Helping Manufacturing-Intensive Communities: What Works?

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Since 2000, U.S. manufacturing jobs have declined by more than one-third.[2] As a result, communities with above-average shares of manufacturing have typically performed much worse than the average community in the United States.

Figure 1 shows the performance of the local labor markets in the United States that are the most manufacturing intensive.[3] These communities account for about one-quarter of U.S. jobs and population. But these communities suffered almost half of the post-2000 job loss in U.S. manufacturing. Their overall job trends have been much worse than the U.S. average.

These manufacturing-intensive communities, compared to the entire United States, have a job-growth gap of over 11 percentage points (a 2.7 percent loss of total private jobs in the manufacturing-intensive communities, versus an 8.5 percent gain in the entire United States). At least three-fifths of this job-growth gap is explained by these areas' greater manufacturing share.[4]

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[2] Unless otherwise noted, jobs data is taken from the Upjohn Institute's WholeData database, derived from County Business Patterns.

[3] "Communities" and "local labor markets" are used synonymously in this paper. Local labor markets are defined as "commuting zones" (CZs): groups of counties with sufficient intercommuting to equalize labor market conditions. CZs are similar to metropolitan areas, but also group rural counties into local labor markets. The United States is divided into 709 CZs.

[4] The percentage job loss in manufacturing was similar in the manufacturing-intensive CZs to the entire United States, at −36.3 percent in the 324 CZs versus −34.7 percent in the entire United States. But because of their greater manufacturing share, the loss of manufacturing, as a percentage of private jobs, was much greater in the 324 CZs: −7.5 percent vs. −4.1 percent in the entire United States. This 3.4 percent greater manufacturing job loss, as a percentage of private jobs, would directly reduce job growth by 30 percent of the overall gap. But manufacturing has a "multiplier effect" of 2 or 3 on local jobs — for each one job lost in manufacturing, one or two other jobs are lost by suppliers or retailers. A multiplier of 2 would suggest that the larger manufacturing job loss, as a percentage of the economy, would

Figure 1
Percent Job Growth, 2000 to 2015
U.S. vs. Manufacturing-Intensive Communities
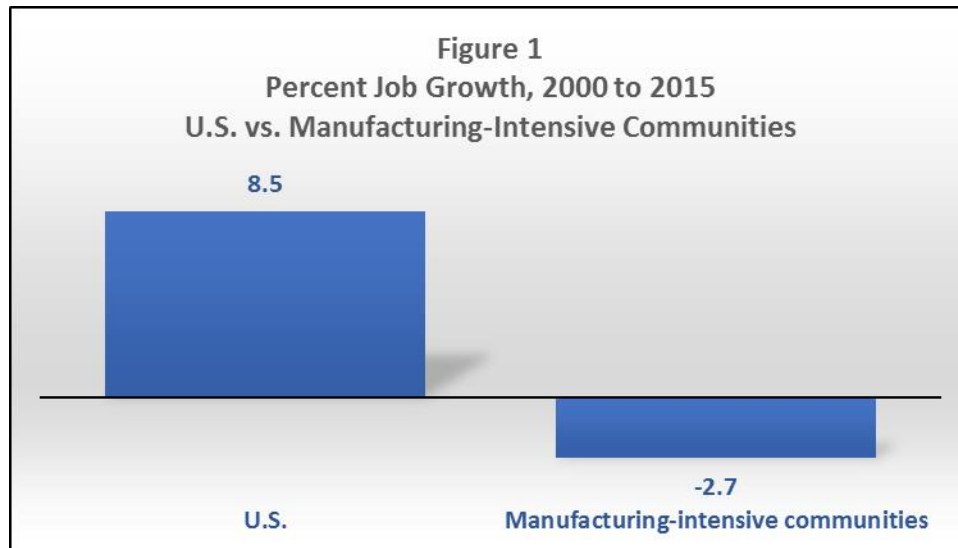
NOTE: See Bartik (2018b) for data sources and definitions. Manufacturing-intensive communities are the 324 commuting zones (CZs) with a manufacturing location quotient in 2000 of 1.19 or higher. U.S. includes entire country, including both manufacturing-intensive CZs and the rest of the U.S. Data from the Upjohn Institute's WholeData, which comes from County Business Patterns. Private job growth percentage change is change in jobs divided by the average of 2000 and 2015 jobs.

Can anything be done to help manufacturing-intensive communities? What local policies offer cost-effective ways to spur local job growth? Can these communities succeed by reviving manufacturing? This paper seeks to answer these questions.[5]

The short answers are these:

- Success for manufacturing-intensive communities is possible.
- We know what policies make sense to increase such communities' job growth.
- Such policies can boost local manufacturing.

Since 2007, a significant minority of manufacturing-intensive communities have had above-average job growth. Of this successful group, about half have done much better than the United States in manufacturing job growth.

My analysis of these successful communities shows some commonalities in their economic development approaches. My analysis identifies three cost-effective development strategies:

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reduce job growth in these 324 CZs, relative to the United States, by 6.8 percentage points — 61 percent of the overall gap.

[5] This paper relies on a longer report (Bartik 2018b).

1. **Expand customized services to small and medium-sized manufacturers.** Manufacturing can be cost-effectively promoted by manufacturing extension services and customized job training. Manufacturing extension services provide individual firms with lower-cost access to high-quality advice on improving competitiveness. Customized job-training programs provide worker training specific to the firm's skill needs.

2. **Invest in infrastructure and services that make the community's land better for business development.** Job growth can be cost-effectively promoted by improving services in distressed neighborhoods, cleaning up brownfields, and investing in transportation infrastructure.

3. **Increase public spending on services that increase local workers' job skills.** Better skills for local workers help attract and grow higher-wage jobs. Adult skills can be improved by programs from birth onward. Effective skills development programs include the following: high-quality child care, high-quality preschool, K-12 education, college scholarships, and adult job training.
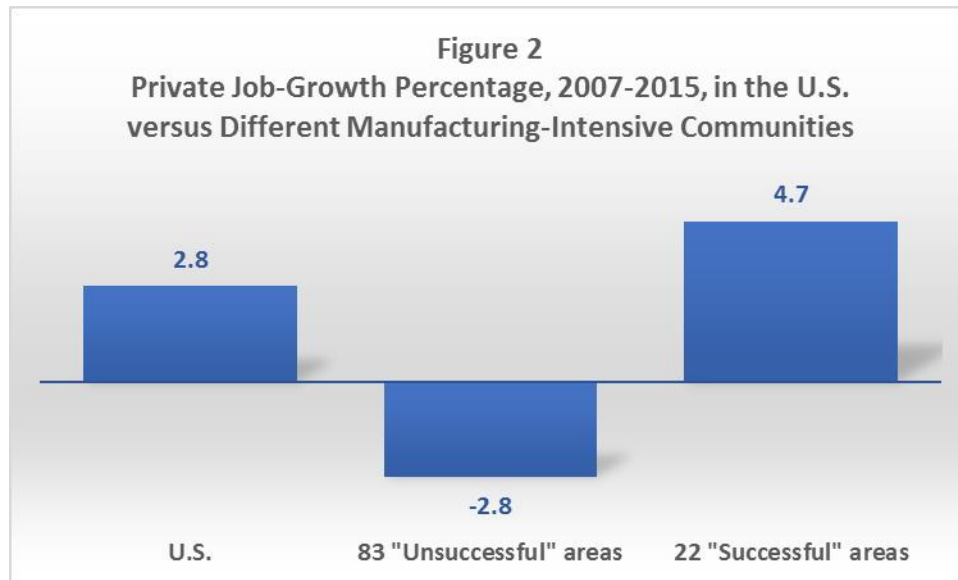
Success Is Possible for Manufacturing-Intensive Communities

To identify determinants of success in manufacturing-intensive communities, my analysis focuses on local labor markets whose populations exceed 200,000. I do not consider smaller communities, whose success could be due to one plant opening, and are unlikely to yield generalizable lessons.

I identified 105 local labor markets that exceed 200,000 in population and are manufacturing-intensive. Out of those 105 areas, I categorized 22 areas as "successful" based on their meeting two criteria: 1) 2007-2015 private job growth greater than the U.S. average and 2) 2000-2015 private job growth that was positive.[6] I categorized the other 83 areas as "unsuccessful." Figure 2 compares private job growth from 2007 to 2015 in the United States, the unsuccessful 83 areas, and the successful 22 areas.

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[6] Bartik (2018b) lists the 22 areas and gives more statistics.

Figure 2
Private Job-Growth Percentage, 2007-2015, in the U.S. versus Different Manufacturing-Intensive Communities

2.8	-2.8	4.7
U.S.	83 "Unsuccessful" areas	22 "Successful" areas

From 2007 to 2015, U.S. manufacturing jobs declined by 13.8 percent. The successful 22 areas had a manufacturing job share almost 50 percent greater than the U.S. average.[7] Yet despite U.S. manufacturing trends that were adverse, these 22 communities had job growth almost 2 percentage points greater than the United States: 4.7 percent for these 22 manufacturing-intensive areas, versus 2.8 percent average job growth for the United States as a whole. How did they do it?

Out of the 22 areas, half succeeded despite large manufacturing job losses. The other half succeeded in part by doing better than the United States in manufacturing.

Seven areas did worse than the U.S. in manufacturing job growth (meaning they lost more than 13.8 percent in manufacturing jobs). But six other areas had manufacturing job growth. Another five areas, although they lost manufacturing jobs, did at least 10 percentage points better than the United States (that is, they had manufacturing losses less severe than −3.8 percent). Therefore, 11 out of the 22 successful manufacturing-intensive areas either grew manufacturing jobs or had only modest manufacturing job loss.

Consider the four successful areas whose population exceeded 1 million: 1) Silicon Valley in California; 2) Charlotte, North Carolina; 3) Grand Rapids, Michigan; and 4) the Lehigh Valley in Pennsylvania. Silicon Valley and Charlotte succeeded despite doing poorly in manufacturing: Silicon Valley suffered a manufacturing job loss of 35.5 percent, and Charlotte had a manufacturing job loss of 16.2 percent.

The Grand Rapids area and the Lehigh Valley succeeded in part because they did better than the United States in manufacturing. From 2007 to 2015, Grand Rapids had 4.9 percent manufacturing job growth. The Lehigh Valley lost manufacturing jobs, but only by 0.4 percent.

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[7] 16.0 percent of total jobs in 2007 versus 11.0 percent in the United States.

Consider Grand Rapids. Figure 3 shows Grand Rapids' manufacturing job growth since 1990. To compare this performance with that of the United States, both the United States and Grand Rapids are indexed to a value of 100 in 1990.

Grand Rapids did not escape the large job declines in manufacturing in the United States from 2000 until 2009. But during periods when U.S. manufacturing jobs were holding steady, Grand Rapids showed healthy manufacturing job growth. By 2016, manufacturing jobs in Grand Rapids were over 50 percent greater than if Grand Rapids had followed post-1990 U.S. trends.[8]

Figure 3
Manufacturing Job Growth,
Grand Rapids vs. the U.S.
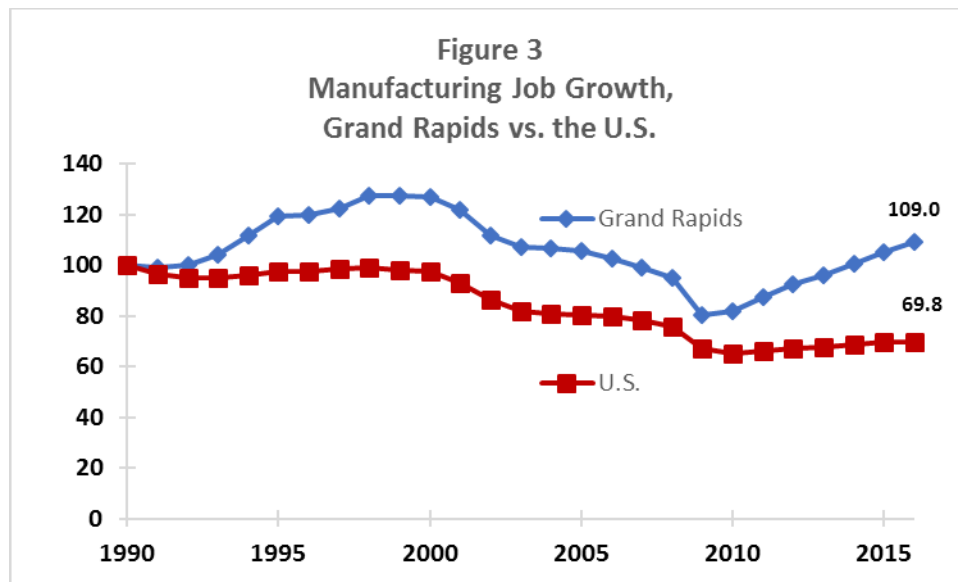
NOTE: Derived from the Bureau of Labor Statistics.

What Explains the Success of Certain Manufacturing-Intensive Communities?

How do we account for successful manufacturing-intensive communities? My analysis identified policy variables that were correlated with 2007-2015 private-sector job growth in these 105 larger manufacturing-intensive local labor markets.[9]

I find no evidence that job growth in these areas is significantly spurred by cutting business taxes or increasing business tax incentives. The estimates are precise enough to rule out the possibility that such lower business costs could have large growth effects per dollar of cost reduction.

In contrast, customized business services boost job growth in manufacturing-intensive communities. For example, communities experience stronger job growth in states that invest more

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[8] 1.56 = Grand Rapids index number of 109.0 in 2016 divided by U.S. index of 69.8. Bartik (2018b) shows Grand Rapids' manufacturing growth is not due to its industry mix.

[9] The analysis used a regression approach, explained in Bartik (2018b). I used extensive controls for other growth determinants, so the policy variables represent effects, holding many other growth determinants constant.

in customized job training programs, all else being the same.[10] Customized training programs provide free or reduced-cost training, typically delivered by community colleges, that meets the specific skill needs of an individual firm seeking to hire new workers or upgrade its existing workforce. Total state government investment in customized training is around $600 million per year (Hollenbeck 2013).

Another customized business service that works is manufacturing extension services. Manufacturing extension services provide small and medium-sized manufacturers with consulting advice on improving technology, product design, and marketing. Advice is provided by the manufacturing extension office, in cooperation with university and private-sector experts. Each U.S. state has at least one manufacturing extension office, which is funded by federal, state, and local governments and by client fees. Total funding for manufacturing extension is around $400 million per year, with one-half to two-thirds from governments.[11]

My analysis measures an area's intensity of manufacturing extension services by the job creation or retention due to manufacturing extension, as reported in client surveys.[12] Reported extension-induced job creation or retention is a significant predictor of an area's overall job growth, holding constant other growth determinants.[13]

Finally, a community's job growth is significantly affected by the skills of its workforce. Manufacturing-intensive areas with more workers with a college degree had higher job growth, all else being the same.[14]

The estimated effects of customized business services, or of job skills, are large enough to be economically significant. For example, consider the effects of changing these variables from the values they have in an area with a relatively low level of these variables, to the values in an area with a relatively high level of these variables.[15] Table 1 shows such effects.

If a community moves from a relatively low to high level in providing customized business services, job growth increases by 3.6 percentage points (= 1.93 percent + 1.67 percent). The percentage of workers who are college educated is less immediately affected by policy, but a community's higher ranking on this variable would increase growth by over 6 percentage points.

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[10] This effect of customized job training is statistically significantly different from zero at the 10 percent significance level, but not the 5 percent level.

[11] The $130 million in federal funding has been proposed for elimination in the Trump administration's 2019 budget.

[12] The survey is administered by a third party to all clients of programs funded by the Manufacturing Extension Partnership (MEP), and it gets a 70 percent response rate. Services are not conditional on survey responses.

[13] The estimated coefficient is statistically significantly different from zero at a 5 percent significance level, with a *t*-statistic of 3.55.

[14] The estimated coefficient is statistically significantly different from zero at a 5 percent level, with a *t*-statistic of 2.98.

[15] The thought experiment involves changing each variable from its value in the area that is at the 10th percentile in a ranking of the 105 areas by this variable, to an area in the 90th percentile in a ranking of all areas by this variable. This is a change from an area ranked 95th out of 105 areas, to an area ranked 10th out of the 105 areas.

TABLE 1

Effect on Private-Sector Job Growth, 2007–2015, in Manufacturing-Intensive Areas, of Changing Three Policy Variables from Low to High Values (%)

Customized job-training spending	1.93
Manufacturing-extension-reported job creation or retention	1.67
Percentage of workforce college-educated	6.31

NOTE: These calculations take the estimated coefficients from the regression reported in Bartik (2018b) and multiply it by the difference between the values at the 90th and 10th percentiles of a ranking of these communities for these variables. For customized job training, this difference takes customized job training spending from zero to 0.163 percent of value-added of export-base industries. For manufacturing extension, this takes the job growth reported due to manufacturing extension in the 2007–2015 period, as a prediction for total job growth, from 0.14 percent to 2.06 percent. For percentage of population with a college degree in 2007, this takes this percentage from 15.6 percent of the workforce to 32.0 percent.

But this is one study. What does the overall research literature say?

Cost-Effectiveness of Policies to Increase Local Job Growth

Much evidence exists on the cost-effectiveness of promoting local job growth through different policies. This research suggests that business tax cuts and incentives are relatively expensive. More cost-effective are two other strategies: 1) customized business services and 2) services and infrastructure to increase the attractiveness of land for business investment.

In measuring cost-effectiveness, we should account for how long jobs last, and when costs are incurred. This paper compares policies by the ratio of the policy's costs to the number of "job-years" the policy creates. One job-year is a job that lasts one year.[16]

A policy's costs per job-year can be compared with local benefits. Local benefits of a job are less than the job's pay. In the long run, 15 percent of new local jobs lead to additional job opportunities for the local non-employed; the other 85 percent lead to jobs for in-migrants.[17] Because average U.S. annual earnings are about $60,000, the benefits of local job creation due to increased local earnings from higher employment rates are around $9,000 per job-year. Other local benefits and costs could be added. Jobs may increase local wages, benefiting workers and hurting businesses. Some costs may occur from residents' reduced non-work time. Growth increases housing prices, which benefits property owners and hurts renters. Growth also increases state and local tax revenue, but in-

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[16] More specifically, I calculate the present value of costs, in 2015 dollars, per present value of job-years created, using the common convention of a 3 percent social discount rate to calculate present values.

[17] This is not the same as the proportion of new jobs that go to residents. Any new local job must be filled by residents who are employed, residents who are not employed, or in-migrants. But the jobs filled by employed residents lead to job vacancies, which are filled in the same three ways. This job vacancy chain implies that new local jobs ultimately either increase jobs for the local non-employed or for in-migrants. The 85/15 percent split is what research shows ultimately happens, as shown in the review in Bartik (2015).

migration drives up public service needs. Local benefits plausibly total $5,000 to $20,000 per job-year.[18]

For different local policies, Figure 4 presents annual costs per job-year created. These estimated costs per job come from many rigorous studies.[19]
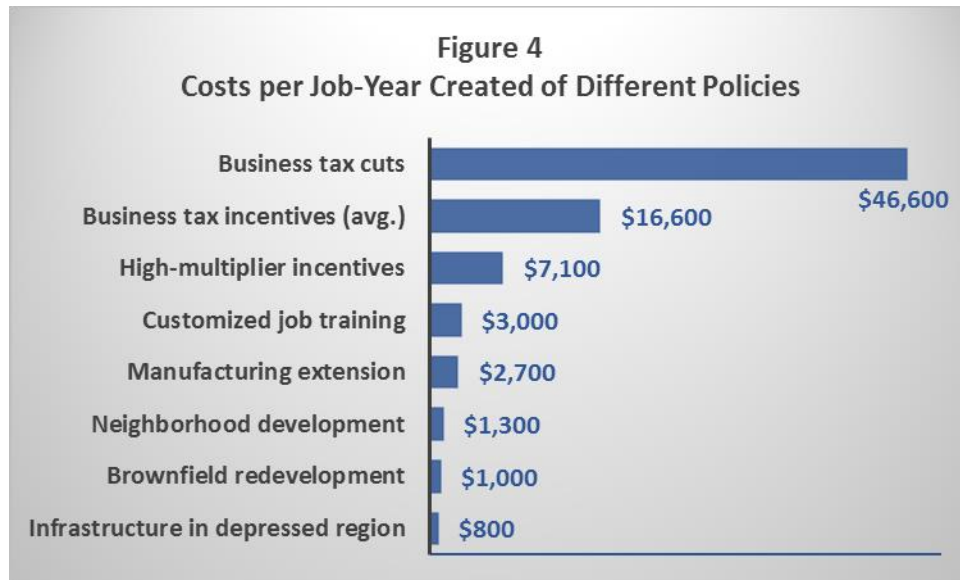
NOTE: From Bartik (2018b). Costs per job-year are present value of costs divided by present value of job-years created. Policies are funded by what is called "neutral" financing in Bartik (2018b), which comes half from tax increases, half from spending cuts. For business tax cuts, tax increases are only for household taxes. Average incentives, customized services, and land development are assumed to have a multiplier of 2; high-multiplier incentives have a multiplier of 4.

Business tax cuts have a cost per job-year created that is quite high, costing about $46,600.[20] Because other costs differ greatly across local areas (e.g., worker productivity), it takes a large business tax cut to tip business location decisions.

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[18] Bartik (2018a) examines the benefits and costs of local job growth due to business tax incentives and finds an average benefit per job-year under "baseline" assumptions of $12,160. This estimate is derived from numerous other studies of these various benefits and costs.

[19] Bartik (2018b) provides a more detailed discussion of the various studies behind these estimates.

[20] This cost estimate is derived from numerous research studies of how business taxes affect business location decisions. This literature is summarized in Bartik (1991), Phillips and Goss (1995), and Wasylenko (1997). More recent work on business taxes is consistent with this research literature (e.g., Suárez Serrato and Zidar 2016).

Business tax incentives are also expensive, at an estimated $16,600 per job-year.[21] Incentive costs are lower than business tax cuts because incentives can be targeted at "export-base" firms, which are firms that sell goods and services outside the *region*, such as manufacturers. Export-base sales bring new dollars into a local economy. Other local jobs are created as the export-base firm buys from local suppliers and as its workers buy from local retailers.

In contrast, non-export-base firms sell goods and services to local customers. Expanded sales at one non-export-base firm takes sales away from local competitors. This reduces job-creation effects of policies that include non-export-base firms, such as business tax cuts.

By targeting export-base firms, business tax incentives have a job-multiplier effect on other local firms. Average multipliers for manufacturing firms are around 2: for each job induced in a manufacturing firm, one other job is created locally.[22]

This job multiplier of 2 helps explain the lower costs per job-year created of average business tax incentives.[23] If tax incentives are targeted at firms with a multiplier of 4, costs can be further reduced, to $7,100 per job-year.

Customized business services have much lower costs. Customized job training is estimated to have a cost per job-year of $3,000.[24] Manufacturing extension is estimated to have a cost per job-year of $2,700.[25]

These customized business services can have low costs because they overcome "market failures" holding back small and medium-sized businesses. Smaller businesses face financing and information barriers in getting the right job-training assistance and business advice. Assistance at modest costs can have larger effects on a smaller business's competitiveness.

Programs to make land ready for development can also have low costs. Redeveloping a distressed neighborhood with services that address neighborhood problems has estimated costs of $1,300 per

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[21] This cost-per-job-year estimate for incentives is derived from the business tax literature as well, with an allowance for multiplier effects. This estimate is also consistent with research on the effectiveness of incentives, for example Jensen (2017).

[22] This is the multiplier allowing for negative effects of higher costs on job growth. This net multiplier is consistent with Moretti (2010) and Van Dijk (2018).

[23] The multiplier of 2 implies incentive costs of half the tax cut. The larger discrepancy is partly due to incentives targeting firms on the margin of making investment decisions, and partly due to interactions with financing costs (Bartik 2018b).

[24] Derived from Holzer *et al.* (1993). This study is consistent with evidence from Hollenbeck (2008) and Hoyt *et al.* (2008).

[25] Derived from Jarmin (1998, 1999). Jarmin's results are consistent with other evidence on manufacturing extension from Ehlen (2001).

job-year.[26] Cleaning up brownfields has estimated costs of $1,000 per job-year.[27] Providing infrastructure in depressed regions can have estimated costs of $800 per job-year.[28]

Land development services can be cost-effective because they provide public goods. Improving the transportation access, environmental safety, and amenities associated with land can improve its development potential. Because such improvements often benefit a large area, the private sector is likely to underinvest in such improvements.

Local Earnings Effects of Skills Development Programs

Local economic development is not just about job growth. A higher number of local jobs has its greatest benefits because it increases residents' earnings per capita. Residents' earnings per capita are also boosted by increasing local wages.

A person's wages can be increased by skills development programs. Skills development programs can intervene at any stage of the person's life cycle, from high-quality child care and preschool to K-12 education to college and job training programs. For example, high-quality child care is a skills development program because it helps a child develop better "soft skills," which in turn leads to acquiring other skills later, culminating in better adult skills. As Nobel Prize-winning economist James Heckman has said, "Skills beget skills."[29]

Does investing in skills development for residents lead to increases in local earnings per capita? Local earnings effects depend on whether higher-skilled residents stay or move away from the area. Americans are less mobile than is sometimes understood: half of all Americans, and 40 percent of college graduates, spend most of their working career in their childhood metropolitan area (Bartik 2009).

Moreover, skills acquisition by some residents benefits other residents. If the skills of some residents increase, these higher skills not only increase their own earnings but also increase earnings of other residents (Moretti 2004). For example, when 1 percent of the area population gets a college degree, this directly increases average area earnings by 1.4 percent, since a college degree increases the average earnings of each person in this 1 percent by 140 percent. But beyond that, studies suggest that because of this higher percentage of college-educated workers in the local community, the other 99 percent of the population will get earnings increases of 1.2 percent. Thus, overall area earnings will go up by 2.6 percent, almost twice the direct effect on the individuals getting college degrees.

Why do skills have these local "spillover" benefits? One theory is that business productivity depends upon teamwork, coordination, and idea sharing among many workers, both within and across firms. Even if an individual worker is skilled, a firm may not invest in new technologies unless

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[26] Based on a study of the Empowerment Zone program by Busso, Gregory, and Kline (2013).
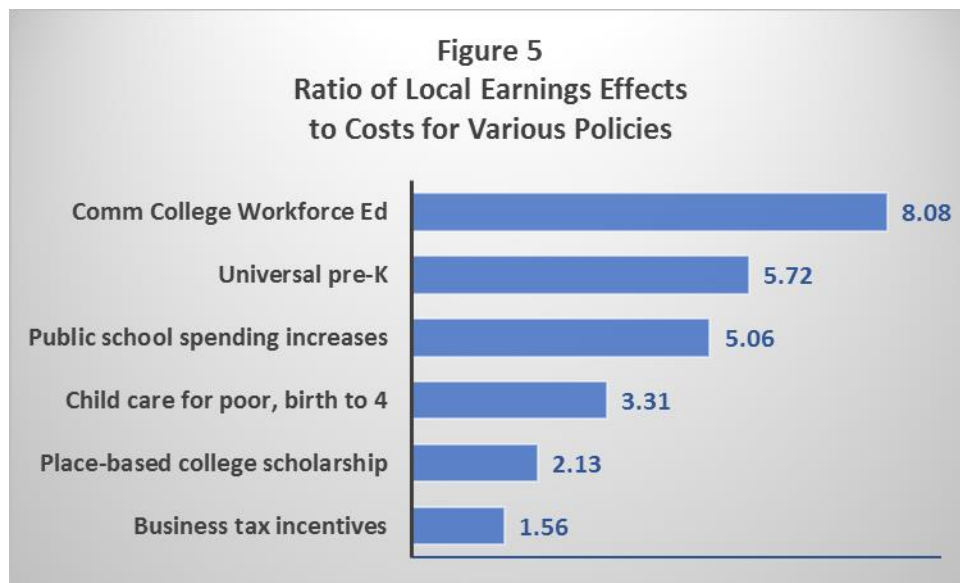
[27] Based on case study evidence from Paull (2008).

[28] Based on study of Tennessee Valley Authority by Kline and Moretti (2014).

[29] See the "Heckman Equation" website at https://heckmanequation.org/resource/skills-beget-skills/.

most of the firm's workers are skilled. A firm may benefit from hiring workers from other firms. In addition, a firm's competitiveness may depend in part upon whether its local suppliers are able to provide it with a quality product at a low price, which will indirectly depend on the skills of these local suppliers' workers.

Figure 5 presents ratios of the present value of the local earnings increase, per dollar of program costs, for skills development programs. These ratios are based on estimates of the direct earnings effects, the proportion of workers staying in the area, and local spillovers. The figure also shows the ratio of earnings increases to program costs for an "average" business tax incentive. For incentives, the earnings increases are based on how job creation affects earnings per capita due to increasing local employment-to-population ratios.[30]

Figure 5
Ratio of Local Earnings Effects to Costs for Various Policies

Policy	Ratio
Comm College Workforce Ed	8.08
Universal pre-K	5.72
Public school spending increases	5.06
Child care for poor, birth to 4	3.31
Place-based college scholarship	2.13
Business tax incentives	1.56

NOTE: These ratios assume that programs are financed by increased taxes on the top 10 percent local income group, which, based on Zidar (2017), have no negative effects on local growth. Sources are specified in Bartik (2018b), except for community college workforce education. These numbers take the ratios for community college workforce education programs from Hollenbeck and Huang (2014) and multiply by 50 percent to account for migration.

All these skills development programs have local benefits, in higher earnings per capita, that far exceed program costs.[31] Benefit-cost ratios range from just over 2-to-1 to over 8-to-1.[32]

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[30] For the purposes of this calculation, one job created is assumed to increase earnings per capita by $12,500, due to both direct effects on employment-to-population ratios and indirect effects of such higher ratios on real wages.

[31] These higher earnings benefits occur through two channels: 1) skills programs increase wage rates and 2) skills programs increase local job creation. The available evidence indicates the wage channel is more important (Bartik 2018b).

[32] Sources of these estimated benefit-cost ratios are presented in the full report (Bartik 2018b) and are briefly referenced later.

Skills programs have higher benefit-cost ratios than typical business tax incentives. Skills programs increase earnings per capita directly, whereas job creation programs only do so indirectly. As discussed above, only 15 percent of new jobs end up boosting residents' job prospects. Job creation programs don't have high benefit-cost ratios unless costs per job are low, which they aren't for typical incentives.

Both early and late skills development can pay off. Preschool has a benefit-cost ratio exceeding 5-to-1,[33] but so do later interventions such as K-12[34] and community-college workforce education.[35] Child care has a lower benefit-cost ratio because of its high costs.[36] College scholarship programs have lower earnings benefits relative to scholarship costs because many scholarships go to individuals who would have completed college anyway.[37]

Skills development programs have two drawbacks. First, some benefits are long delayed. Child care has immediate benefits for parental earnings, and job-training programs have good medium-term benefits, but preschool and K-12 and even college scholarship programs do not fully realize their highest earnings benefits until former participants are in their prime earnings years, after age 40.

Second, these programs' ability to boost wages depends on job availability. In places or times of high unemployment, having more job skills is not enough.

Both drawbacks argue for combining skills development with cost-effective job creation. Job creation can offset a job shortage and provide more immediate benefits.

Grand Rapids as a Case Study

Is there evidence from specific communities that such strategies pay off? Yes. Consider Grand Rapids.

As mentioned, Grand Rapids has done relatively well in recent years in overall job creation, and in manufacturing job creation, compared to other manufacturing-intensive communities, and compared to the United States. What are some strategies accompanying that success?[38]

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[33] The preschool estimate comes from a literature review that includes the Perry Preschool program and the Chicago Child-Parent Center program (Bartik 2014).

[34] The K-12 spending evidence comes from Jackson, Johnson, and Persico (2016).

[35] Derived from Hollenbeck and Huang (2014).

[36] The child-care calculation is from the Abecedarian program, which offered full-time child care from birth until age 5, with a per-child cost of $90,000 (Bartik 2014). About 60 percent of higher earnings benefits are for the parent, not the child, as the child care allows added on-the-job experience and education.

[37] The place-based scholarship ratio comes from a study of the Kalamazoo Promise by Bartik, Hershbein, and Lachowska (2016). In a more formal benefit-cost analysis, scholarship costs would in large part be a transfer to scholarship recipients. If we only count the costs of more years of college, the local benefit-cost ratio is 6.51 (= 40 percent local share × benefit-cost ratio in Bartik, Hershbein, and Lachowska [2016, Table 8]).

[38] See Bartik (2018b), Atkins *et al.* (2011), and Miller-Adams *et al.* (2017) for more on Grand Rapids.

- Grand Rapids put significant economic development resources into locating a branch manufacturing extension services office.

- The state of Michigan devotes more resources than the average state to customized job training programs.

- The local economic development organization has invested great effort in developing clusters of related manufacturing industries that can work together to identify common problems (e.g., skill needs) and that seek to overcome those problems.

- The local area has a high-profile initiative, Talent 2025, which is trying to improve the area's skills development from early childhood through adulthood.[39]

- Extensive infrastructure investments have been made in downtown Grand Rapids.

- Local business interests put up funds for extensive subsidies that helped attract the medical school of Michigan State University to locate in Grand Rapids.

A specific example of an economic development effort in Grand Rapids was the creation of the West Michigan Medical Device Consortium. According to Atkins *et al.* (2011, p. 17),

> [this] Consortium was formed to give medical device companies throughout the region the opportunity to collaborate, and to promote their specialized expertise in the medical device industry. An automotive parts firm . . . moved into the medical devices market, making [orthopedic] parts. A bakery and wrappings supplier established a medical packaging subsidiary, manufacturing packaging for medical test kits.

These Grand Rapids anecdotes are consistent with overall research on what spurs success in manufacturing-intensive communities.

Conclusion

What policies can help manufacturing-intensive communities? If aggregate U.S. manufacturing job decline is as bad as it was from 2000 to 2009, the answer is "nothing."

Therefore, to help manufacturing-intensive communities, federal policy should be supportive by stabilizing long-run U.S. manufacturing employment. This is possible. Because of global trends, such as increased customization of products, and rising costs in other countries, some manufacturing may move closer to its U.S. markets (Livesey 2017). Better U.S. macroeconomic policies may be able to make exchange rates more favorable to manufacturing.

If overall U.S. manufacturing job numbers stay at about the same level in the long run, then manufacturing-intensive communities have good policy options. Community success can be achieved by making the local economy more productive. Local policies can do the following:

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[39] See http://www.talent2025.org/

- Help the competitiveness of small and medium-sized manufacturers.

- Make land more developable through better amenities, infrastructure, and environmental cleanup.

- Enhance the skills of the workforce.

Such local policies are best administered, customized, and delivered by local entities. Distressed communities will need financial help from the state and federal government.

The federal government can also help by paying for policy evaluations. Local communities are laboratories of democracy. However, we don't learn much from labs if no one pulls together the results.

What is needed to help manufacturing-intensive communities? Two things: 1) federal policy to make success possible, and 2) local policies that invest in the factors that drive business productivity.

For additional details and analyses, see the longer report: Timothy J. Bartik (2018b),*What Works to Help Manufacturing-Intensive Local Economies?* Kalamazoo, MI: W.E. Upjohn Institute for Employment Research.

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