Metropolitan Policy Program at BROOKINGS

How a Metro Nation Would Feel the Loss of the Detroit Three Automakers

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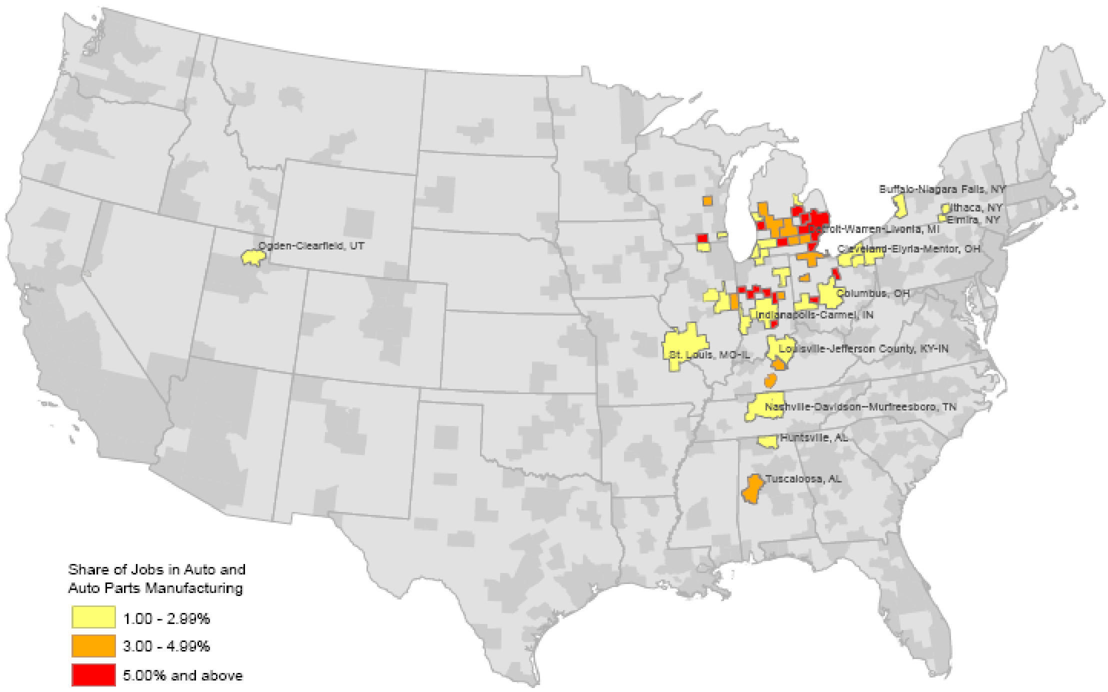
The federal government has agreed to provide $17.4 billion dollars in emergency loans to keep General Motors and Chrysler in business for the next few months. By the end of March, the companies will have to show that they are financially viable; if they cannot do so then they will be required to repay the loans immediately, a step that would likely result in bankruptcy. Although the loans provide a respite for the companies to work out the details of restructuring with their creditors, suppliers, unions, and dealers, their ultimate economic impact is unclear. GM and Chrysler may close plants and lay off workers permanently, either as past of their immediate restructuring or as part of an eventual bankruptcy.

One consideration in assessing the loans economic impact of any job losses that may result from restructuring is the extent to which the regional economies of 50 metropolitan areas—including most of the metropolitan economies of the Great Lakes region as well as some in other regions of the country—depend on the jobs and incomes generated by General Motors, Ford, Chrysler, and their suppliers.[1]

Figure 1 shows the 50 metropolitan areas that have at least 1 percent of their employment in auto manufacturing and auto parts manufacturing combined, and are home to at least one General Motors, Ford, or Chrysler plant and/or substantial manufacturing by major Detroit Three suppliers such as Delphi and Visteon. Metropolitan areas with at least 1 percent of their employment in autos and auto parts have more than 1.55 times the national average percentage of their employment in those two industries combined. They are the ones that would suffer the greatest losses of jobs and income if the Detroit Three companies were to go out of business. Although 1 percent of a metropolitan area's employment may not sound like a large number, the jobs and incomes created by the Detroit Three companies and their suppliers support up to twice as many jobs in industries—ranging from auto dealerships to supermarkets to doctors' offices—that provide local services.[2] Therefore, a loss of auto and auto parts jobs amounting to 1 percent of a metropolitan area's jobs could mean a loss of up to 3 percent of the area's jobs overall.

Figure 1. Fifty Metropolitan Areas Depend Heavily on Detroit Three-Related Jobs



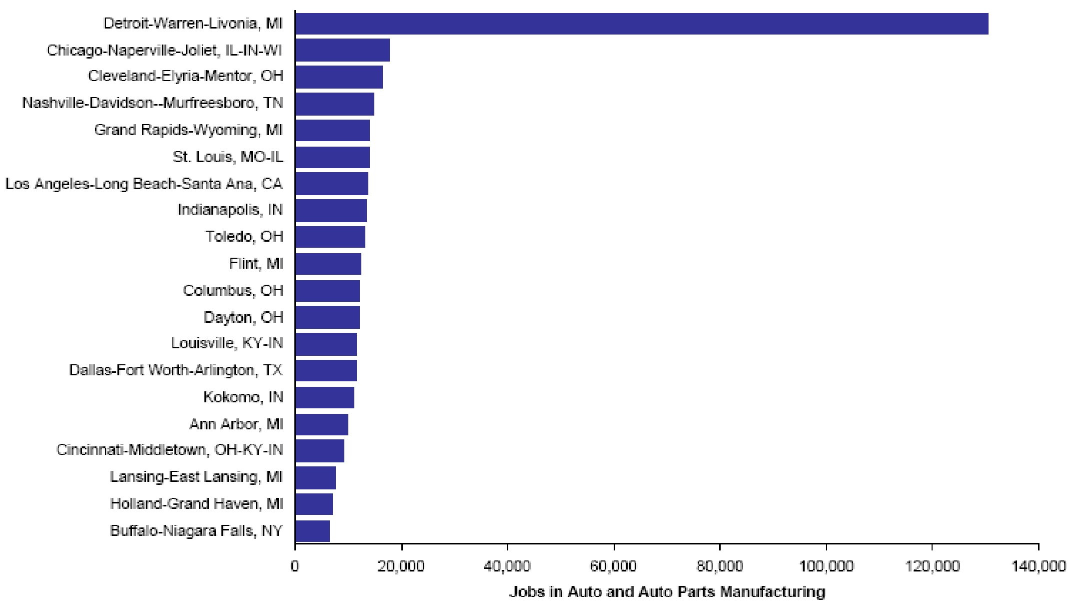
Source: Author's analysis of 2005 Moody's Economy.com data with assistance from Dan Luria, research director of the Michigan Manufacturing Technology Center

Most of the metropolitan areas that would be most harmed by the Detroit Three's demise are located in the Great Lakes region. They include large metropolitan areas such as Detroit, Cleveland, Buffalo, and St. Louis, as well as many smaller ones. However, some of the affected metropolitan areas are located partly or entirely in the South (Elizabethtown, KY; Bowling Green, KY; Tuscaloosa, AL; Huntsville, AL; Nashville, TN; and Louisville, KY), Northeast (Ithaca and Elmira, NY), and the West (Ogden, UT).

Some metropolitan areas have very high concentrations of auto and/or auto parts jobs that depend for their existence largely on the Detroit Three.[3] In Kokomo, IN, about 22 percent of all jobs are in autos and auto parts. A loss of those jobs could mean a loss of well over half of all employment in the area. In 12 more metropolitan areas where auto and auto parts jobs depend very heavily on the Detroit Three (Flint, MI; Battle Creek, MI; Mansfield, OH; Columbus, IN; Detroit, MI; Monroe, MI; Janesville, WI[4]; Holland, MI; Anderson, IN; Saginaw, MI; Springfield, OH; and Lafayette, IN) the percentage of all jobs that are in autos and auto parts ranges from about 5 percent to nearly 8 percent. A loss of Detroit Three and supplier jobs could lead to losses of 15 to 24 percent of all employment in these areas. In a dozen other metropolitan areas where auto-related employment depends substantially on the Detroit Three (Ann Arbor, MI; Jackson, MI; Lima, OH; Danville, IL; Toledo, OH; Oshkosh, WI; Elizabethtown, KY; Grand Rapids, MI; Muncie, IN; Lansing, MI; Bowling Green, KY; and Tuscaloosa, AL), auto and auto parts jobs make up 3 percent to just under 5 percent of all jobs. Losses of those jobs could result in losses of 9 to 15 percent of all jobs in these metropolitan areas.

The loss of the Detroit Three companies would have a large impact on employment in auto and auto parts manufacturing nationwide. Metropolitan areas that depend substantially on the Detroit Three for their auto and/or auto parts jobs (including those shown in figure 1 as well as others that have less than 1 percent of their jobs in autos and auto parts) account for at least half of nationwide employment in those two industries combined.[5] Metropolitan Detroit alone has nearly one out of every seven jobs in the two industries combined. Figure 2 shows the 20 metropolitan areas with the most jobs in Detroit Three-related autos and auto parts combined. In most of these metropolitan areas these jobs account for at least 1 percent of total employment. However, there are also many auto and auto parts jobs in Los Angeles, Dallas, and Cincinnati, large metropolitan areas where these industries account for a smaller share of total employment. Closures of Detroit Three-related plants in those areas would harm the workers who were laid off but would have less impact on metropolitan area economies.

Figure 2. Nashville, Los Angeles, and Dallas Join Several Midwestern Metropolitan Areas Among Those with the Most Auto and Auto Parts Jobs Tied to the Detroit Three

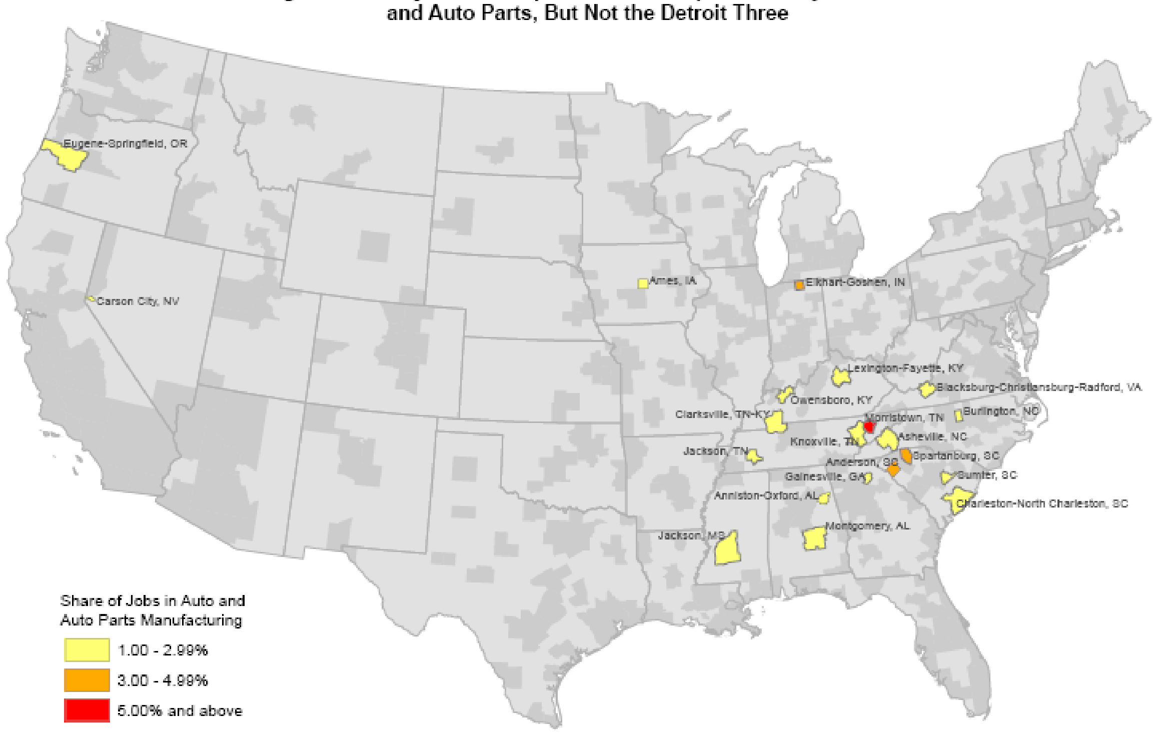


Source: Author's analysis of Economy.com data with assistance from Dan Luria, Research Director of the Michigan Manufacturing Technology Center

Not all metropolitan areas with large concentrations of auto and auto parts employment owe those concentrations entirely, or at all, to the Detroit Three. Three of the metropolitan areas with large concentrations of jobs in these industries, Columbus, OH; Nashville, TN; and Tuscaloosa, AL, are major employment centers for both Detroit Three suppliers and foreign manufacturers. The failure of the Detroit Three would not result in a loss of all the auto and auto parts jobs in these metropolitan areas. (These metropolitan areas are included in Figure 1 above.)

In addition, there are 21 metropolitan areas, mainly in the South, where at least 1 percent of total employment is in autos and/or auto parts but where little or none of that employment is attributable to the Detroit Three or their suppliers (Figure 3). These metropolitan areas are important locations for foreign auto manufacturers and/or their suppliers, or for manufacturers of recreational vehicles or aftermarket auto parts that are not sold to the Detroit Three. They have large concentrations of auto and auto parts manufacturing that would not be harmed if the Detroit Three went out of business. These metropolitan areas are generally less specialized in autos and auto parts than are the metropolitan areas shown in figure 1. The metropolitan area most dependent on auto and auto parts employment from non-Detroit Three sources, Morristown, TN, has about 5 percent of its jobs in these industries.

Figure 3. Twenty-One Metropolitan Areas Depend Heavily on Auto and Auto Parts, But Not the Detroit Three



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Some opponents of assistance to the Detroit Three argue that if these companies disappear, foreign manufacturers and their suppliers will take up the slack, shifting all the jobs now generated by the Detroit Three and their suppliers to many of the metropolitan areas shown in Figure 3. There are two reasons why this is not likely. First, some of the current demand for Detroit Three cars will shift to cars assembled outside the United States. Second, foreign companies that assemble cars in North America use only two-thirds as much U.S. content as the Detroit Three manufacturers.[6] Many of the supplier jobs that will be lost if the Detroit Three disappear will not be replaced anywhere in the United States. If the Detroit Three disappear then some of the metropolitan areas depicted in Figure 3 may gain jobs, but they will not gain all the jobs lost by the areas that depend on the Detroit Three.

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[1] Ford Motor Company has said that it does not need the federal loans to stay in business. Because the Detroit Three companies share many suppliers and operate in some of the same metropolitan areas, this report does not attempt to separate Ford from the other two companies in assessing the dependence of metropolitan economies on the Detroit Three.

[2] Studies of the impact of export-base industries on regional economies typically show that these industries have an employment multiplier that can be as high as 3. This means that each job in an export-base industry (such as a manufacturing industry) supports up to two additional jobs in local-serving industries. See N. Edward Coulson, "Measuring and Analyzing Urban Employment Fluctuations," in Richard J. Arnott and Daniel P.McMillen, eds., *A Companion to Urban Economics* (Malden, MA: Blackwell, 2006); Mark S. Henry and J.C.O. Nyankori, "The Existence of Short-Run Economic Base Multipliers: Some New Empirical Evidence," Land Economics 57 (1981): 448-458; G.E. Thompson, "An Investigation of the Local Employment Multiplier," *Review of Economics and Statistics* 41 (1959): 61-67; George H. Hildebrand and Arthur Mace, "The Employment Multiplier in an Expanding Industrial Market: Los Angeles County, 1940-47," *Review of Economics and Statistics* 32(1950): 241-249

[3] In addition to metropolitan areas, some smaller regions, called micropolitan areas, also have large percentages of employment in Detroit Three-related auto and/or auto parts manufacturing. For example, about 15 percent of all jobs in the Greensburg, IN, micropolitan area, a Detroit three supplier location, are in autos and auto parts. In the Columbia, TN, micropolitan area, home to a General Motors plant, nearly 11 percent of all jobs are in those industries.

[4] Employment at the General Motors plant in Janesville, WI, which is already scheduled to close, is included in the job total for that metropolitan area. Likewise, one of two Detroit Three plants in the Dayton, OH, metropolitan area (shown in figure 1) is scheduled to close; employment for both plants is included in the job total for Dayton.

[5] This is a conservative estimate. It excludes all metropolitan areas with less than 1 percent of their jobs in autos and auto parts except for those that we know are locations of Detroit Three plants or substantial

Detroit three supplier activity. It also excludes Columbus, OH; Nashville, TN; and Tuscaloosa, AL, where there are many Detroit Three-related jobs as well as many other auto and auto parts jobs that are not Detroit Three-related, and metropolitan areas in the San Francisco Bay area, where a General Motors-Toyota joint venture plant is located.

[6] The U.S. content of Detroit Three cars assembled in the United States, Canada, or Mexico is 75 percent, while that of foreign companies' cars assembled in the three North American countries is 50 percent. Personal communication with Dan Luria, Research Director of the Michigan Manufacturing Technology Center.