# Industry U.S. and Foreign

**American Industry in International Competition.** Government Policies and Corporate Strategies. JOHN ZYSMAN and LAURA TYSON, Eds. Cornell University Press, Ithaca, N.Y., 1983. 436 pp., illus. $34.95.

The successes registered by the Japanese economy in the 1970's in industries in which the United States has been struggling—automobiles, steel, consumer electronics, and even (some sectors of) semiconductors—has spawned a large number of political and scholarly books on "industrial" policy. The Japanese have an industrial policy; the United States apparently does not. This, then, must explain why U.S. industries have come under attack from abroad. By "targeting" industry, protecting it from foreign competition during the formative years, allowing collusive "rationalization" schemes that permit the exploitation of economies of scale, and encouraging "flexible" production, the Japanese, we are told, have outflanked us. We can only hope to compete by emulating these strategies.

*American Industry in International Competition* is very much in the mainstream of current books on industrial policy. It contains studies of the automobile, steel, semiconductor, color television, footwear, and textile industries, not the aerospace, hospital equipment, communications equipment, or mainframe computer industries. As a result, the unwary reader may be lulled into thinking that the Japanese have succeeded everywhere. Moreover, this is a collection of essays written principally by political scientists, not economists or management theorists. It is not surprising, therefore, that we are told over and over again that successes in Japan and failures in the United States represent a failure of government policy—a failure to stimulate and guide industries appropriately.

This is not to say that the book does not enlighten. Most of the chapters are well worth reading, and for a number of different reasons. The chapter on the political pressures that led to the Multi Fiber Agreement for textiles and apparel provides useful insights into the formation of common-interest groups supporting trade restrictions in this sector. The chapter on footwear points up the futility of country-by-country orderly marketing agreements for a product so easily produced in any of scores of low-wage countries. And the chapter on automobiles takes up part of the Abernathy-Clark explanation for the recent decline in the U.S. industry.

Most readers of *Science*, however, will find the lengthy chapter on semiconductors the most important in the volume. After all, it is in high technology that the future lies, and one can hardly regard textiles, footwear, or steel as high tech. In dealing with the growth in the semiconductor industry in Japan and the United States, Borrus, Millstein, and Zysman provide us a detailed history of the evolution of each industry from simple integrated circuits through the 64K RAM. Much of the early U.S. success was due to military procurement, but after this early stage the government was largely irrelevant. In Japan, on the other hand, the government's role was far more active, subsidizing research, directing capital, and protecting markets.

The semiconductor chapter is more a description of the evolution of the industry in two different economic cultures than an economic analysis of the forces driving the industry. It contains more than a little of the usual view of the Japanese economy as one guided and nurtured by the Ministry of International Trade and Industry. Japanese firms have longer planning horizons because their domestic markets are protected and because their managers are not as beholden to daily stock market events. Markets are "rationalized"—that is, specialization is promoted and economies of scale exploited—by government limits upon competition. Specific markets are targeted by farseeing planners. The problem with all such assertions is that they are generally little more than that. It is not easy to provide an economic test of such informal theories. Investment horizons cannot be measured from observable evidence. The role of government in directing firms into specialized niches can be asserted, but it is difficult to argue that market forces rather than government pressure did not compel the result. United States producers of semiconductors have succeeded at "rationalization" without any government prodding. What are we to conclude about the role of "industrial policy"?

Nor can it be said that the Japanese have succeeded (through 1982) in achieving primacy in semiconductors. The authors demonstrate that the U.S. share of the world market is nearly five times that of the share achieved by the Japanese. Most of the technological breakthroughs that are described in the chapter are attributed to U.S. firms. In short, one cannot conclude that our failure to use trade protection, government subsidies, and government direction has been bad for our semiconductor industry. In fact, one might suggest that the stability of a protected market has harmed one of our largest semiconductor firms, Western Electric. With the advent of competition in terminal equipment and the loss of its captive operating-company markets for transmission and switching equipment, Western Electric is perceived to be in serious trouble because it has not adapted quickly enough to changing market demands. Producing for a captive market protected by government entry barriers may not be the route to success in changing high-technology markets.

If a protected local market were conducive to success, the U.S. steel and automobile industries should have fared better in the 1970's. For decades, these industries were, for rather different reasons, virtually immune from foreign competition. The two chapters detailing the difficulties of these domestic industries do not stress this absence of external competition. Rather, they stress the failure of the industries and government policies to adapt to the market realities of the 1970's. The discussion of the automobile industry, in particular, focuses on product-line flexibility in Japan as compared to the continued emphasis on long runs of standardized products in the United States. This distinction is useful and important, but it conflicts substantially with the theory advanced in the other chapters that "rationalization" encouraged by government suppression of competitive forces is important to success in the modern industrial environment. Japanese automobile producers successfully resisted MITI's attempt to rationalize this industry into a few large-scale producers. This resistance proved to be a wise decision. The troubles of the U.S. industry extend far beyond the attachment to long runs of standardized

products. Excessive wages, a decline in product quality, a low rate of technological innovation, and changes in the dollar-yen exchange rate are largely ignored in this chapter, which thus gives the reader an unbalanced perspective.

Finally, a provocative piece by Piore and Sabel discusses the development of small-scale, entrepreneurial firms using flexible production techniques in Italy. These firms are a response to the rigid, unionized system of production that has developed elsewhere in Italy and are taken to be a model of future revival of industrialized regions in the United States. Whether workers displaced from declining basic industries can be saved by economic organization on this model is unclear. The authors' recounting of the successes of new ventures in the eastern Massachusetts area cannot support a view that the former auto and steelworkers in Michigan, Indiana, and Ohio will find happiness and productive employment in new small-scale firms. The skills and work ethic of these displaced workers may not lend themselves readily to higher-technology operations in which the workers must be more malleable, exercise more judgment, and utilize more highly polished skills than they have been accustomed to in large-scale, low-skill, unionized jobs.

All in all, this is a useful book for the student of trade and industry. It is not, however, a definitive study of the differences between U.S. and Japanese industries, nor does it explain fully the malaise in basic U.S. manufacturing. Many of the economic forces that have created the depression in the industrial heartland of the United States are ignored. And the description of the carefully nurtured Japanese industry is far from convincing even if it is consistent with the widely held view. The editors' closing plea for a limited set of "sector-specific" policies will appear limp to many readers, but given the U.S. government's "successes" in subsidizing and protecting declining industries it would be difficult to make a stronger case for more intervention.

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## Health and Welfare in an Industrial Era

**Endangered Lives**. Public Health in Victorian Britain. ANTHONY S. WOHL. Harvard University Press, Cambridge, Mass., 1983. viii, 440 pp., illus. $20.

Most studies of public health in Victorian Britain are either administrative histories or histories of disease. Although certain figures, reforming administrators like Edwin Chadwick and John Simon, or certain episodes, like cholera epidemics, have been well studied, there is, to my knowledge, no other work of the scope of Anthony Wohl's latest book. Wohl brings the perspective and the skills of the social historian to the tasks of describing the health of the people, of explaining the collective actions Victorians took to protect public health, and of analyzing the motives for and the consequences of those actions. It is a very large order, and he handles it remarkably well.

The first three chapters explore the dependence of health on circumstances of life. Here and throughout his study Wohl quite properly insists that widespread poverty, especially in the rapidly expanding industrial cities, was the most important social and economic reality in the public health movement. It was the predominant force in creating the health problems Victorians faced; it frustrated many of their reform efforts, and it outlived them to confound their successors. Despite considerable economic growth and the recent advent of revolutionary welfare programs, one-third of the wage-earning population of England and Wales lived below Rowntree's poverty line when the First World War began.

Wohl measures the health of the people in the usual manner by employing mortality rates for the nation and for separate age groups and occupations. He devotes an entire chapter to infant mortality. His arguments are not, however, primarily statistical. In a stimulating departure, he shows not only that the poor died with greater frequency and at younger ages than their social superiors, differences that can be measured statistically, but also that the diet, hygiene, and labor of the poor marked them with physical deformity, offensive odor, and characteristic industrial diseases, thus reinforcing class differences and prejudices. The latter effects can be illustrated much more easily than measured.

Succeeding chapters deal with more familiar topics: the incidence of the major infectious diseases and the Victorian engineering achievements with respect to water supply and sewage. Next we encounter useful chapters on the public health administrative apparatus of central and local government. Finally there are four chapters on environmental hazards with which Victorians dealt only inadequately or belatedly: atmospheric pollution, water pollution, industrial toxins, and inadequate housing.

This is a major work of synthesis. Its mastery of sources is impressive. Wohl makes good use of previous historical studies and of the mountains of material the Victorians themselves generated in response to these problems in professional journals, newspapers, fiction, and especially the *Parliamentary Papers*. He also makes limited use of recent scientific studies of mortality and epidemiology. His sources are used with imagination and care. Wohl relies, as one must, on the statistics Victorian propagandists and administrators collected, while warning repeatedly of ways in which they can mislead and offering correcting or balancing evidence. In his three chapters on air and water pollution and on industrial disease, Wohl mines the reports of parliamentary investigators and of governmental inspectors to bring us accounts of important topics usually ignored by historians.

The book is well crafted and makes fascinating reading. The human costs of social change are presented in both quantitative and descriptive ways. Though clearly enthusiastic about his topic and sympathetic to his subjects, Wohl stays clear of the sensationalism that mars some histories of disease. His judgments are careful and non-doctrinaire. Although he sees economic forces at the root of public health problems, Wohl abjures simple economic determinism. Economic growth is viewed as part of both the problem and the solution.

Wohl's book is least successful in dealing with specific infectious diseases. He does not discuss the Contagious Diseases Acts and the campaign against venereal diseases, and the brief discussion in chapter 5 ("Fever! Fever!") of the changing pattern of acute infectious disease seems, as Wohl would probably concede, to strain the boundaries of social history. On the other hand, the strengths of Wohl's approach are clear. He offers us many valuable insights. Perhaps the most useful of these is the suggestion that the revolution in Victorian public health be dated some three decades later than is customary, to the 1870's rather than to the 1840's. Wohl shows repeatedly how effective action against one hazard after another was