

Synopsis

The objective of the analysis described in this book is to discover why some industries succeed and others do not, and the part that technological change plays in success.

The book first discusses the concept of economic performance and how it should be measured. Performance is shown to be a parameter that is impossible to encapsulate in one indicator: it requires the simultaneous assessment of both long-term and short-term cash movements which must remain in a delicate balance with cash receipts. Put another way, manufacturing firms remain in business because they receive funds from their customers and these funds are then used for the manufacturing process, for investment in new products and for payment to shareholders. In so doing the firms make a multitude of decisions which affect thousands of employees and innumerable individual suppliers.

The study uses sales revenue as its financial envelope and proceeds by computer analysis to show how the five different industries – mechanical engineering, electronics, motor vehicles and chemicals and textiles – in four separate countries – Japan, the United States, West Germany and the United Kingdom – spend this money both in times of prosperity and of decline. Studies are made of investment in research, innovation and fixed capital; of the growing expenditure on outside services; of taxes; and finally of interest rates and interest payments where money is borrowed. It is found that each technology has its own typical pattern of cash flow, which changes little over time.

For an industry to survive in the long term, current costs, investments and dividends must be funded primarily from total revenue. It follows that if the industry is to grow, sales receipts must grow. So the first important finding is that, in a free market, revenue must be maximised. This may be achieved by outstanding quality, good marketing or early delivery. In contrast, any extraneous influence that *reduces* the potential takings below that set by the discipline of the market is destructive. The evidence is that the premium earned on innovative products will be used to finance the next generation of research and product development and so ensure further growth.

Government, too, gains when industry maximises revenue. Acting as a tax collector, British manufacturing industry passes just under one fifth of its sales revenue to Government as national insurance and direct and indirect taxes. The German proportion is similar.

The analytical technique used in this survey involves the assembly of a mass of information that is compatible over a decade. From this information certain rules of thumb emerge regarding aggregate costs, employment costs and required levels of investment. These are discussed and compared across the four countries. A movement away from the norm is found to be useful as a diagnostic tool.

The provision of finance for investment appears to be a matter of great importance in most economic studies – and in practice it is largely self-generated. Money is raised on the market for running costs (short-term loans) or for investment (long-term loans) but even when equity is included the sums are small and interest payments and dividends are a small proportion of disbursements. Japan, however, proves to be the exception and companies depend on Japanese savings to a much greater extent.

The book also discusses the cultural and legislative influences in the four countries. These vary greatly and are important. The conclusion is that government intervention has many pitfalls. As a counter-inflationary device, the British attempt to control prices from 1945 to 1980 was a massive and expensive failure, bringing a loss of jobs and a fall in output in four of the five industries studied. In Germany Federal money was used with discretion to strengthen the perceived weakness in market intelligence and in research. The experience in the United States is quite different. Lack of confidence after the Japanese onslaught may have encouraged payments for outside expertise – to a point at which the level of current costs rose alarmingly. Finally in Japan, MITI's objective was to take an active part in market intelligence, but such planning has not prevented prices falling to a level which indicates strongly that capacity has become over-expanded.

An extensive literature in the disciplines of economics, management and sociology has concerned itself with manufacturing industry, its culture, its attitudes and its success or failure. Inevitably the outcome is qualitative and open to argument. But it need not be so. In practice it is possible to measure certain changes directly, as for example the impact of higher interest rates; do they increase costs or do they reduce borrowing? What effect does a rise in the minimum wage have on employment costs, or on employment? Again each of these topics has its own extensive literature, and bold claims are made as to the effect on costs. But in practice the manufacturer may escape the expected consequences by adopting an alternative policy.

A manufacturing enterprise is a highly complex and sensitive organism – with boundless options in its choice of markets, processes and product range. Furthermore, any one decision will cause ripples through the organisation, for money can be spent only once and loans are expensive to service. It follows that the final outcome of any one strategy cannot be described in qualitative terms alone, the facts must be observed over several cycles. How have costs reacted to exogenous change? Did the oil shock bring a temporary or a permanent increase in costs? How do Japanese methods of production and man-management affect their pattern of costs?

Fortunately for this 'supply-side' analysis the facts are available annually in the manufacturing census and in the revenue and other information published by European governments and by those of Japan and the United States. These publications report the pattern of costs, the funding of investment and the distribution to shareholders and proprietors. The study covers the period 1972 to 1985 with some earlier figures for Britain.