

Alfred Herbert Ltd. and the British Machine Tool Industry, 1887–1983. *By Roger Lloyd-Jones and M. J. Lewis.* Aldershot: Ashgate, 2006. xii + 352 pp. Tables, appendix, bibliography, notes, index. Cloth, \$99.95. ISBN: 0-754-60523-X.

Reviewed by Roberto Mazzoleni

The decline of the British machine-tool industry during the twentieth century is one aspect of what historian Jim Tomlinson of the University of Dundee has described as “the falling behind” of the British manufacturing industries. Roger Lloyd-Jones and M. J. Lewis put this general proposition under the microscope, piecing together and analyzing a century-long history of the industry and its largest firm, Alfred Herbert Ltd. In a nuanced account, they trace the economic and organizational factors behind the industry’s collapse in the early 1980s. Such factors encompass the sector’s structural weaknesses caused by fragmentation into small firms, shortages of skilled labor, the weak innovative performance of its domestic users, and the firm-level failures that resulted from narrow managerial capabilities, ineffective research and development, and conservative product strategies. More critically, the authors persuasively debunk the notion that this collapse resulted from a steady, long-term decline. They assert instead that the industry, or at least several British firms, enjoyed periods of prosperity and responded successfully to several business challenges during the twentieth century. Overall, they support Tomlinson’s hunch that the notion of a century of decline is the product of retrospective judgments. Arguably, the collapse of both Alfred Herbert Ltd. and the British machine-tool industry in the 1980s followed a drastic deterioration of their competitiveness in the domestic and international markets that began in the 1960s.

The chronology starts in the 1890s, when a group of new and innovative British firms responded to the growing influx of imported American machine tools. Their efforts succeeded, thanks to a combination of familiarity with American design principles and knowledge of local markets. As one of this group, Alfred Herbert Ltd. benefited from its close ties with firms in the Coventry industrial district that manufactured bicycles, motor vehicles, and small arms. The company also undertook to represent other machine-tool

manufacturers, both domestic and foreign, through its international network of sales branches. These ties proved useful during World War I, when British firms had to cope with labor shortages and surging military demand for machine tools. They responded to these challenges by specializing and by developing local subcontracting relationships, but American imports were crucial to their ability to meet domestic needs.

During the postwar period, firms like Herbert continued to rely on imports through their factoring business, which enabled them to round out their machine-tool portfolios and satisfy all their customers' machinery needs. Lloyd-Jones and Lewis identify this strategy as a key reason for the continuing necessity to import specialized automatic machinery. Indeed, during the rearmament of the 1930s, the government exempted from tariffs the "gap machines" that could not be sourced domestically, a policy that pleased both manufacturers like Herbert, which profited from imports through their factoring business, and firms that wished to protect their export business from government interference. When access to U.S. imports diminished after 1941, many small British engineering firms coped by producing general-purpose machine tools as subcontractors, but they continued to encounter difficulties in filling orders for special machinery.

Since the 1950s, a series of critical reports has faulted the industry's lagging productivity growth and its poor record in developing innovative technologies, most notably numerical control, for the country's growing reliance on imports of advanced machinery. The British industry's trade performance faltered after that decade. While imports rose, British exports increasingly consisted of sales of general-purpose machines in the Commonwealth markets. These weaknesses prompted both Tory and Labour administrations to advocate rationalization policies, formulated to promote collaboration in research and development and to establish a government role in investment planning. Outside criticism and interference clashed with the management traditions and values of firms in the industry, which acceded only half-heartedly to the implementation of government policies. The industry's weaknesses were compounded by the failure of domestic users to invest in innovative technologies like numerical control, which was partly attributable to their inadequate capabilities for investment evaluation.

One interesting chapter analyzes Alfred Herbert's activity during the postwar decades, when the firm's own attempt to rationalize production resulted in substantial growth of both its manufacturing program and its factoring business. Although Herbert became the world's largest machine-tool organization, the authors argue that its rationalization strategy failed largely because of inadequate organizational capabilities. During the late 1960s, Herbert engaged in an ambitious program of acquisitions that included BSA, a large British machine-tool firm and entered into partnering agreements, including a joint venture with the U.S. firm Ingersoll. But the firm's managers were not equipped to deal with the complexities of rationalizing the production and sales of activities across a growing range of assets. As a result, these ventures proved to be costly mistakes that led, in the early 1970s, to rapid deterioration in the company's financial outlook. The government's belated effort to rescue the company in 1974 was insufficient to reverse its downward spiral, and, after less than a decade, the company's assets were sold.

The authors' thorough investigation of primary sources and secondary literature has resulted in a valuable addition to the scholarship on the machine-tool industry. The book's thoroughly documented reconstruction of company histories and of the industry's interaction with various government agencies will appeal to business and economic historians specializing in the machine-tool sector, though the extensive coverage might overwhelm a broader audience. Occasionally, events are recounted from too narrow a perspective. The technological developments of the second postwar period that led to the sudden deterioration of Herbert's competitive position and undermined the entire industry are addressed only peripherally, as is the rise of Japanese machine-tool firms. A more systematic discussion of these events would have helped the reader understand why the long-standing specialization in general-purpose machine design prevented Herbert and other British firms from playing a greater role in the development of numerical control.

Roberto Mazzoleni is associate professor of economics at Hofstra University. He has written a number of articles on the history of machine tools, including "The Organization of U.S. Machine Tool Distribution in Europe (1890–1916)," in Industrial and Corporate Change (Feb. 2002), and "Innovation in the Machine Tool Industry: A Historical

BUSINESS HISTORY REVIEW

Winter 2007

BOOK REVIEW

Perspective on the Dynamics of Comparative Advantage,” in Sources of Industrial Leadership, edited by David Mowery and Richard Nelson (1999). He is currently studying the historical role of public research institutions in economic development.