The Decline in Manufacturing Jobs In the Syracuse Metropolitan Area

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I. Introduction and Summary of Conclusions

This paper is a follow-up to one I prepared last year on the decline of manufacturing in the Buffalo area. That paper detailed the effects of national, regional, and local forces on manufacturing activity in Buffalo over the past fifty years. Many of the root causes of Buffalo's persistent decline are common to all of upper New York and the Northeast in general. U.S. manufacturing has been moving southward and westward for decades. This paper will not revisit all of that ground.[1] Rather, I will attempt to identify what Syracuse has in common with Buffalo and other upstate metropolitan areas and how it differs from them.

The major conclusions of this paper may be summarized briefly:

- Manufacturing's share of the overall U.S. economy has declined steadily for the last 50 years, but the decline in the Northeast – the Middle Atlantic and New England Census Regions – has been much more precipitous.

- Syracuse's decline as a manufacturing center has not appreciably greater than the general decline in manufacturing throughout the Northeast in general or New York State in particular.

- Metals-related manufacturing continues to be a very large share of U.S. manufacturing, Like Buffalo, Syracuse historically had a disproportionate share of its manufacturing employment concentrated in metals-related (principally, machinery and electrical equipment) manufacturing, and, much like Buffalo, steadily lost employment in these activities over the late 20th century.

- Syracuse's manufacturing sector was not any more diversified than most upstate metropolitan areas 50 years ago, but it is much more diversified today, principally because of the loss of employment in machinery industries.

- Unlike, Buffalo, Syracuse has been fortunate not to have had two very large employers that could no longer compete in their industry (steel) and therefore had to close their doors – in Buffalo and elsewhere. Most of Syracuse's large employers remain healthy.

- Given the heritage of unionization in the Middle Atlantic Region in general, most upstate metropolitan areas do not attract large new manufacturing plants unless they are built by firms already in residence. Surprisingly, several years ago, the Syracuse

[1] The interested reader may consult my Buffalo paper, "The Migration of U.S. Manufacturing and Its Impact on the Buffalo Area, presented at the New York Federal Reserve Bank, Buffalo Branch, Conference, *Manufacturing Matters*, June 6, 2002.

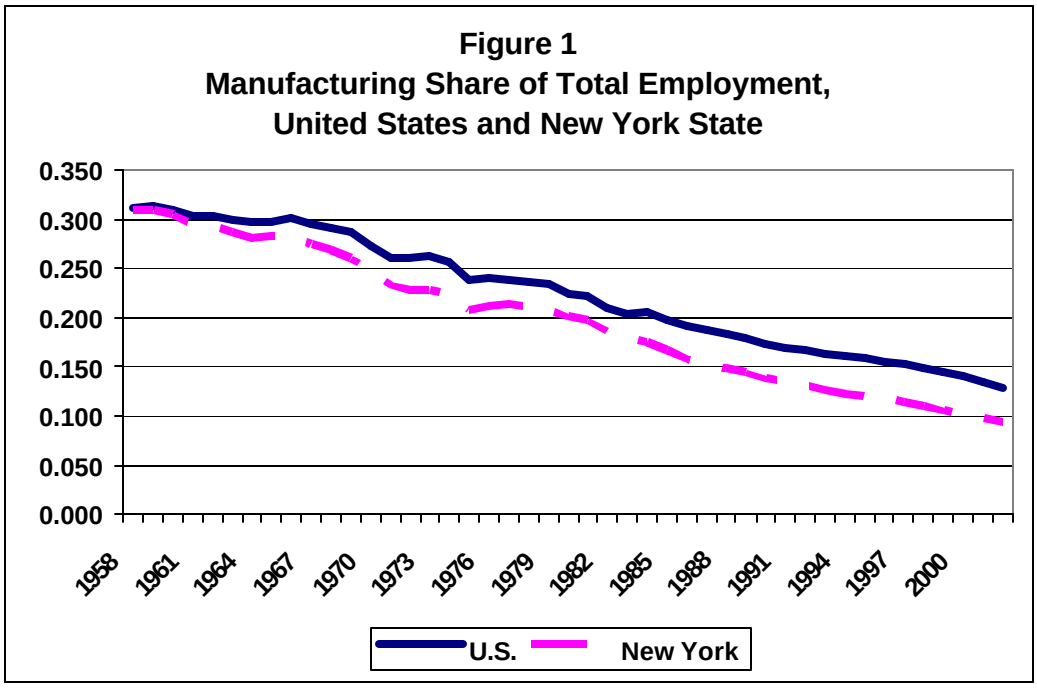
area attracted a large, successful new steel minimill, Auburn Steel, which remains non-union. It is not likely to attract many more such facilities in the future.

- Syracuse has no apparent comparative advantage in the new high-technology industries, such as computers and electronics; nevertheless, several high-technology firms, such as Lockheed-Marietta and Biophan, have manufacturing facilities in the Syracuse MSA that provide considerable employment.

II. The Steady Decline in Northeastern Manufacturing

Any analysis of Syracuse's manufacturing sector must be placed in the context of national and regional trends in U.S. manufacturing. Given the declining relative position of manufacturing in the U.S. and in most advanced countries, it is hardly surprising that a U.S. metropolitan area with a large manufacturing base has seen that base shrivel over the past 50 years. And if that area is located in the Northeast, it is even less surprising that it has lost manufacturing jobs. Manufacturing is relatively less important in the U.S. today than it was just after World War II, and it has shifted decidedly away from the Northeast.

Figure 1
Manufacturing Share of Total Employment, United States and New York State



Manufacturing has declined in importance in the United States. In 1959, for example, manufacturing accounted for 27.7 percent of nominal U.S. Gross Domestic Product. By 1999,

the share had fallen 16.1 percent.[2] Similarly, the share of employment attributable to manufacturing has declined. As Figure 1 shows, 31.3 percent of 1959 U.S. non-farm employment was in the manufacturing sector; by 2002, this share had been more than halved to 12.8 percent.[3] As is evident in Figure 1, New York State' slide has been even greater.

Not only has U.S. manufacturing declined in relative importance, but it has shifted dramatically away from the Northeast. New England began to lose manufacturing jobs after World War II.[4] Between 1947 and 1972, it lost 25 percent of manufacturing production jobs despite the fact that manufacturing employment increased by 10 percent over the entire country. By 1997, manufacturing production jobs in New England had declined to just 50 percent of their 1947 number and represented only 5 percent of U.S. production workers in manufacturing.[5]

The Middle Atlantic States – New Jersey, New York, and Pennsylvania – suffered a similar fate, but their decline began somewhat later. In 1954, these states still accounted for about 26 percent of U.S. manufacturing, whether measured by value-added or production workers, about the same share as in 1947. By 1997, however, these states' share of manufacturing value added and production-worker employment had fallen to about 12 percent.[6] (See Table 1.) Given that total U.S. manufacturing employment was virtually the same in 1997 as in 1954, despite a more than doubling of the civilian labor force, the share of these states' manufacturing workers in *total U.S. employment* has fallen by about 80 percent since 1954.

TABLE 1
The Relative Decline of Manufacturing in the Middle Atlantic Region
1954-1997

	1954	1972	1997
Value-Added ($ billions)			
United States	116.9	354.0	1,825.7
Middle Atlantic Region	30.4	70.3	211.4
Middle Atlantic Share of U.S. Total	0.26	0.20	0.12

Production Workers (thousands)			
United States	12,372	13,526	12,065
Middle Atlantic Region	3,212	2,638	1,402

[2] U.S. Department of Commerce, Bureau of Economic Analysis. The two numbers are not strictly comparable since the 1959 share is based on the 1972 SIC classification of industries while the 1999 share is based on the 1987 SIC classification. In addition, the share of *real* GDP in 1999 was marginally higher at 17.2 percent.
[3] Bureau of Labor Statistics, *Employment and Earnings,* Annual Establishment Data.
[4] See Robert W. Crandall, *Manufacturing on the Move*, Brookings, 1993, Chapter 1, for a discussion of these trends.
[5] U.S. Bureau of the Census, *Census of Manufactures*.
[6] Throughout this paper, I will focus predominantly on *production workers* in manufacturing rather than *total employment* because the Census of Manufactures reclassified certain non-production establishments of manufacturers, making it difficult to compare the 1997 data on total manufacturing employment with earlier Censuses of Manufactures.

Middle Atlantic Share of U.S. Total	0.26	0.20	0.12

Source: U.S. Bureau of the Census, *Census of Manufactures*.

The Syracuse area's experience essentially tracks the experience of the entire Middle Atlantic region. Manufacturing employment in the Syracuse metropolitan area (MSA)[7], measured by production workers, fell by only 26 percent between 1954 and 1997, but this small decline is misleading because the Syracuse MSA has been expanded geographically since 1954. In Onondaga County, the decline was 48 percent, still somewhat better than the 56.4 percent in the entire Middle Atlantic region over the same period or the 60.3 percent decline in New York State.

When examined in terms of the share of total employment, however, manufacturing in Syracuse displays the same trend as the rest of New York. As Figure 2 shows, manufacturing accounted for a declining share of employment in New York State and three upstate metropolitan since 1958.[8] Statewide, manufacturing's share of jobs declined from 31 percent in 1958 to just over 9 percent in 2002. About 37 percent of Syracuse's jobs were in manufacturing in 1958; in 2002, the share was only 12 percent. Rochester, which had 45 percent of its workers in manufacturing, has seen this share decline to just 19 percent. These trends surely suggest that the decline in manufacturing in Syracuse is the result of forces that are common to New York State and even to the entire Northeast.

Surprisingly, while manufacturing jobs were declining throughout the Northeast between 1954 and 1997, the total number of U.S. manufacturing production workers changed very little during this period. Outside New England and the Middle Atlantic states, manufacturing employment actually increased by 2 million over these 43 years, an increase of 25 percent. Thus, manufacturing is not in absolute decline everywhere. It is just shifting away from the Northeast and growing more slowly than the economy as a whole.[9]

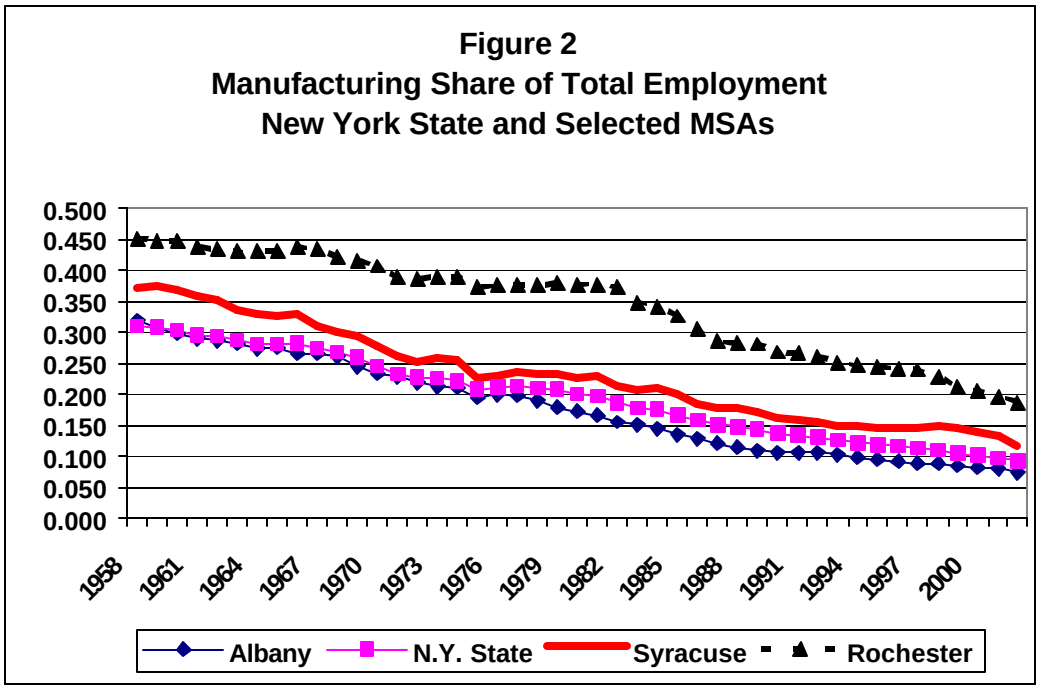
III. Syracuse's Shifting Manufacturing Base

Metals production and fabrication has always been a large part of U.S. manufacturing. In some cities, such as Buffalo, metal was smelted and refined as well as fashioned into useful products. Syracuse was never a major metals-producing center, but it was heavily dependent on machinery production in the early post World War II years.

[7] Metropolitan Statistical Areas (MSA's) are used by the federal government to provide statistical information for areas "containing a recognized population nucleus and adjacent communities that have a high degree of integration with that nucleus." See Office of Management and Budget, "Standards for Defining Metropolitan and Micropolitan Statistical Areas," *Federal Register*, Vol. 65, No. 249, December 27, 2000, p. 82228. Buffalo's MSA is comprised of Niagara and Erie Counties.

[8] Data are not available for some MSAs prior to 1958.

[9] Surprisingly, *real* manufacturing output grew more rapidly than the overall economy in the 1990s because greater productivity growth in manufacturing than in the overall economy led to a lower rate of increase in the prices of manufactures relative to the general inflation rate.



Surprisingly, Syracuse's manufacturing base was as heavily concentrated in metals-related industries as were the major steel centers in the country. In 1954, 70 percent of manufacturing employment in the Syracuse metropolitan area was concentrated in the metals and metals-related sectors – SIC's 33 through 37. (Table 2) These industries include a variety of metal, metal fabricating, and equipment industries, including industrial, agricultural, electrical, and transportation equipment. Buffalo was a major steel production center in 1954, but it had a lower concentration of metals-related employment than did Syracuse at that time. By 1972, however, the share of metals-related manufacturing workers in Syracuse had fallen to 57 percent, somewhat below that of Buffalo, but similar to Chicago and Youngstown.

Most of the steel-centered metropolitan areas shown in Table 2 lost large numbers of manufacturing jobs between 1954 and 1997. As Table 3 shows, Syracuse's decline was hardly atypical. Pittsburgh, Buffalo, and Youngstown lost many more jobs, principally because they lost virtually all of their jobs in the basic steel industry. Syracuse did not suffer from this collapse.

TABLE 2
Production Workers in Manufacturing and the Metals/Machinery Industries, Selected MSAs, 1954 and 1972

	1954			1972		
Metropolitan Area	Metals-Related Industries	Total Manufacturing	Metals-Related Share	Metals-Related Industries	Total Manufacturing	Metals-Related Share
Syracuse	28,588	40,630	0.70	22,500	39,200	0.57
Buffalo	92,388	152,882	0.60	65,700	108,700	0.60
Canton-Massillon	33,769	45,351	0.74	26,400*	43,200	0.61
Cleveland	158,871	222,511	0.71	125,100	179,200	0.70
Youngstown	75,588	88,386	0.86	40,900**	69,200	0.59
Pittsburgh	174,656	239,450	0.73	120,000	165,900	0.72
Birmingham	31,717	46,169	0.69	34,000	53,500	0.64
Chicago***	390,110	718,642	0.54	389,400	682,200	0.57

Source: U.S. Bureau of the Census, *Census of Manufactures*.
Metals Related Industries include SICs 33,34,35,36, and 37.
* Excludes SIC 36 (machinery) and 37 (transportation equipment). ** Excludes SIC 37.
*** Includes NW Indiana

Most metropolitan areas have a substantial concentration of business activity in a few industries because of the economics of distribution or agglomeration. Auto parts companies locate near automobile assembly plants. Various other types of durable goods manufacturers cluster in the same area because of the availability of engineering skills or other skilled labor.

TABLE 3
Production Workers in Manufacturing, Selected MSAs, 1954 and 1997

Metropolitan Area	**1954**	**1997**	**Percent Decline 1954-97**
Syracuse	40,630	21,138*	48.0
Buffalo	152,882	58,700	61.6
Canton-Massillon	45,351	31,900	29.9
Cleveland	222,511	120,200	46.0
Youngstown	88,386	37,900	57.1
Pittsburgh	239,450	70,200	70.7
Birmingham	46,169	34,000	26.4
Chicago* *	718,642	457,300	36.4

Source: U.S. Bureau of the Census, *Census of Manufactures*.
* Onondaga County only. (The Syracuse SMSA in 1954 was simply Onondaga County.)
** The CMSA, includes Gary, IN. Note: 1997 data exclude counties not in 1954 SMSA.

Computer, semiconductor, and software companies congregate in "Silicon Valley," Austin (TX), or the Boston area.

Most upstate New York areas had a substantial concentration of manufacturing industries in the early Post World II era. In Binghamton, one-third of manufacturing production workers were employed in the leather goods industries in 1954. In Buffalo, 40 percent of production workers were in the primary metals and transportation equipment industries at this time while in Rochester, nearly 40 percent of all manufacturing jobs were in instruments and related products.. In Syracuse, machinery producers (including electrical machinery) employed more than 44 percent of manufacturing production workers. This large concentration in one industry clearly subjects a metropolitan area to the risk that its core industry(ies) will decline or that the home-market firms will lose their competitive edge. These risks were quite evident in most of the cities shown in Figure 2, but have they been the problem in Syracuse?

In 1954, Syracuse had 17,900 production workers employed by manufacturers of machinery and electrical equipment. By 1997, the total production workers in these industries in the entire four-county MSA totaled only 7,400.[10] Thus, substantially more than half of the decline in Syracuse manufacturing may be traced to these machinery industries. Even though Syracuse did not suffer from the complete closure of its largest employers, as was the case in Buffalo, Pittsburgh, or Youngstown, it surely suffered from a similar decline in its major industries. In Buffalo, Republic Steel and Bethlehem Steel closed entirely and later collapsed. In Syracuse, Carrier remained, albeit as part of larger company, but it apparently contributes far less to Syracuse employment than in earlier years.

As a result of the decline in employment in machinery industries, manufacturing employment in Syracuse is now much more diversified. As Table 4 shows, Syracuse's manufacturing employment is now spread rather evenly across about twelve industries. Transportation equipment is likely the largest employer today, based on Bureau of Labor Statistics data, largely a reflection of the continued and even expanded operations New Venture Gear, a joint venture of General Motors and Daimler Chrysler.

IV. Industry Specifics: From Metal Bashing to Computers

Because Syracuse's decline in manufacturing has been heavily concentrated in the machinery industries, it is useful to ask if this decline was inevitable. If the U.S. is losing its metals-related manufacturing industries, Syracuse's might simply be attributed to national trends, not to its loss of comparative advantage in such production.

Surprisingly, employment in U.S. metals-related manufacturing industries has not declined very much since 1954, and these industries' share of manufacturing workers has actually risen. In 1954, the metals-related industries accounted for 40 percent of manufacturing workers; in 1997, they accounted for 45 percent. If one deducts computer-related equipment, including electronic components, the share is 37 percent in 1954, 1972, and 1997. "Metal

[10] Data are not available for Onondaga County in 1997.

bashing" has clearly not declined in relative importance in manufacturing, even on a value-added basis.

TABLE 4
The Distribution of Manufacturing Employment in Syracuse, 1997

Industry	Production Workers	Share of Total
Food	1,586	5.3%
Paper	1,703	5.7%
Printing	1,256	4.2%
Chemicals	699	2.3%
Plastics	1,881	6.3%
Mineral Products	1,283	4.3%
Primary Metals	2,511	8.4%
Fabricated Metal Products	3,193	10.7%
Machinery	2,783	9.3%
Computer and Electronic Products	2,548	8.5%
Electrical Equipment	2,057	6.9%
Medical Equipment	1,420	4.7%
Transport Equipment	3,500(e)	11.7%
Other	3,511	11.7%
Total	29,931	100.0%

(e) Estimate based on BLS data.
Source: Census of Manufactures

The continuing importance of metals-related employment in an increasingly global marketplace reflects the substantial restructuring of these U.S. industries that has occurred since the 1970s. U.S. steel, machinery, and automobile companies had stagnated due to a variety of factors, including limited competition and a bad labor relations environment. Imports of steel, industrial equipment, and motor vehicles began to surge in the late 1970s and 1980s. This import pressure was met by a demand for trade protection that was often granted. Steel, automobiles, and motorcycles were provided with "temporary" protection, usually in the form of quotas administered to settle actual or threatened antidumping suits.[11]

This U.S. protectionism led foreign companies to begin to invest in United States production capacity. Firms, such as Nippon Kokan (steel), Toyota, Nissan, Honda, and Komatsu (construction and industrial equipment) built or acquired facilities in the United States. Virtually every major Japanese steel and automobile producer had plants and/or joint ventures in the United States by 1990. Somewhat later, some of the European motor vehicle companies – namely, Daimler Benz and BMW – began to build plants in the United States, and Daimler even

[11] See Robert W. Crandall, "The Effects of U.S. Trade Protection for Autos and Steel," *Brookings Papers on Economic Activity*, 1987:2, for a review of the short-term effects of such protection.

acquired Chrysler. The steel industry was reinvigorated by the entry of numerous smaller North American firms who built "minimill" plants which quickly wrested market share from the large, inefficient domestic steel giants. All of this activity was concentrated in areas other than the erstwhile industrial Northeast.

The rapid rise of the steel minimills was largely forged by a few nonunion companies, such as Nucor, who compensated their workers highly in return for productive effort. These companies built plants throughout the South, the Midwest (outside heavily-unionized metropolitan areas), and the Southwest. Very few minimill plants were built in the East, and only two – Raritan River, a wire rod facility in New Jersey, and Auburn Steel, a bar producer in Auburn, NY, were ultimately successful. Both were built as nonunion plants. The Middle Atlantic States, the very birthplace of the steel industry, were not generally attractive locations for the new minimills because steel-using industries were moving westward and southward, and the Middle Atlantic States were heavily unionized. Nothing could have encouraged Nucor to build a plant in the Buffalo area, nor any other location in New York, although it has recently acquired the Auburn Steel plant located west of Syracuse.

The electrical machinery and machinery sectors have obviously been affected by another form of technical change, the replacement of electromechanical machines by electronics. The number of workers in these electronics-related industries has more than doubled since 1954 while total manufacturing jobs have essentially remained constant. This growth has not been helpful to manufacturing job formation in New York State, or the Middle Atlantic States in general. Table 5 shows the states with the largest concentrations of workers in these industries. California and Texas account for one-fourth of these production workers. New York has roughly 5 percent of them, and the Middle Atlantic States account for roughly 11 percent *in toto.* However, the production facilities in the Middle Atlantic region are clearly different from those in the West and Southwest. The value-added per worker is barely $200,000 in the Middle Atlantic region, and even less in New York, while the facilities in the West and Southwest generate more than double that amount. The Rust Belt states of the Middle Atlantic and Great Lakes region account for only slightly more employment in these industries than California, but they generate far less value added. The more "high tech" manufacturing activities are obviously located in the West and Southwest, not the old industrial regions.

The Syracuse area had 2,548 production workers in the computer and electronics industry in 1997, or about 8 percent of its manufacturing workforce, slightly more than the 7.3 percent national average. This share might suggest that Syracuse enjoys somewhat of a comparative advantage in such production, perhaps because it has a large university that feeds technical expertise and skilled personnel to the industry. In his analysis of economic restructuring of upstate New York, Ramon Garcia shows that Syracuse, like Rochester and Binghamton, has an employment "location quotient" for high-tech industries that is substantially above 1.0, suggesting a comparative advantage in such industries as instruments, computers and electronics.[12] However, these high-tech location quotients have been falling in all three of these areas over the past thirty years.

[12] Ramon Garcia, "Economic Restructuring in Upstate New York," Buffalo Branch, Federal Reserve Bank of New York, October 2002. Garcia includes

TABLE 5
Computer and Electronics Manufacturing, 1997

	Production Workers	**Value Added** (millions $)	**Value Added Per Worker** ($)
United States	887,002	252,630	284,813
California	184,852	65,114	352,249
Texas	65,281	27,380	426,311
Arizona	23,489	13,483	574,013
Oregon	23,381	10,897	466,062
New York	43,540	8,348	191,732
Syracuse	**2,548**	**643**	**252,599**
Middle Atlantic Region	101,647	20,759	204,226
Great Lakes Region	113,933	19,297	169,378

Source: U.S. Bureau of the Census, *Census of Manufactures*.

Unfortunately, the data on worker compensation and value-added do not suggest that Syracuse's manufacturing activity in computers and electronics are a reflection of a particularly strong high-tech position. The workers in the computer and electronics industry in Syracuse had substantially lower wage rates than the average manufacturing worker in the area, $12.65 per hour versus $15.44 per hour, respectively.[13] While Syracuse firms in this industry produce more value added per worker than the average New York computer and electronics establishment, they are still far below their counterparts in the West. These low wages and relatively low levels of value added per worker suggest that computer and electronics manufacturing in Syracuse and elsewhere in New York are not attracting highly-skilled workers.[14] Thus, Syracuse does not appear to be competing with Western states for the higher-tech portions of the computer industry.

Most of my analysis has been focused on employment growth and decline. The fact that Syracuse had a large concentration of employment in machinery industries in the middle of the 20th century undoubtedly contributed to its loss of employment because these industries enjoyed greater productivity growth than the rest of manufacturing. In 1954, for example, the average value-added per production worker in machinery and electrical machinery was just 10.4 percent higher than the average for all manufacturing. By 1997, this differential had risen to 31.8 percent. Fewer workers are now required to produce relatively the same output in machinery industries than in the average manufacturing industry. Thus, even if Syracuse had not suffered output declines in machinery manufacture, it would have been vulnerable to greater than average job losses because of productivity trends.

[13] Census of Manufactures, 1997.

[14] As shown in Table 4 above, the Syracuse area has 1,420 production workers in establishments producing medical equipment. These workers also had relatively average wages in 1997 ($12.77 per hour), and their value-added per worker was substantially lower than the value-added per worker in nearby computer and electronics establishments. Note that medical equipment is included in Ramon Garcia's definition of "high technology" in the study referenced in fn. 12 above.

V. The Role of Wages, Unions, and Geography

Syracuse suffers from being in a State that has traditionally had a very large share unionized workers. Most of the heavily unionized industries in New York are in steep decline. Integrated steel production and automobile manufacture have largely left the state, and new plants in these industries are simply not being built in New York. Despite its high rate of unionization, New York State's average manufacturing wage is actually marginally lower than the national average. (See Table 5.) Syracuse's average wage rate is higher and remains above the national average and about equal to the average for the highly-industrialized Great Lakes states. The East South Central region, towards which motor vehicles and other metals-related production are migrating, has far lower wage rates and a much lower share of workers in unions.

TABLE 5
Average Manufacturing Wage and Share of Non-Farm Workers in Unions, 1997

	Average Manufacturing Wage ($ per hour)	**Union Members as a Percent of Workforce***
United States Average	13.99	14.2
Syracuse	15.44	N.A.
New York State	13.90	26.5
Middle Atlantic States	14.21	21.8
Great Lakes States	15.71	19.3
East South Central States	12.61	9.3

Sources: U.S. Bureau of the Census, *Census of Manufactures* ; Hirsch, McPherson, and Vroman (2001). ***** Non-farm workers; N.A.- Not available

The relative importance of unions in the United States has declined dramatically in recent years. In 1972, 26.6 percent of nonfarm workers were union members; by 1997, the share had fallen to 14.2 percent. Significantly, the share of nonfarm workers in unions has declined by nearly 50 percent in the Great Lakes states over this period, but only by 20 percent in New York. In 1972, the union share in New York was 33.1 percent, substantially below Michigan's 40.4 percent. In 1997, New York had declined to just 26.5 percent union members, but Michigan had plummeted to 23.4 percent. The other Great Lakes states fell to between 14 and 19 percent. Thus, New York has "resisted" the growth in nonunion jobs far better than the industrial heartland.

In earlier research, I found that unionization and, to a lesser extent, manufacturing wages were important in explaining the different rates of growth of manufacturing across states for the period 1967-89.[15] Specifically, I found that unionization, and wages were inversely related to manufacturing employment growth, but that the distance of a state from the nation's industrial heartland and industrial energy prices were directly related to manufacturing employment growth over this period. In addition, I found that states in the Mountain Region outperformed and states and that states along the cold U.S.-Canada border from North Dakota to Montana under-

[15] Robert W. Crandall, *Manufacturing on the Move*. Brookings 1993.

performed, *ceteris paribus*. While these results were not specific to New York, I have updated them for the decade of the 1990's to see if the conclusions are still valid. Surprisingly, the 1989-1999 period is generally consistent with my earlier results.[16]

VI. Anecdotal Evidence on Location Decisions

I am not aware of any current database on investment in new manufacturing plants across states or metropolitan areas that would allow me to investigate econometrically the determinants of site selection in recent years. However, there are a few sources that attempt to tabulate major investments across industries by location. One of these is *Site Selection* magazine. Its reports on the distribution of large recent investment projects provide support for several of the conclusions reached above.

First, six of the largest 20 announcements of U.S. investment projects for 2001 were in the motor vehicles industry.[17] Four of these ventures are located in Michigan, one is in Alabama, and one in the Buffalo area – an expansion of GM's Tonawanda engine plant. However, the Tonawanda project was the only one of the 20 largest projects that involved manufacturing in the Northeast.

Second, the transportation equipment industry provided the most new or expanded major facilities – *i.e.*, those involving $1 million or more in investment. Transportation equipment accounted for 712 such announcements in 2001, followed by fabricated metals with 419, chemicals with 370, and machinery with 368.[18] These data confirm the continuing importance of metals-related industries in general, and motor vehicles in particular. The ten largest transportation equipment projects involved motor vehicles or motor vehicle parts.

Third, only fifteen of the largest 25 projects announced in 2001 for the Middle Atlantic States involved manufacturing.[19] Of these, only three could be classified as in one of the metals-related industries. Even so, one of these three "projects" was not a new facility at all, but rather was Nucor's purchase of a successful, operating minimill, Auburn Steel. Other than the GM Tonawanda engine plant, the only other major new metals-related manufacturing project announced for the Middle Atlantic region was a Harley-Davidson plant in York, PA. The $200 million expansion of New Venture's East Syracuse plant was announced in 1999, substantially before the date of this survey.

Fourth, of 15,462 announcements of major new manufacturing plants or plant expansions in the U.S. in 1999-2001, only 1,738 were located in the Middle Atlantic region, or about 11

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[16] See my Buffalo paper for these results.
[17] "20 Giants: 2001's Biggest U.S. Corporate Facilities," *Site Selection Online.* www.siteselection.com/issues/2002/mar/p138/side_02.htm Accessed on May 14, 2002.
[18] Ron Starner, " The Auto Industry Leads All Sectors," *Site Selection Online.*. www.siteselection.com/issues/2002/mar/p165/index.htm Visited May 14, 2002.
[19] "New York's Centers of Excellence," *Site Selection Online*. www.siteselection.com/features/2002/mar/northeast/pg03.htm. Visited May 14, 2002.

percent.[20] This is slightly below the Middle Atlantic region's 1997 share of manufacturing employment and value added, presaging little or no turnaround in the long-term slide of the region's share of U.S. manufacturing. The South Atlantic region accounted for substantially more – 2,890. The much smaller East South Central region, with less than half the population of the Middle Atlantic region, accounted for almost as many projects – 1,627.

Finally, the American Electronics Association and NASDAQ have compiled a list of the top 60 "Cybercities" in the United States. The only city in upstate New York to make the list is Rochester, reflecting its long heritage of participation in high-technology research and manufacturing.[21] Most of the high-technology activity in these 60 cities is probably not concentrated in manufacturing *per se*, but these cities are magnets for many high-technology companies, such as electronics or pharmaceutical companies, that engage in manufacturing.

In short, there is very little in the anecdotal evidence concerning manufacturing investment in the Syracuse area that would suggest a turnaround in the area's long-term decline in manufacturing. Syracuse would appear to share the same problems as most other areas of the once-industrial Northeast in retaining manufacturing.

VII. Policy Conclusions

It would be very difficult to offer any optimistic assessment of the prospects for manufacturing in Syracuse. The long, steady decline of the area's manufacturing sector is the product of four forces: the relative decline in U.S. manufacturing, the steady shift of population and industry westward and southward, and the loss of in metals-related industries.

Like most other Northeastern cities, Syracuse's employment is increasingly concentrated in service industries. Approximately 109,000 workers in the Syracuse area are now employed in service industries, more than twice the number in manufacturing. Health care employs 29,000 and education employs 17,000; between them, these two sectors account for more employment than all manufacturing industries combined. Nine out of ten persons in New York are now employed outside manufacturing. Given the relative decline in U.S. manufacturing employment, the shift of goods production westward and southward, and Syracuse's location, there is little that can be done to arrest the decline of manufacturing in this area. In these circumstances, the most remarkable thing about Syracuse's economic performance is that is so unremarkable.

[20] "New Corporate Facilities and Expansions," *Site Selection Online*. www.siteselection.com/issues/2002/mar/p138/side_01.htm Accessed May 14, 2002.
[21] Nevertheless, high-tech manufacturing is in steep decline in Rochester. See "Economic Restructuring in Western New York State," *The Regional Economy of Upstate New York*, Federal Reserve Bank of New York, Buffalo Branch, Fall 2001, p. 5.