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Thoughts on American Manufacturing Decline and Revitalization

The Recent Decline in American Manufacturing

The decline in manufacturing is a growing national issue, affecting all U.S. regions. For example, from the beginning of the decline in manufacturing in 2000 until the first quarter of 2003, real earnings in manufacturing declined 14 percent nationally, with real earnings in manufacturing declining at least 7 percent in every major region of the United States.[1]

The manufacturing decline occurs in output but is more severe in employment. Manufacturing employment declined around 16 percent from June of 2000 until September of 2003, but manufacturing output declined about 6 percent.[2]

Reasons for the Decline

The manufacturing decline is probably more than a temporary, recession-related phenomenon. Manufacturing output declined by 7 percent from June of 2000 until the recession's trough in November 2001, and has essentially stagnated ever since. Recession-induced job losses may be temporary or permanent. This recession has caused fewer temporary layoffs and more permanent layoffs than is usually the case. Both the recession and its recovery have thus far been accompanied by greater than usual "structural shifts" in employment across different industries (see, for example, Groshen and Potter 2003).

In addition to being caused by the recession, the manufacturing decline in output is associated partially with recent trade trends (about one-fourth due to trade according to one estimate[3]), and partially with unusually high productivity growth. The U.S. trade problems in manufacturing may be caused by temporary factors, such as an overvalued dollar, and may be caused by longer-run shifts in comparative advantage that favor lower-cost overseas production. Manufacturing has also had unusually high productivity growth for a recessionary period, which helps raise U.S. incomes and the competitiveness of U.S. manufacturing in the long run but on net probably reduces manufacturing employment in the short run.

Some of the trends in U.S. manufacturing appear difficult or undesirable to reverse. Stronger economic links around the world are desirable. Such trade links provide U.S. consumers with cheaper goods and low-wage countries with opportunities for development, which increases per capita incomes in these countries while increasing their

demand for U.S. goods and services. Continuing technological improvements in manufacturing are also desirable because they help raise U.S. per capita income. If we accept stronger trade links and technological improvements as desirable, we must also accept the consequences: the lower skill component of many manufacturing industries will continue to shift to lower-skill countries, and the manufacturing that remains will need fewer workers to produce the same product.

Steps to Enhancing U.S. Manufacturing Competitiveness

However, those consequences do not mean that nothing should be done to encourage the revitalization of U.S. manufacturing. While manufacturing revitalization at all costs does not make sense as a policy, revitalizing manufacturing by correcting for market failures that might impede manufacturing competitiveness is a reasonable approach. These market failures impede the efficient development of new manufacturing products and production techniques. Market failures include a variety of inefficiencies in financial markets, information markets, research and development (R&D) markets, and labor markets:[4]

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1) Financing is not always available for projects with significant long-run benefits.

2) Manufacturers, particularly small- and medium-sized manufacturers, do not always have adequate access to information on how best to improve their competitiveness.

3) R&D in manufacturing may often have spillover benefits for others, such as benefits for other nearby firms in a local cluster, yet individual businesses do not consider these spillover benefits in making R&D decisions, which causes underinvestment in R&D.

4) Workers need government assistance to finance education that will develop the skills needed by manufacturing firms and other firms.

5) Additional high-wage premium jobs, in manufacturing or other industries, can increase employment rates and avoid the waste of human resources in economically distressed regions.

I argue that the federal role should primarily be that of supporting state and local economic development efforts that address the market failures which impede the development of high-skill manufacturing. These include state and local economic development efforts to:

1) develop new high-tech clusters of economic activity;

2) provide information to entrepreneurs to help them develop better business plans and locate financing;

3) enhance the availability of capital for R&D, business start-ups, and business expansions;

4) increase the supply of skilled workers at all levels of skill, from university scientists and engineers to workers with skill certificates from community colleges;

5) provide better information to existing manufacturing plants, particularly small and medium-sized plants, on how to best improve productivity; and

6) assist economically distressed regions to develop more and better job opportunities for local residents without jobs.

Why should the federal role in promoting the economic development of advanced U.S. manufacturing be primarily that of encouraging state and local efforts? First, the aggressive promotion of economic development in manufacturing has primarily been a state and local role during the post–World War II era. Second, many of the key inputs for advanced manufacturing development are provided locally, such as land for industrial or high-tech development, and education of workers through universities or community colleges. Third, there is less risk if 50 states and many more local areas pursue a wide variety of economic development strategies to promote the development of U.S. industry than if the federal government pursues one uniform national economic development strategy. Fourth, the competition among the states to promote new product development in U.S. manufacturing and greater productivity in U.S. manufacturing should, over time, result in better program designs, at least if these economic development programs are properly evaluated.

In addition to being caused by the recession, the manufacturing decline in output is associated partially with recent trade trends.

Why should manufacturing be a particular focus of economic development? Economic development policies should seek to overcome these market failures regardless of industry. However, many of these market failures are likely to be particularly prevalent in manufacturing.

Manufacturing probably has an above-average share of market failures due to spillover benefits of R&D, and due to problems in developing and deploying new technology. Also, manufacturing provides an above-average share of the higher-wage jobs with modest education requirements that can help overcome labor market problems for less-educated workers in distressed regions. In practice, therefore, economic developers who seek to overcome market failures will end up spending a greater than average amount of time and resources in dealing with manufacturing. As a result, efficient economic development policies will provide particularly strong benefits to the manufacturing sector.

Promoting Better State and Local Economic Development

How then, should the federal government promote better state and local economic development strategies without impeding state and local creativity in this area?

1) The federal government should encourage more "positive sum" competition among state and local governments in economic development, rather than the zero sum game of competing to attract the latest branch plants.

2) The federal government should enhance current efforts that help support advanced manufacturing, and provide extra matching funds to support additional state efforts.

3) The federal government should require and fund high-quality evaluations of state and local economic development efforts.

First, by "positive sum" competition among state and local governments, I mean a competition that will enhance overall national economic activity. One model for such intervention is suggested by the European Union, which has regulations prohibiting national and regional governments from providing firm-specific assistance for economic development, except in three cases: to promote high-tech industry, to help small- and medium-sized businesses, and to assist regions that the European Union has designated as distressed.[5] These economic development interventions help promote overall national economic activity (and hence are "positive sum") because they help overcome various market failures: the tendency of firms to underinvest in research with spillover benefits to others, information and financing problems inhibiting small business growth, and labor market problems that lead to involuntary unemployment in distressed regions. I would suggest adding one category to the European Union list: we should permit firm-specific subsidies to help revitalize brownfields (parcels of land with actual or perceived environmental problems impeding their development). The federal government could implement such regulations by reducing federal development aid to a state or local government that provides forbidden types of firm-specific subsidies.[6]

If we accept stronger trade links and technological improvements as desirable, we must also accept the consequences: the lower skill component of many manufacturing industries will continue to shift to lower-skill countries.

Refocusing state and local economic development efforts on high-tech development, small business, distressed regions, and brownfields would avoid wasted resources in attracting new branch plants. State and local governments devote $20 billion to $30 billion per year to economic development, most of which goes in tax incentives to attract new branch plants.[7] There are significant gains in retargeting current state and local economic development resources on more positive-sum economic development activities. Certainly state and local governments would make mistakes in seeking to develop high-tech clusters, improve productivity in manufacturing plants, or provide customized worker training for entry-level or incumbent workers. But with a large portfolio of such projects in many competing states using diverse policy approaches, many new high-skill jobs would be successfully developed.

Second, the federal government should enhance current efforts to help support advanced manufacturing, and provide extra matching funds to support additional state efforts. These state and local efforts to increase the productivity of advanced manufacturing have spillover benefits for manufacturers and consumers throughout the nation, unlike state and local competition to attract a new branch plant. Among current federal efforts, the federal Manufacturing Extension Partnership (MEP) program supports a network of state and local centers that help provide technical assistance to small- and medium-sized manufacturers in improving their productivity. Studies comparing the productivity growth of firms that received more assistance from MEP centers because they happened to be close to a center with similar manufacturing firms that happened to be located further away from MEP centers show that MEP does have significant effects in improving manufacturing productivity (see Jarmin 1999). This program should be expanded, but the administration's fiscal year 2004 budget instead proposes phasing out federal funding for the MEP. Another current federal economic development effort is the Advanced Technology Program (ATP), which provides grants to companies for "early-stage" research. Case studies suggest that this program is important in encouraging some economically beneficial projects that otherwise would not occur in a timely manner (see, for example, Branscomb and Auerswald 2002). ATP should be expanded, but instead the administration's fiscal year 2004 budget proposes elimination of this program as well.

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Beyond maintaining these current programs, we should rethink the federal role in economic development. We should reform the U.S. Economic Development Administration (EDA) in the Department of Commerce by providing the resources and charter needed for the EDA to play a major catalytic role in providing matching funds for "positive-sum" state and local economic activities that will promote advanced U.S. manufacturing development capable of competing in the world market. This revitalized EDA could provide matching grants to help support a wide variety of "positive sum" state and local economic development initiatives, including strategies for developing local high-tech clusters, and worker training programs targeted at particular industries. Just as important, a revitalized EDA

could provide technical assistance to help state and local economic developers improve the effectiveness of their programs.

Third, as part of a renewed federal commitment to support positive-sum economic development, the federal government should require and fund high-quality evaluations of state and local economic development efforts, so we can learn about what works and why. A variety of good models exist for doing evaluations of economic development programs, including comparing assisted with unassisted firms and assisted with unassisted areas.[8] Federal requirement and funding of such evaluation makes sense because the gains from program evaluation and program learning accrue to economic development efforts around the nation, which means that state and local agencies, which lack a national mission, will underinvest in such evaluation. At a minimum, the federal government should establish guidelines for evaluating local economic development efforts, similar to the guidelines the federal government has established for evaluating and scoring public investment projects.

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The Costs and Benefits of Promoting Manufacturing Revitalization

A significant government initiative in U.S. economic development might involve $40 billion or so annually in resources: $30 billion in state and local economic development resources would be redirected to more positive-sum economic development activities, and $10 billion in federal resources would be used as a carrot to encourage both the expansion of such state and local efforts, and adequate evaluation of such efforts. While such a funding level is small relative to total manufacturing activity (less than 3 percent of annual U.S. manufacturing value-added), these funds will be a catalyst to help leverage significant private investments. Over time, a more productive use of $40 billion annually in government resources could help significantly enhance the overall productivity of the U.S. manufacturing sector. This increase in manufacturing productivity will help increase U.S. per capita incomes and the competitiveness of U.S. manufacturing.[9]

Notes

1. Real earnings figures in manufacturing derived from Regional Economic Information System of U.S. Bureau of Economic Analysis (BEA), divided by deflator from personal consumption component of GDP calculated by BEA. Figures are for change from first quarter of 2000 (the peak in U.S. real earnings in manufacturing) to first quarter of 2003. Manufacturing earnings using SIC definitions were linked to earnings using NAICS definitions using the first quarter of 2001 as a link quarter.

2. Manufacturing employment and output figures are for period from June 2000, the peak in manufacturing production, until September 2003. Employment figures come from the U.S. Bureau of Labor Statistics. Output figures are based on the manufacturing industry production index of the Board of Governors of the Federal Reserve System.

3. Calculation from DeLong (2003).

4. Market failures that impede economic development are extensively discussed in Bartik (1990).

5. For more detailed discussion of European Union policies toward economic development incentives, see Schweke (2000) and Thomas (2000).

6. Proposals for federal intervention to limit or prohibit state and local economic development subsidies have been most prominently made by Burstein and Rolnick (1995). Burstein and Rolnick argue for outlawing all firm-specific economic development subsidies, whereas my proposal is to outlaw the subsidies that clearly are not "positive sum."

7. This estimate of state and local resources devoted to economic development is discussed in Bartik (2001, p. 251).

8. A review of evaluation methods and results in local economic development is provided in Bartik (2002).

9. Such policies will not solve the problem of workers being displaced from manufacturing industries; indeed, in some cases, promoting higher manufacturing productivity may cost manufacturing jobs. But with greater productivity and U.S. per capita incomes, the U.S. economy will be better able to afford the retraining and placement efforts needed to help displaced workers. The issue of how best to help displaced workers is outside the scope of this article.

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