

The “supply side” of the auto industry

Who Really Made Your Car?: Restructuring and Geographic Change in the Auto Industry. Thomas Klier and James Rubenstein, Kalamazoo, MI., W.E. Upjohn Institute, 2008, 419 pp., \$40.00/cloth; \$20.00/paper.

In *Who Really Made Your Car?*, economist Thomas Klier and geographer James Rubenstein present a comprehensive and detailed overview of car production in the United States. Discussion of the auto industry by economists, journalists, and politicians often focuses on the car makers—Ford, G.M., Chrysler, Toyota, Honda, etc.—with comparatively less ink used to explore auto parts suppliers. Through synthesis of private data with original research, the authors have created a database of auto parts suppliers in the United States, Canada, and Mexico, classifying them by location, type of parts produced, ownership, unionization, and other categories. As Klier and Rubenstein show, these suppliers employ the majority of workers in the overall auto manufacturing industry and are responsible for a growing majority of the final value of cars. Their analysis therefore adds significantly to the understanding of the industry as a whole.

The first quarter of *Who Really Made Your Car?* explores the rise and continued prominence of southeastern Michigan in car making. For most of its history, auto production has been vertically integrated, with the Detroit 3 both making parts and assembling vehicles. Yet this was not always the case; early car makers had to rely on existing companies to supply parts, sometimes creatively

adapting them. The location of many of these parts companies was in the Midwest, hence the desire of early carmakers to locate there. Over time, the major car companies acquired the parts producers or started their own operations. As more cars were produced, and it was expensive and impractical to ship complete vehicles, the parts were instead shipped to assembly facilities strategically located near population centers throughout the United States. With the spin-off of Ford and G.M.’s parts production into Visteon and Delphi, respectively, the industry has come full circle; the major car companies are again primarily assemblers of finished vehicles. Assembly is still concentrated in the Midwest but now extends along a 100 mile wide corridor to the South known as “Auto Alley,” with parts production more dispersed.

The authors explore the supply chain involved in car production and, more broadly, the emergence of Auto Alley. Since the arrival of Japanese carmakers into the United States in 1982, lean production methods and in particular “just in time” production—in which carmakers do not maintain inventories of parts prior to assembly but source them as needed—have slowly become the norm. With their database, Klier and Rubenstein show that this has caused most parts suppliers to locate within a day’s shipping time from a final assembly plant. This finding is significant, as politicians have been offering numerous policy incentives to entice carmakers to build assembly plants in the hopes of creating production networks and in turn more jobs and tax revenue. Yet a day’s drive means that suppliers can end up in a different locality

or even across state lines. The growing importance of the South in car production can be traced to Japanese and other foreign car companies’ decisions to locate there, based on a desire to avoid unionization and competition for skilled labor.

The final section of *Who Really Made Your Car?* consists of an examination of current trends and prospects for the supplier industry. Of particular note is the discussion of imports. Contrary to what could be called the prevailing wisdom (that imports are cheap, generic parts), “a large and increasing share of imports...actually consists of engines and transmissions made by highly skilled workers in wealthy countries like Canada and Japan.” Electronics components are also likely to be imported. To date, concerns about the quality of parts produced in China has hindered growth of its parts production, though it is likely to play an increasing role in the future, perhaps at the expense of Mexico.

The qualitative information in *Who Really Made Your Car?* of the various parts “modules”—the chassis, the power train, the interior, electronics, and others—and their producers’ corporate histories is exhaustive and thorough but can border on the esoteric. From the early history of Goodyear Tires (Charles Goodyear was not involved), to the ongoing battle for the seat market between JCI and Lear, to the difficulties in getting goods across Detroit’s Ambassador Bridge, no aspect of car production is left out. Yet the real value of this work is in both the impressive database that has been produced and the identification of the larger trends shaping the industries. Behind the large car companies stands an industry that is

dynamic and competitive. In an effort to survive, parts makers are increasingly turning to innovation and integration, either focusing on new technologies or producing complete “systems” of parts that can then be resold to final assemblers. Such a task is not easy; for example, anti-lock brakes were once a premium part that sold for \$1,000, but their price fell to \$100 within a decade. A changing regulatory environment provides additional impetus for this trend. The rise of global supply chains has also led to an increased role in the industry for third party logistics providers. Finally, it is clear that the relationship between suppliers and final makers will continue to evolve. Japanese companies have historically integrated their parts producers using long-term contracts and worked to support them.

Domestic companies have, in turn, used one-year contracts based on price only. The latter is not likely to continue, though it is unclear what form the future relationship between parts makers and assemblers will take.

Unfortunately, the events of the past two years have reduced the value of Klier and Rubenstein’s work. In their words, “parts suppliers live and die by the fortunes of the carmakers.” The bankruptcy and corresponding restructuring of General Motors along with the sale of Chrysler to Fiat have without a doubt led to changes in the size and structure of the U.S. auto industry. Several of the high profile plants mentioned in the study, including the Toyota-G.M. New United Motor Manufacturing, Inc. (NUMMI) assembly facility in California and

the G.M. Saturn plant in Spring Hill, Tennessee, have been shuttered or will be closing (although Tesla Motors has announced plans to purchase the NUMMI plant and use it to produce an electric car, employing one-fifth the previous amount of workers). It remains to be seen whether or not the recession has accelerated the trends identified by the authors, or perhaps changed their course entirely. A follow-up work that answers these questions would consequently be very welcome. As it stands, however, *Who Really Made Your Car?* is still a worthwhile resource for anyone wanting a better understanding of car production in the United States. □

—Adam Bibler
Office of Occupational Statistics
and Employment Projections