

Made in the USA: The Rise and Retreat of American Manufacturing. By Vaclav Smil. Cambridge and London: MIT Press, 2013. Pp. xiii, 263. \$27.95. ISBN 978-0-262-01938-5. *JEL 2013-1150*

By many measures, manufacturing in the United States has been regressing. Certainly along most any relative metric—share of domestic output and employment, share of world manufacturing, trade balances relative to the other large manufacturing countries—the sector has been shrinking for decades. Whether these changes reflect the natural evolution of an economy, akin to the way most economists view developed economies' past shifts away from agriculture, or instead portend large economic and societal problems, has been the content of considerable debate. The prolific Vaclav Smil's recent effort, *Made in the USA*, enters into this conversation.

The bulk of the book is a history of manufacturing in the United States in three parts (and chapters): ascent, dominance, and retreat. These chapters are descriptive recountings of events in manufacturing; they contain only occasional and brief subjective commentary by Smil on the topics under discussion. This is an engineer's history, one of numbers and statistics rather than personalities. The book's litany of facts and figures about technological and economic advances astounds; a not atypical paragraph explores the evolution of mass-to-power ratios of diesel engines circa 1900. Marshaling massive arrays of figures and descriptions of events from work done by many other researchers who had tackled narrower slices of this history, Smil adeptly fashions these myriad pieces into a coherent narrative, showing command of an impressive breadth of topics in the process. One is reminded in Smil's writing of Isaac Asimov's ability to write lucidly and knowledgeably on a stunning variety of technical topics for nonexpert audiences.

The remainder of the book focuses on two related lines of argument. One explores the reasons behind U.S. manufacturing's retreat. Here, the book's story is not one of an inevitable economic transformation, but is instead very much about Smil's views of mistakes that led to the decline. Smil argues that many actors committed these errors—policymakers, companies, and

sometimes workers—and he places particular blame on the shoulders of policies and people in automotive manufacturing. The second line of argument asserts why we (economists, workers, citizens alike) should be deeply concerned about this decline, as it has negative consequences for broad swaths of society. It is in making these arguments that I found the book somewhat wanting.

There is no question that numerous parties made many poor decisions during the several decades of U.S. manufacturing's decline and it is reasonable for Smil to apply particular blame to the Detroit Three. It is less clear, however, that these mistakes (even in aggregate) actually drove the decline, rather than simply adding some specific intensity of the retreat in specific industries. For example, what would a counterfactual world in which the Detroit Three made all the right decisions look like? It is hard to imagine that they would still have anywhere near the 90 percent market share they had in 1960, or that parts and cars eventually sold in the United States wouldn't be produced around the world. A similar thought exercise could be applied to many industries and I suspect the conclusion would be the same: first, a recovering Japan and Germany and then later, the emergence of economies like those of Taiwan, The Republic of Korea, and China were going to immensely impact the world's distribution of manufacturing activity no matter what the decisions of individual actors in the United States. The book complains by name about those who have asserted that U.S. manufacturing's decline was wholly or to some great extent inevitable, but it never really tries to build a strong case that it was not, beyond cataloging mistakes and noting their (broadly speaking) coincident timing with manufacturing's retreat. There is no attempt to build a more solid counterfactual scenario that could be compared to what was actually observed.

As to the second point about how much alarm should greet the sector's decline, it seems clear that if one is going to argue that manufacturing is different—that its retreat (at least in relative terms) is not simply the natural course of an economy's development and instead is a cause for societal concern—one must draw a contrast with agriculture. Once the dominant sector in most every economy in the world, agriculture now accounts for a tiny fraction of activity in wealthy

economies. Yet there is little consternation from any source (perhaps with the exception of select industry players) about any broad, negative consequences of this shift. If manufacturing is simply following the same evolution, why should its diminishing relative size (a shift not unique to the United States, but that is also occurring in other wealthy economies, even those with prominent manufacturing sectors, like Japan and Germany) be a source of particular concern?

Smil offers three arguments in favor of alarm. One, manufacturing has been the principal driver of technical innovation, the primary source of long-run economic growth. Two, despite its decline in relative size, U.S. manufacturing is still large in absolute value added terms and millions of jobs still depend on it. Three, low manufacturing export intensity has caused chronic and large trade deficits.

Considering each in turn, there does seem to be something special about manufacturing and innovation. The sector's share of total R&D is several multiples of its output and employment shares, for instance. And many advances in services delivery are tied closely to or completely integrated into manufactured objects; for example, modern automobiles are not merely machines, but instead sophisticated electromechanical devices for delivering transportation services.

On the other hand, the argument that size matters per se does not distinguish manufacturing from agriculture. Agriculture was once as large as (and larger than) manufacturing's current size. Yet that was neither enough to foster a will nor create an economic necessity in keeping the sector from shrinking, and few would argue with the economic transformation that resulted.

Many economists may be initially tempted to dismiss the third, trade-oriented argument. In principle, patterns of comparative advantage could lead the United States to run a sustained deficit in manufactures trade without indicating fundamental problems. That dismissal would be premature, however. The problem is that there is no obvious counterweight to U.S. trade imbalances in manufactured goods. The country's trade surpluses in services and agricultural products are nowhere near large enough to counterbalance the manufacturing deficit. The United

States has chronically consumed more manufactured products than it could either produce or trade for itself. It is, therefore, plausible that the United States could support considerably more domestic manufacturing production.

Thus, the case for manufacturing's decline being a special cause for concern is in part makeable. (I would add the important role of agglomeration economies in the sector as another potential item in support of the case.) Had the book gone to the depths of detail and care of construction in making this case as it did in presenting its history of the sector, it might have been powerful. However, as with its argument that the sector's decline was caused by deliberate decisions rather than being inevitable, it puts far too little flesh on the case's bones. It makes its points too shallowly and too quickly, substituting assertion for the construction of a tighter logic that would force more skeptical readers to come more closely to terms with the argument.

Summing up, then, one finds in *Made in the USA* what are effectively two books. One is a remarkable, readable, and concise history of manufacturing in the United States. This component alone would be worth close read by interested parties. The second states a case for the sources and consequences of the sector's decline. While readers may find this latter component stimulating, it is less likely to be convincing—certainly not to those with more skeptical priors.

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N Economic History

Staying Afloat: Risk and Uncertainty in Spanish Atlantic World Trade, 1760–1820. By Jeremy Baskes. Social Science History series. Stanford: Stanford University Press, 2013. Pp. xiv, 393. ISBN 978-0-8047-8542-6, cloth; 978-0-8047-8635-5, e-book. JEL 2014-0643

This book is a study on Spanish Atlantic trade in the period 1760–1820, with a focus on the issues of risk and uncertainty in trading and the manner in which Spanish merchants managed these difficulties. Its intellectual context includes Douglas North's "institutional economics" and work on