

JAPANESE MANAGERIAL BEHAVIOR AND "EXCESSIVE COMPETITION"

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THE PHRASE, "excessive competition," must surely be of Japanese origin and still largely of Japanese application. It has to the Western and especially American ear an odd sound for it seems a contradiction. How can competition, held to be beneficial and constructive and in need of rigorous maintenance, be at the same time excessive? Is not the public economic interest best served by a high degree of continued competition, and the real danger "insufficient competition"?

So the phrase seems from abroad to be paradoxical. Yet it is much used in Japan and clearly meaningful in describing one major outcome of Japanese managerial behavior. In the following discussion, it will be argued that a number of aspects of Japanese corporate behavior, including most basically long experience with rapid growth, and also financial and personnel policies as well as the cost effects of growth, make maintenance of market share a critical objective of Japanese management. In the Japanese context, this overriding preoccupation with the maintenance and expansion of market share is entirely realistic. But a major consequence of this concern is the degree of preemptive capital investment and pricing that is termed "excessive competition."

I. PRICING BEHAVIOR, ITS CAUSES AND CONSEQUENCES

Any discussion of Japanese managerial behavior is likely to lead quickly to the issue of pricing policy. Both in the domestic market and in export markets, it appears that Japanese firms rely more heavily on price as a competitive weapon against each other and against competitors in foreign markets than is the case with U.S. or European companies. Indeed, the U.S. firm is likely to employ a price cut as the competitive weapon of last resort, preferring first to use advertising, merchandising, and various forms of customer service to meet market competition. This fact helps explain the unreasonable rage with which charges of "dumping" are levelled against Japanese competitors in world markets.

Yet the Japanese firm is clearly not "dumping," certainly not on a general or sustained basis. Large Japanese companies are generally as profitable as inter-

* The authors are deeply indebted to their colleagues in The Boston Consulting Group for many of the ideas contained in this paper and have appreciated their thoughtful comments. However, the authors must accept full responsibility for the way in which these concepts have been presented and can in no way blame their colleagues for any errors that may have crept into the final version.

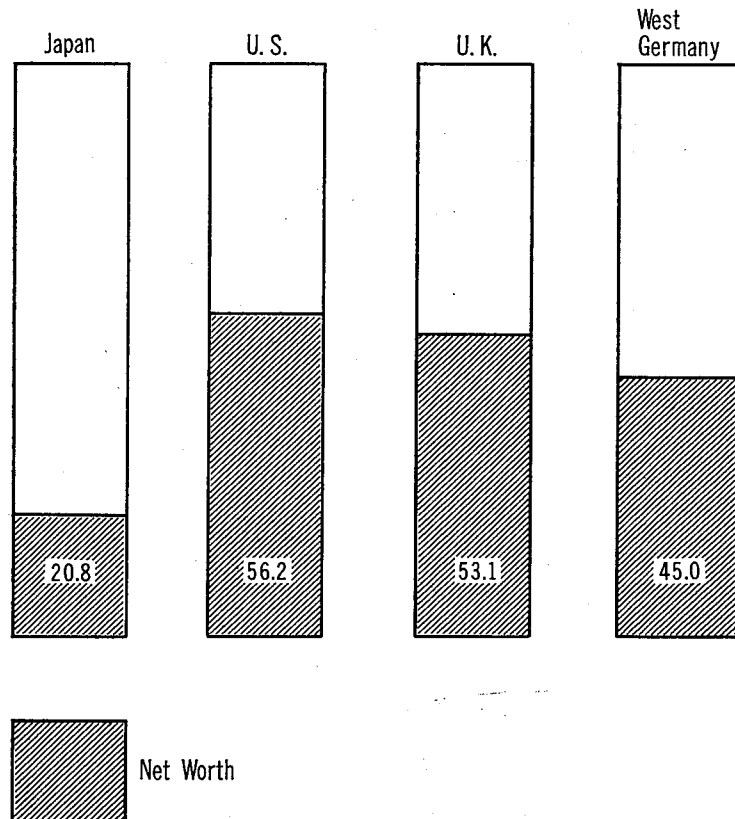
national competitors. While net return on sales after tax is low, typically perhaps half that of U.S. firms, after-tax levels are about the same for firms in the two countries when profitability is looked at on a cash flow basis. This outcome is obviously impossible if “dumping”—selling below normal margins or even below cost—were occurring on any kind of widespread or continued basis.

An explanation of the pricing behavior of Japanese companies can thus help illuminate important aspects of Japanese managerial behavior and their systematic interrelations. It also goes far to explain why these actions can result in what is termed “excessive competition.”

A. *The Price Implications of Corporate Debt*

The first element of Japanese management practice that helps explain pricing behavior is the financial structure of the typical large Japanese company. In striking contrast to companies in the U.S. and Europe, Japanese companies characteristically depend very heavily on debt as a source of corporate financing (Figure 1). Indeed, the usual level of debt financing is so high as to suggest to

Fig. 1. Capital Structure: Manufacturing Industry (1968)



Source: Bank of Japan.

Western businessmen, looking at these debt levels from their own cultural perspective, that the average Japanese firm is virtually bankrupt. In general, for the large Japanese firm, less than 20 per cent of total capital employed is owned capital (equity plus retained earnings) with more than 80 per cent of total capital employed being made up of short and long term borrowings and the financing of trade receivables. U.S. companies, on the other hand, characteristically source most of their capital from equity and retained earnings, while debt comprises a third or less of total capital.

The effects on pricing behavior of this very great difference in financial practice are startling, as suggested in Table I. Assume two companies, a U.S. company

TABLE I
MARGINS REQUIRED TO GROW AT 10%

	Japan	U.S.
Assets	100	100
Debt	80	40
Equity	20	60
Sales	100	100
Profit		
Before interest and tax	14.4	27.2
Interest	6.4	3.2
Profit before tax	8.0	24.0
Profit after tax	4.0	12.0
Dividend	2.0	6.0
Return on equity	10.0	10.0
Reinvestment of earnings	2.0	6.0
Additional debt	8.0	4.0
Growth rate	10%	10%

Note: 1:1 asset to sales ratio; 50% tax rate; 50% dividend payout rate; Maintain constant debt level.

and a Japanese company, competing with each other. Assume that their costs are roughly equal, but that the Japanese company follows Japanese financial practices, and that the U.S. company uses somewhat more debt than is customary in the United States. If both companies aim to provide their shareholders a similar return on equity investment (10 per cent), and both aim to grow on a sustained basis of 10 per cent annually, the Japanese company can achieve these goals with a margin roughly half that of the U.S. company. Thus, given equal costs of the two companies, the Japanese company can service its debt, pay an equal return to shareholders on their portion of total capital, maintain a growth rate equal to that of the U.S. company, and yet set a far lower price level than the U.S. firm is able to do.

While Table I is a generalized example, companies in the two economies do in fact display the effects of these differing approaches to corporate financing. The Bank of Japan reported 1968 results for major companies in both economies;

Japanese companies were far less profitable in terms of after-tax return on sales (2.6 per cent compared to 5.1 per cent for U.S. companies) but provided a higher return to shareholders (13.7 per cent compared to 11.8 per cent).

Thus, the heavy use of debt by Japanese firms in effect uncouples their growth rates from their level of profit generation so long as the company is able to cover its debt service and dividend payout. This practice permits the continued financing of rapid growth even though the margin on sales is low.

At the same time, it is important for this discussion of competitive relations to note how thin a margin the typical Japanese company is operating on. With a 2.6 per cent after-tax return on sales, the dividing line between a company that is prospering and growing soundly and a company that is in trouble is very thin. A company operating inefficiently—and thus unable to meet this terrific price competition—will very soon lose market share. And as is argued below, loss of market share very quickly translates into even greater cost disadvantage, further reducing the firm's ability to compete on price. Here then is the first indication of the critical importance of market share maintenance in the Japanese competitive context.

But what is it about the Japanese business system that makes it possible to use debt heavily, thus at once making low margins and rapid growth possible? Perhaps the most basic explanation concerns government-business relations in Japan. Japan's business environment reduces the risk and makes tolerable for large Japanese companies a debt level that would in fact be both unattainable and intolerably risky in the U.S. environment. The financial risks associated with high debt levels are very much reduced in Japan by the fact that the central bank stands implicit guarantor of the debt position of major Japanese companies. No American company can assume similar support from the Federal Reserve System.

Another important, and often overlooked, factor that makes high debt levels possible has to do with the relations between the firm and trade unions. Prolonged strikes are not a real threat for most Japanese companies, and in the postwar period have taken place only under very exceptional conditions. The thin cash position of most Japanese companies would make prolonged strikes devastating, and might be thought to place a mighty bargaining weapon in the hands of Japan's trade union leaders. But in fact, Japanese labor relations and personnel practices make the kind of prolonged strike that confronted General Electric in 1969 and General Motors in 1970 most unlikely. Therefore the high liquidity requirements needed to counter months-long shutdowns are not necessary in Japan.

In looking at Japanese price behavior then, one must first appreciate that the Japanese business system permits an extraordinary level of debt financing for corporate growth. This sourcing of capital in turn makes it possible for a company to operate on significantly lower margins than would otherwise be required. These low margins in turn help make price the principal competitive weapon in the marketplace. This places great pressure on the producer to hold market share in order to keep pace with cost, and therefore, price reductions.

B. *The Full Capacity Policy*

One consequence of this financial policy however is the great financial pressure on the Japanese company which results from the obligation to service its high debt level. Sizeable interest charges contribute to a generally high level of fixed costs for a Japanese company compared with a U.S. company. This fact too has direct implications for Japanese pricing and competitive behavior.

To take a specific, and currently controversial, product, Table II compares cost levels for Japan and the United States in nylon production. The Japanese advantage in labor costs is somewhat offset by higher overhead costs and by interest charges. Total costs are similar. However, owing to the nature of personnel relations in the large Japanese company, with employees essentially hired for their entire careers, all labor costs as well as sales, overhead, and interest costs, are in fact fixed for the Japanese company. For the American firm, labor is largely if not entirely a variable cost (this analysis assumes that about one-third of U.S. labor costs are effectively fixed). Taken with lower overheads and little if any debt service, a much smaller proportion of the U.S. firm's total costs are fixed.

TABLE II
COST COMPARISON, U.S. AND JAPAN: NYLON PRODUCTION

	Japan, Inc.	U.S. Competitor
Materials	20	22
Labor	10	15
Sales and administration	20	20
Overhead	15	13
Debt service	2	0
Total cost	67	70
Fixed cost to total cost ^a	70%	54%

^a Assuming all Japanese labor cost fixed and 1/3 U.S. labor cost fixed,

$$\text{Japan} = \left(\frac{10+20+15+2}{67} \right); \quad \text{U.S.} = \left(\frac{5+20+13}{70} \right).$$

The high fixed costs of a typical Japanese company result in what might be called a "full-capacity policy." That is, since most costs are fixed, there is considerable incentive for the Japanese firm to operate at full capacity so long as the product can be sold at prices that are somewhat above variable costs—in fact, somewhat above the cost of raw materials. Since the breakeven point is high and cannot be significantly reduced in the short run, management is constantly pressed to lower prices as necessary to ensure continued full operations as long as these prices do not drop below variable costs. In the U.S. case, this price point is reached much sooner than in the Japanese case, since a substantially larger share of U.S. costs are variable and can be reduced.

Taken together with Japanese financial practices, this "full-capacity policy" means that the Japanese firm is not only able to price lower while maintaining required levels of return and a high growth rate, but also has a powerful incentive to price lower in order to maintain full capacity. Under these conditions, the competitive impact of oversupply in the market can be very quickly destructive of the less efficient producer. That is, the larger (and therefore generally more efficient) producer will lower prices to maintain operations at or near capacity. Margins, as already noted, are characteristically thin. The result is hard on the smaller producers, but notably positive for the economy—a swift concentration of production in the hands of the most efficient producers. And this process is part of what is implied by the term "excessive competition."

C. *Pricing Implications of Rapid Growth*

These facts about Japanese companies must be seen in the context of very rapid economic growth. In many ways the experience of the current generation of Japanese businessmen is unique in the world. They have known twenty years of uninterrupted growth, and for nearly all of this time have known growth at rates virtually unprecedented in history. Further, they have a government that is committed to continued rapid growth, and the credibility of that commitment is strongly reinforced by their long and successful experience. Indeed, their government's generous estimates of growth have nearly always fallen short of realized rates of economic expansion.

This strong sense of confidence that demand will increase at a rapid rate, and long experience with rapidly expanding markets, has confirmed the necessity to invest in anticipation of demand. In a national economic sense, this makes for a self-fulfilling prophecy—the investment in anticipation of demand creates the economic conditions that bring about the increased demand. For the individual company, it means that since capacity does not increase smoothly but rather expands in large periodic increments, there will be periods of temporary excess capacity. And it is evident that Japanese management is likely to clear that capacity at temporarily lowered prices, perhaps into world markets.

From the point of view of the Japanese company, preoccupation with investment to maintain and increase share in the domestic market is entirely reasonable. At Japanese growth rates, failure to maintain market share can very quickly lead to a disastrous competitive position. Japanese industrial output has been growing in real terms at some 13–14 per cent per year. This means that in the modern sector most industries are doubling in size every five years or less. Put another way, if a competitor enters a market from a zero position and simply takes the growth of the market while the sales volume of other companies in the field does not increase, he will hold half the market in less than five years. Given the experience curve effect discussed below, the cost implications of this kind of market share loss are clear. The same phenomenon would of course occur in other economies, but since growth rates are generally much lower, Western management's appreciation of the effects of market share loss is much less. In the Japanese context, however, it is entirely appropriate that management accept

market share as a primary objective even at the expense of short-term profitability.

Some additional special characteristics of the Japanese business environment reinforce this attention to market share. As Japanese industry swings away from labor-intensive toward capital-intensive industries, the effects of scale on cost are increasingly clear. Further, in the Japanese context, growth and thus market share have a direct effect on labor costs. Since employees are hired directly from school for their entire careers, and since their pay is essentially a direct function of their age, the average labor cost for a Japanese company is directly related to the average age of the work force. A rapidly growing company is hiring large numbers of young people; as the average age of the work force drops, labor costs also drop. Conversely, a slow-growing company in Japan has a work force that is aging steadily, and its labor costs are steadily rising. The payoff for growth then is immediate and clear.

II. PRICING, INVESTMENT, AND THE EXPERIENCE CURVE

All of these factors come together to create a business system in which rapid growth in demand stimulates rapid investment; rapid investment and thus maintained or increased market share translates directly into visible cost advantage; high fixed costs ensure that the additional capacity will be full utilized; and financial and competitive practices are such that margins in excess of the financial requirements for growth penalize firms in high-growth businesses. Under these conditions, it is hardly surprising that price and rapid investment in capacity become the primary competitive weapons of the Japanese company.

Investment in advance of anticipated rapid increases in demand is thus a major factor in Japanese management behavior that results in "excessive competition." The desire of each firm within an industry to maintain or increase its market share, i.e., its market position, has caused this investment to take place quickly, primarily during the high-growth phase of an industry when MITI does not consider such investment competition self-destructive. This situation has naturally resulted in periods of temporary excess capacity since lumpy investments cannot be smoothly adjusted to more continuous increases in overall demand, no matter how rapid these increases are. These overcapacity situations have in turn resulted in a lowering of domestic and export prices. Fixed labor costs and large debt-service charges mean that Japanese companies have high operating breakevens. Therefore, it always pays them to lower prices in order to run an expanded plant at full capacity, even if they only cover their variable costs.

The firms which have most successfully manipulated this investment-demand process have captured market growth and have increased their market share. They have then found that the average age of their labor force and thus their average labor costs have dropped relative to those of their competitors. This process has helped bring costs in line with the price decreases used to buy market share. To an even greater degree, however, this pattern of managerial behavior has been reinforced by the rapid cost reductions which result from rapid increases in a firm's accumulated experience. In fact, increases in market share during

the high-growth stage of a Japanese industry's development have always proved of exceptional value. This is because required cost reductions have followed so uniformly from rapid investment, price reductions, and increased market share that this behavioral process has always been justified by actual results.

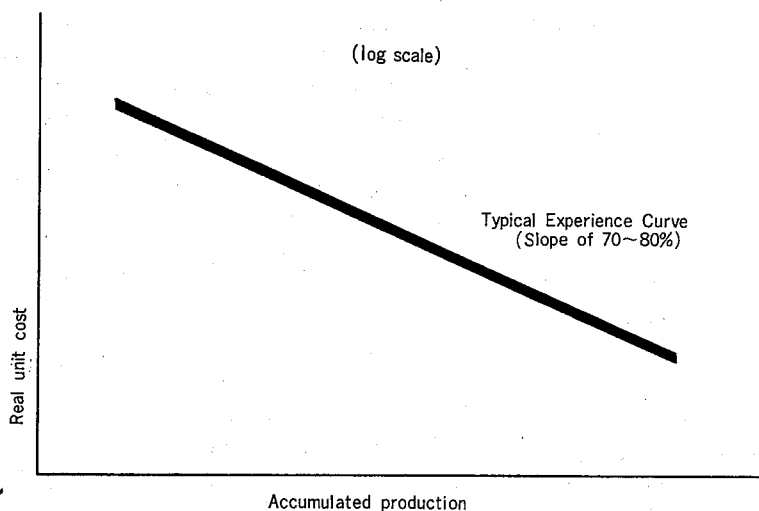
Most Japanese managers probably understand the reasons for the success of this process only intuitively, if at all. Nevertheless, the very fact that the process works has made it the established pattern of investment-pricing behavior in successful Japanese firms. Indeed, those Japanese firms which have not followed this investment-pricing format in the Japanese growth context have lost importance or have ceased to exist. The underlying reasons for this situation, however, can be understood only by examining in some detail the cost effectiveness of high growth.

A. *Experience Curve*

It has been shown that for a variety of industries, total cost in constant dollars or yen will decline by a characteristic amount each time accumulated production experience doubles. This is true for entire industries as well as for individual companies and has been observed in many countries, including Japan and the U.S. For most industries and products, the unit cost decline is about 20 to 30 per cent for every doubling of accumulated experience. Though the precise reasons for this phenomenon are not well documented, it appears to be a combination of learning by doing, management experience, and economies of scale; and it is an accepted part of cost-projection formulations in the aircraft and semi-conductor industries. The cost-experience relationship can be plotted on log-log paper to give the industry (or company) experience curve (Figure 2).

The cost-experience effect is much more noticeable of course in new products than in older, more mature products, since the new products have a much smaller

Fig. 2. Schematic Experience Curve



experience base and a higher growth in demand. At first, the accumulated experience of these products can be doubled very rapidly, and costs will fall accordingly. In more mature industries, the effects of inflation may obscure the constant yen decline in cost. To obtain an accurate picture of the experience curve, one must therefore factor out the effect of inflation. (This should be done for new industries as well as mature ones in order to avoid any distortion of the curve.)

The distorting effect of inflation can be eliminated by measuring the current yen unit costs deflated by the GNP deflator against the accumulated volume produced.¹ Given the historical experience curve characteristic of the industry, one can then predict future costs at various levels of accumulated experience. To estimate actual future yen costs, it is only necessary to reinflate the figures by multiplying constant yen cost projections by the expected rate of inflation.

It is readily apparent that an individual firm's cost position within an industry will depend on its growth relative to that of the entire industry; that is, on its market share. And conversely, an industry's ability to lower costs for a given amount of production will depend on the market share of the individual producers: i.e., on the degree of concentration within the industry.

A more detailed examination of the implications of the experience-cost phenomenon for the individual Japanese firm shows that growth determines the ability of the firm to accumulate experience and market share determines its ability to lower costs relative to competitors. For example, if a Japanese firm accumulates experience at 30 per cent a year, he will double experience in less than three years and will lower costs 20 to 30 per cent. If inflation is about 5 per cent a year, his actual costs will decline anywhere from 5 to 15 per cent. If industry demand is growing at 15 per cent, and the growth in the industry's accumulated experience has finally approached the growth in industry demand,² this implies that the firm is capturing more than its share of the incremental growth in the industry's accumulated experience, and that it is gaining market share relative to competitors. Therefore, competitors cannot be growing as fast nor lowering actual costs as rapidly.

Initially, this process may be relatively easy if competitors only see lower growth and no loss in actual sales. But once the particular firm's market share exceeds 50 per cent, it can only continue to grow twice as fast as the industry at the expense of competitors' existing sales. By then, however, its experience is so much greater and its costs so much lower that other firms are unable to compete effectively. Nevertheless the firm's growth and accumulation rate will

¹ Since cost data are not always available, it is often necessary to derive experience curves from manufacturer's price data on the assumption that costs will follow prices fairly closely over time. For a complete description of the experience curve effect see: J. C. Abegglen, *Kigyō seichō no ronri* [Logic of Economic Growth], Tokyo, Tōyō-keizai shimpōsha, 1970.

² If industry growth is g_0 and the growth in accumulated experience at time t is $g_n(t)$, then

$$g_n(t) = g_0 + \frac{1}{\sum_{i=0}^{t-1} (1+g_0)^i}$$

slow to the rate of growth in market demand as market shares stabilize or the firm reaches a 100 per cent monopoly position. Once shares have stabilized and "excessive competition" ceases, industry prices will follow the dominant producer's experience-cost curve.

Naturally, in a converse situation—e.g., one in which the individual firm is growing at 30 per cent a year while industry demand and experience are growing at 45 per cent a year—the firm will lose share and relative cost effectiveness since one of its competitors must be accumulating experience faster, say at 60 per cent a year. The competitor is thus lowering *real* costs twice as fast and relative actual costs even faster.

Though these kinds of accumulation and growth rates are not at all common in Europe or the U.S., they are not uncommon in Japan. With industrial production increases averaging 13 per cent a year for all Japanese industry, many Japanese industries must be growing faster, even twice as fast. When one then realizes that accumulation rates exceed growth rates by an incremental amount in the early stages of a product's life cycle when growth in demand is also highest, one can appreciate how important early gains in market share can be in developing cost competitiveness during a Japanese industry's growth phase. In addition, one can readily see how Japanese managerial practices, involving high debt leverage for rapid growth and a propensity for price reduction to gain market share, could develop into a highly successful behavior pattern, generating a well-tuned and self-reinforcing growth system with rapid cost reduction and rapid industry concentration.

However, a Japanese firm's ability to continue to lower costs after domestic demand has slowed as well as its ability to begin initial production has also depended on factors outside the Japanese marketplace. That is, most Japanese production has initially served to satisfy domestic demand for products that have been produced elsewhere first, usually in the United States. In this case, therefore, U.S. firms have already begun or gone through the industry's development phase and have a cost-experience advantage relative to Japanese firms. Initial Japanese production is thus dependent on transportation cost differentials and/or Japanese government protection in the form of tariffs, quotas, and subsidies. Once Japanese firms begin production, however, their relative international competitiveness with respect to the U.S. or some other advanced country depends on Japan's ability to accumulate experience relative to that other country, i.e., to increase its *world market share*. More specifically, Japan's relative future costs and competitive position will be a function of:

- the initial production costs in Japan and the U.S.;
- the rate at which the U.S. and Japan are accumulating experience (this rate being dependent on when each began to produce the item and on the annual growth rates of the two countries);
- the amount by which costs decline in each country for every doubling of accumulated experience (i.e., the slope of the experience curve);
- the relative rates of inflation in the two countries (i.e., differences in GNP deflator); and

— their exchange rates.

Given the value of each of these factors, one can determine the relative and changing cost positions of the two countries—the U.S. and Japan—for a given industry. If Japan accumulates experience at a rate of 15 per cent a year, it will double its accumulated experience in five years. If Japan's costs decline by 20 per cent with every doubling of experience, a 15-per cent accumulation rate will exactly offset a 4 to 5 per cent rate of inflation. Thus, Japanese industries with accumulation rates above 15 per cent and/or cost declines of 20 per cent or better for every doubling of experience will have lower costs in current dollars in the future than at present if the Japanese inflation rate is 4 to 5 per cent. These industries will therefore be able to lower the actual price of their products.

Given this situation and a constant exchange rate, the U.S. can maintain its price competitiveness in a product it has introduced only if the following conditions are met:

- the initial production costs are lower in the U.S. than in Japan;
- the U.S. is accumulating experience more rapidly than Japan;
- for each doubling of experience, U.S. costs decline by a greater percentage than Japanese costs;
- the U.S. has a lower inflation rate than Japan.

In reality, few of these conditions have been met. The U.S. has always tended to have higher initial production and development costs than Japan, because Japan can borrow or buy U.S. technology and profit from U.S. mistakes. Nevertheless, Japan's competitive advantage has depended on the availability of technology.

The U.S. can rarely accumulate experience as rapidly as Japan, given the capacity and production volume of the firms in each country's industry. Since the U.S. industry is the initial producer, it usually has a larger experience base and consequently takes longer to double its accumulated experience. Furthermore, its market demand is probably growing more slowly than Japan's.

The degree of cost decline with each doubling of experience depends on such factors as unionism, industrial concentration, and the educational level of the workers in the two countries. The decline is also influenced by the rate of technological change in the two countries and by the number of firms competing in the industry in each country. (In general, the fewer the number of firms, the steeper the industry experience curve, since the experience and cost benefit are not spread over as many producers.) In this respect also, Japan has had an advantage in its company unions and in the more favorable attitude of its government toward anti-trust and industrial concentration, though actual comparisons by The Boston Consulting Group have yet to show any appreciable differences in slope.

The final factor, inflation, is primarily a function of fiscal and monetary policies, but is also influenced by productivity differentials among industries. And there can be no question that U.S. inflation levels, which since 1967 have approached Japanese levels, have played havoc with U.S. competitiveness; up until that time the 3 per cent inflation differential between the U.S. and Japan roughly offset

the cost reduction effects of Japan's higher manufacturing growth rate.

Each of these factors, however, can be influenced by the decisions of each nation's businessmen and government policy-makers. By controlling these factors, Japan and the U.S. can alter their international competitive positions and the product cycle development of their respective industries.

A comparison of Japanese and U.S. industrial performance over time shows that the U.S. has not met the conditions or followed the policies necessary to maintain its competitive position in the industries it has developed or in which it has been a successful follower, with the result that Japanese firms have been able to follow successfully, rapidly, and competitively.

Japanese industry's success in export development as compared with U.S. industry has been largely due to their greater aggressiveness in export marketing. For example, let us consider a U.S. industry which develops a new product. When the product is new, the number of units needed to double the accumulated production experience is small as compared with annual production. Later on, however, this number increases so that over time, cost declines become smaller both relatively and absolutely.

In the early years of production of a commodity, the U.S. accumulates experience at a rate substantially above the rate of growth in market demand. A 15 per cent growth rate in demand might mean a 25 or 30 per cent accumulation rate and a correspondingly larger drop in costs. At the same time, increases in productivity and declining relative prices are large.

As U.S. domestic demand levels off, however, both the industry growth rate and the accumulation rate decrease, the latter relatively faster, so that price declines slow both relatively and absolutely. During this second phase, an industry shakeout usually occurs as one or two firms lower prices in order to gain market share. After the shakeout, when market shares stabilize, the dominant producer's experience curve essentially becomes the industry curve, the industry curve being the net effect of the experience phenomenon for all the industry's firms.

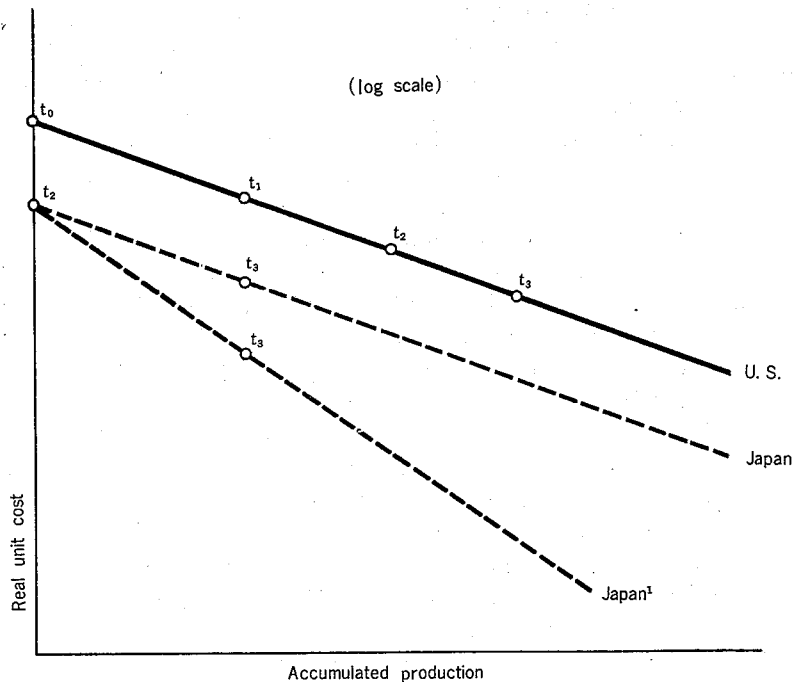
At this point international competitive strategy becomes important. If the U.S. industry fails to capture the emerging increase in world demand (either because of international trade barriers or its own strategic errors), it will lose world market share to competitors in follower countries like Japan who will begin production and proceed down their own experience curves.

Initial production costs are usually lower in Japan than they were in the U.S., and cost declines may also be steeper since Japan can quickly take advantage of technological transfer possibilities. The U.S. has even facilitated this process by licensing and patent agreements.

Japan's initial costs, however, are usually higher than current costs in the U.S. despite the fact that they may be below the initial costs in the U.S. The exact difference in current costs will generally depend on the industry's capital intensity and technical sophistication (Figure 3).

To catch up, Japan must then accumulate experience at a rate which is faster than the current U.S. rate, but it need not acquire more (or even as much) total experience as the U.S. in order to approach the latter's cost position. Reduction

Fig. 3. Experience and Competitive Change



in relative costs, of course, proceeds fastest during Japan's initial production stages because the accumulation rate is higher at this stage of industry development for any given growth rate. In addition, during this initial period of production Japan may enjoy greater growth in demand and production than the U.S. if the U.S. market is becoming mature. However, it is only after this initial period of rapid cost reduction that Japan becomes competitive enough to export. This explains why in Japan, unlike the U.S., it is only *after* the period of highest productivity that an industry enters a period of rapid export growth.

Japan may also benefit from a steeper experience curve attributable to technology transfer, to a high education level relative to the country's economic development, and/or to lack of opposition to innovation on the part of labor. Studies done by The Boston Consulting Group, however, indicate that Japan's cost slopes approximate those of the U.S. for similar products, though the initial cost points are always lower in Japan.

Given a similar growth in demand in both countries, the ability to sustain a high growth rate (and, therefore, a high accumulation rate) is a function of the availability of capital to expand capacity. This in turn is a function of retained earnings, use of debt, and tax rates. Thus, an individual corporation's ability to increase its domestic and international market share depends on its own financial policies and its country's financial environment. More specifically, the large use of debt by Japanese companies facilitates higher growth rates and lower margins for the same return on equity. This policy, combined with a higher breakeven

due to fixed labor costs and high fixed capital charges, tends to stimulate penetration pricing and continuous operation at full capacity, as already discussed in the section on Japanese management's approach to pricing policy. Prices drop as costs move down the experience curve, and the export market becomes an ever more logical outlet for capacity additions.

In addition, Japan usually benefits from the economic conditions present in the U.S. In general the U.S. has higher wage rates and higher prices than Japan. As growth slows, productivity increases also slow so that higher wages are not offset to the same degree that they were in earlier stages of industry development. At the same time, at the U.S. industry begins to mature, its domestic market becomes increasingly price sensitive and vulnerable to low-priced imports. These economic forces constantly push U.S. industry toward the development of newer and more sophisticated products, with Japan following behind.

The successful Japanese follower has usually increased his export market share first in less developed countries, where there is no domestic competition, where demand for the product is growing, and where the U.S. has no innate advantage.³

These exports serve multiple competitive functions. They impair the ability of the U.S. to accumulate experience and lower costs relative to Japan. At the same time, they enhance Japan's ability to accumulate experience and to lower costs. Competitively, there is a double experience-cost effect. This can be very important if the Japanese domestic market is relatively small and has been quickly saturated, or if costs and prices must be lowered further to stimulate additional domestic demand. Furthermore, these exports develop Japan's overseas marketing experience for the product.

These developments have been critical in enabling Japan to gain enough competitive strength to penetrate the U.S. market. This task is usually difficult because U.S. market demand is growing slowly, in-place capacity is difficult to dislodge, and domestic competition exists. However, quotas and high tariffs are seldom applied by the U.S. until after significant market penetration, when the U.S. industry is already in an obvious state of decline.

Therefore, in spite of the competitive difficulties encountered, Japan usually penetrates the U.S. market successfully and local producers go into a state of decline in the U.S. market, becoming even more subject to the competitive pressures which result from loss of market share and deterioration of relative cost position.

This is a natural product cycle evolution that reflects the diffusion of technology from one country to another and the impact of comparative accumulations of experience in different economic environments. It also reflects the fact that a firm's ability to gain market share in the early stages of an industry's growth enables it to lower costs faster than its competitors, and thus increase its market share still more.

This process, if properly funded, results in a high growth rate and a dominant

³ For a complete discussion of Japanese product cycle development see: W.V. Rapp, "A Theory of Changing Trade Patterns under Economic Growth: Tested for Japan," *Yale Economic Essays* (Fall 1967).

market position. Gradually the firm's growth rate settles down to that of the market as a whole and the market becomes mature. Any increase in the dominant firm's market share will reduce its costs and ultimately force industry prices down, making the industry curve steeper. The continuing evolution of this process is limited only by a 100 per cent monopoly situation.

For Japan (the follower country) to enter the cycle, it must capture that portion of growth in world demand represented by the growth in its own domestic demand. This is generally made possible by the protective policies of the Japanese government, by changes in U.S. (the innovator) financial strategies, and/or by the domestically restricted market perception of U.S. companies.

That is, once the U.S. domestic market matures, the manufacturer may decide to forego continued high growth (which requires continued heavy investment and aggressive pricing) and attempt, instead, to earn a return on his past investment by maintaining a constant price level. Moreover, he may decide that the size of foreign markets and the threat of foreign producers, particularly Japan, are not yet great enough to justify a fight against Japan's protective policies, though this way of thinking may be changing.

Since demand in many industries is still growing in Japan, her internal growth rates and growth in world market share is quite rapid relative to the U.S. As Japanese industries gain experience and benefit from the process outlined above, they begin to export to the less developed countries and only subsequently to the U.S., whose markets are as yet unprotected and where antitrust policies prevent rationalization. As a result, Japanese industries continue to increase their world market share, generally at the expense of U.S. industry. This situation allows them to further improve their cost position relative to their U.S. competitors.

This process will continue until other countries enter the cycle and begin to exert the same sort of competitive pressure on Japan. This has already happened in the textile industry, for example. At the same time, however, Japan will have begun the "following" process in some newer industry, accelerating its growth and competitive strength by means of the high debt leveraging and consolidation that is typical of Japanese firms. Their comparative competitive success as followers will, however, depend on their industry's relative growth rate, Japan's inflation rate, and their experience-cost curves. These in turn will be determined by their firm's investment, marketing, pricing, and financial strategies as well as by the general economic and political environment in Japan and the U.S.

What emerges as a critical element in Japan's competitive development is the vital role played by exports at the very point that domestic market demand begins to slacken. Exports broaden Japan's experience base and facilitate continued price declines. In addition, it appears that it has been essential for Japan to have access at some point in the process to the huge U.S. market in order to maintain cost advantage and continue to grow after her own market and other, smaller export markets have become saturated. Her alternative overseas markets are limited. These markets grow fast but they cannot provide the quantitative amount of growth required to add to Japan's increasingly larger experience base at a rate which would continue to lower costs significantly. However, effective

penetration of the U.S. market, the largest and most developed in the world, has provided significant additions to Japan's experience base. Furthermore, although Japan is gaining a greater position in Western Europe, although Southeast Asia will remain important for initial export development, and although some specialization agreement with China might be worked out, the U.S. will remain Japan's major foreign market for the foreseeable future.

This is especially true in the case of those products on which Japan is continuing to focus her industrial development, i.e., those produced by the more capital-intensive and technologically sophisticated industries. Indeed, if the U.S. market were denied to Japanese producers in these industries, the system's competitive dynamics could easily be reversed: Japanese firms would fail to add experience relative to U.S. competitors and, therefore, fail to lower relative costs. Given the dynamics of the Japanese economy, this would also mean slower rates of growth and cost decline relative to newer Japanese industries. This would in turn lead to a rapid erosion of these industries' comparative advantage, since resources and younger labor would be drawn into the newer industries, as yet uncompetitive internationally.

Until now, however, trading companies, interested in high turnover, have provided marginally low-cost export possibilities. This unique low-cost export distribution system has combined with the ability of Japanese companies to operate on lower margins for the same costs, as well as the incentives of these companies for full capacity pricing, to assure the requisite overseas market penetration and export development. This kind of export marketing has in turn proved to be self-justifying, given cost-experience effects.

It should be noted, however, that in practice the market insensitivity of major trading firms together with the "capacity outlet" psychology of Japanese companies has frequently resulted in price-penetration "overkill." That is, when a 10 per cent price reduction would be effective in penetrating the U.S. market, the Japanese have frequently come in at a 20 per cent reduction, thus decreasing their own potential cash flow as well as greatly irritating U.S. and European competitors. The political impact of this "overkill" pricing policy can in turn be quite severe in the case of slow U.S. market growth that is typical at this stage of Japanese export development. Even though the problem is one of degree of pricing aggressiveness, rather than of general export pricing strategy, it still creates bad feeling and political tension. It would therefore seem advisable for Japanese industries to moderate their export price reductions.

Finally, it is appropriate to note that when a Japanese industry's development has run its course, and export development and experience accumulation have been eroded due to effective competition from LDC's, the government rationally puts a stop to "excessive competition" and encourages concentration. This policy of rationalizing mature industries while encouraging and fostering "excessive competition" in growing industries has indeed been a prime factor in Japan's management of her postwar economic success.

SUMMARY

Until now, Japan has quite rationally protected her growth industries from foreign (U.S.) exports which would keep her industry from developing, and from foreign (U.S.) investment which would merely serve the Japanese domestic market and would not develop into a major export industry. Japan has been able to adhere to this policy in part because the U.S., in its trade negotiations, has been pre-occupied with protecting its declining industries (e.g., shoes and textiles) rather than its established or growth industries. In addition, U.S. antitrust policies—which have prevented various industries from combining into more competitive economic units better able to accumulate experience—have accentuated the unfavorable competitive situation.

The Japanese have also shown a better intuitive understanding of the economic forces at work in their competitive development. This is apparent in many policy statements by Japanese business and government officials. The U.S., on the other hand, has failed to respond with any integrated trade strategy, or basic understanding of the competitive process, and has instead continued to react on the basis of ad hoc political pressures. These pressures have naturally favored declining industries rather than growth industries, where the U.S. tends to be overconfident.

Thus, it is not easy to discuss this critical area of pricing behavior and “excessive competition” without running the risk of seeming to justify the Japanese system. U.S. and European producers are in fact at some inherent competitive disadvantage. Japanese companies with costs similar to Western producers can price lower while being as profitable to their shareholders and financing faster growth—which in turn leads to lower costs, and under Japanese conditions this is promptly translated into still lower prices. This advantage, unless adjusted for by a higher rate of inflation in Japan than in the United States or Europe, must in a fairly short time be balanced by a change in the exchange rate. The alternative—that Western businesses might adopt Japanese financial practices—is not available given current government-business relations in the West. It is obvious that the Japanese managerial system operates as a single entity even if its interlocking parts and their contribution to the effectiveness of the whole can be analyzed separately. Furthermore, the economic system is closely tied to the culture and will no doubt be self-perpetuating as long as it continues to be successful. It cannot therefore be transplanted, although strategy lessons may be drawn from its competitive dynamics.

Instead of trying to imitate the Japanese system, then, Western businessmen should seek competitive strategies that are both appropriate to their own culture and successful in countering the Japanese system. This system is not likely to change; as long as Japan has access to foreign markets, and as long as capital/skill-intensive industries are the propelling forces in her economic development, the Japanese economy will continue to grow and the Japanese pattern of managerial behavior will remain the same.

The appropriateness of this system may well become less clear as Japan enters the post-industrial era and skill-intensive services assume a greater economic role. For the time being, however, "excessive competition" will continue to be a successful behavioral strategy for Japanese managers of high-growth businesses.