due to globalization will increase the demand for more highly specialized labor. Examples of this higher demand for specialized labor would be the rise of high technology manufacturing jobs in countries like China where cell phones and computers are now assembled. Likewise the increase in specialized jobs such as accounting and computer programming now exist in countries like India due to globalization.

4. **It is estimated that a firm contemplating entering the breakfast cereal market would need to invest \$100 million to build a minimum efficient scale production plant (or about \$10 million annually on an amortized basis). Such a plant could produce about 100 million pounds of cereal per year. What would be the average fixed costs of this plant if it ran at capacity? Each year, U.S. breakfast cereal makers sell about 3 billion pounds of cereal. What would be the average fixed costs if the cereal maker captured a 2 percent market share? What would be its cost disadvantage if it only achieved a 1 percent share? If prior to entering the market, the firm contemplates achieving only a 1 percent share, is it doomed to such a large cost disparity?**

The average fixed cost is \$10 million/100 million pounds or \$0.10 per pound if the plant ran at capacity.

A 2 percent market share would be $.02 * 3$ billion pounds or 60 million pounds per year. The average fixed cost would be \$10 million/60 million pounds or \$0.167 per pound. If the firm captured only 1 percent share, average fixed cost would be \$10 million/30 million pounds or \$0.333 per pound. The firm would be disadvantaged by \$0.23 per pound relative to a plant that ran at capacity unless the size of the market increases over time.

5. **You are the manager of the “New Products” division of a firm considering a group of investment projects for the upcoming fiscal year. The CEO is interested in maximizing profits and wants to pursue the project or set of projects that return the highest expected profits to the firm. Three potential alternatives have been proposed, including the following estimated financial projections:**

Alpha Project	Upfront Costs	\$60 million
	Expected Revenues	\$85 million
Beta Project	Upfront Costs	\$20 million
	Expected Revenues	\$16 million
Gamma Project	Upfront Costs	\$30 million
	Expected Revenues	\$60 million

Which set of projects would you recommend if your firm could only spend \$70 million in upfront costs on investments and if the investment in Alpha project decreased the upfront costs required for each of the remaining projects by half?

The CEO wants the projects or set of projects that returns the highest possible profits within the limitation of investing no more than \$70 million in upfront costs. Given this challenge, the initially obvious answer is to pursue Alpha Project since its expected revenues are the greatest (\$85 million). However, because an investment in Alpha Project reduces the upfront costs of the remaining projects by half, investing in Alpha would also then allow an investment in Beta Project since the total upfront costs would then be at the limit of \$70 million and would produce even greater combined revenues of \$101 million.

Another way to view this problem is to utilize return on investment. The expected revenue divided by the upfront costs provides an estimated one year return on investment. In this case, Alpha would yield a return of 142%, Alpha and Beta together would yield 144%, but Alpha and Gamma together would return 152%. Students should realize that upfront costs are fixed costs and the variable costs of producing the expected revenues are unknown. This return on investment analysis assumes that the profit margin for all three projects is the same.

6. How does the digitization of books, movies and music affect inventory economies of scale?

Inventory costs drive up the average costs of the goods that are actually sold. The need to carry inventories creates economies of scale because firms doing a high volume of business can usually maintain a lower ratio of inventory to sales. The digitization of books, movies and music reduces the economies of scale that large firms have because low sales firms can essentially “stock” the same quantity of inventory – the digital files that can be duplicated repeatedly. Larger firms that previously enjoyed a competitive advantage due to their high sales volume and low ratio of inventory to sales now face increased competition from smaller firms that enjoy the same average costs to sales due to inventory.

7. American and European bricks-and-mortar retailing is increasingly becoming dominated by “hypermarts,” enormous stores that sell groceries, household goods, hardware and other products under one roof. What are the possible economies of scale that might be enjoyed by “hypermarts?” What are the potential diseconomies of scale? How can “hypermarts” fend off competition from web-based retailing?

“Hypermarts” could conceivably achieve several economies of scale by offering a wide array of consumer products in one store. First, if the firm has already purchased expensive real estate and could build a slightly larger building, it can enjoy economies of scale by effectively spreading these high fixed costs across a wider array of products. Second, a firm that already has a strong reputation with consumers could enjoy marketing economies of scale using their existing branding umbrella. Third, the firm could achieve greater economies of scale by using its current distribution systems to deliver more products to fewer large stores. Finally, a “hypermart” may realize purchasing economies because it turns over products quickly, buys in bulk, and becomes a desirable channel in the eyes of product manufacturers.

Despite these potential benefits, there are some limits to economies of scale. For instance, a “hypermart” could spread specialized labor such as talented store managers so thinly that they have a difficult time managing and monitoring the entire store. Because the store has lost its niche focus, both the store’s old and new services may be adversely impacted. Additionally, the firm may damage its reputation with core consumers by expanding its products well beyond the range for which it is known.

“Hypermarts” can effectively compete against web-based retailers by offering faster delivery and availability of products. The economy of scale they enjoy by having a inventory of goods local to the consumer allows for “instant” delivery as opposed to waiting for the product to be shipped.

8. Explain why learning reduces the effective marginal cost of production. If firms set prices in proportion to their marginal costs, as suggested by the Economics Primer, how can learning firms ever hope to make a profit?

The effect of learning allows firms to increase output at lower average costs. The reduction in average cost can only occur if marginal costs are also declining. As firms increase employee and manager learning, output increases due to better coordination and throughput.

Since the effect of learning on a firm is to reduce marginal costs, making a profit is consistent with the economic model of setting prices in proportion to those costs. If prices are set at some “markup” above marginal costs – or even if the firm recognizes perfect efficiency and sells at the market price where their marginal cost equals their marginal revenue – the firm will still earn a profit. The reduced marginal costs due to learning allow for a reduced product selling price, but still one where a profit is earned.

9. What is the dominant general manager logic? How is this consistent with the principles of scale economies? How is it inconsistent with these principles?

Dominant general manager logic exists when managers develop specific skills – say in information systems or finance – and seemingly unrelated businesses rely on those skills for success. Companies that diversify rely typically on dominant general manager logic by assuming that managers can “spread” their knowledge or skills across unrelated business areas.

Firms often diversify to achieve economies of scale or scope. They do this by combining similar functions across unrelated business lines – like sharing technology, distribution or accounting activities. The ability to spread these fixed costs across multiple business lines gives each an economy of scale or scope. The same is true with management talent. The ability to spread specific skills or knowledge of managers across diverse businesses increases scale or scope economies.

Dominant general manager logic is inconsistent with achieving scale or scope economies if

the manager does not possess superior knowledge or skill to spread across diverse business lines. Absent other known economies of scale and scope arising from diversification, merely spreading the management talent across unrelated businesses may not lead to any advantage.

- 10. In rapidly developing economies --- such as India and South Korea --- conglomerates are far more common than they are in the US and Western Europe. Use the BCG growth/share matrix to explain why this organizational form is more suitable for nations where financial markets are less well developed.**

The BCG growth/share matrix plots business units of conglomerates on a scatter diagram into four quadrants based on market growth rate and market share. In rapidly developing countries where financial markets are less well developed, this analytical process demonstrates why the conglomerate form of business is more prevalent. It identifies the “cash cow” business lines of the conglomerate that, due to market share, generate positive cash flows. With thinly developed financial markets, this identification allows for “self-financing” of other business lines within the conglomerate. Economies of scope can emerge in the conglomerate structure even absent developed financial markets by utilizing the free cash flow identified in non-similar businesses lines to provide internal capital.

- 11. The following is a quote from GE Medical Systems web site: “Growth Through Acquisition – Driving our innovative spirit at GE Medical Systems is the belief that great ideas come from anyone, anywhere, at any time. Not only from within the company, but from beyond as well.... This belief is the force behind our record number of acquisitions.” Under what conditions can a “growth-through-acquisition” strategy create value for shareholders?**

“Growth-through-acquisition” can create value for shareholders by providing a diversified set of revenue streams from unrelated businesses. This diversification protects shareholders from catastrophic loss due to the underperformance or failure of a single business line.

Shareholders also can benefit from this strategy by the increase in economies of scope afforded thru diversified acquisition growth. While often difficult to identify, economies of scope may assist both the acquirer and acquiree to gain market share and reduce marginal and average costs. Likewise, growing through acquisition provides benefits to the existing and acquired businesses through the shared use of internal capital markets within the firm.

- 12. “The theory of the market for corporate control cannot be true because it assumes that every individual shareholder is paying careful attention to the performance of management.” Agree or disagree.**

AGREE: The market for corporate control depends on shareholders monitoring management and holding it accountable for shareholder value and returns on invested

capital. If individual shareholders do not monitor the performance of management, less than optimal returns may be realized by the firm leading to reduced share prices and less than optimal dividend payouts.

DISAGREE: Not every individual shareholder needs to monitor management. Large shareholders do monitor their investments in firms and hold management accountable for its performance. Likewise, other unrelated firms such as competitors and investment banks, monitor the performance of firms and those producing results below their potential are candidates for acquisition. Because of this, incumbent managers are concerned about losing their jobs and work to prevent takeovers by keeping the firm's share price at or near its potential value.

13. Many publicly traded companies are still controlled by their founders. Research shows that the share values of these companies often increase if the founder unexpectedly dies. Use the theory of the market for corporate control to explain this phenomenon.

Founders of publicly traded companies often hold a large percentage of the firm's outstanding stock. Through this stockholding they are able to exercise control and essentially prevent "outside" accountability for their actions and performance. Absent other powerful and large shareholders the founders are free to under-perform without consequence.

Upon the unexpected death of a controlling founder, the stock becomes more diversified in its holdings. This diversification provides the ability for outside shareholders to better hold management accountable for performance. The market for corporate control now cedes its power from the deceased controlling founder to outside investors that require stock prices and returns on investment at or near the firm's maximum potential.

14. Summarize the research evidence on diversification. Is the evidence consistent with economic theory?

Most evidence on diversification demonstrates that it does not add significant value to the firm. Diversification is only a successful strategy if management adds value in some way. The businesses held in the diversified firm must ultimately be worth more together than if held individually.

The leverage buyout period of business during the 1960's to the 1990's relied heavily on the assumption of creating economies of scale and scope through diversification. In most cases these economies did not occur because management was unable to spread its skill set across unrelated businesses, or it did not possess any common spreadable skill at all.

Likewise, while the BCG growth/share model encourages the use of internal capital from "cash cows" to fund rising stars, in reality diversified firms end up investing in

their strongest divisions. High growth businesses in diversified firms suffer from insufficient internal capital availability while existing high market share divisions are over funded.

This is consistent with economic theory because capital allocation is determined by returns, and high market share divisions typically achieve the highest returns. High growth businesses within diversified firms do not produce high returns on capital and are limited in their access to internal funding. It is inconsistent with economic theory because the combination of businesses should create either economies of scale or scope resulting in reduced marginal and average costs. These increases in economies should increase profits and ultimately shareholder value.