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## ECONOMIC STRATEGY GROUP

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### **Bringing Jobs to People: Improving Local Economic Development Policies**

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**Abstract:** Many local labor markets in the United States suffer from low employment rates, but getting people to move out of these distressed areas is difficult. Moreover, moving people to job-rich regions does not help those left behind, as out-migration destroys jobs in distressed areas. A better way to help the residents of distressed areas is through local economic development policies that boost job growth and employment rates in a sustained fashion. Such policies can successfully encourage local business and job growth through business tax incentives, cash grants, or customized public services, such as advice to small businesses, job training, infrastructure development, or development-ready land. However, there is scope for improvement in how local economic development policies are carried out. I highlight the need for approaches that increase the benefits per job created by better targeting job creation to distressed areas and using workforce programs to link unemployed workers with jobs. There are also ways that local development policies could have a lower cost per job created. For instance, tax incentives and cash grants to a few large projects are less cost-effective in creating jobs than providing a broader array of businesses with public services. Needed reforms to local economic development policies are within the power and resources of state and local governments to accomplish on their own. However, federal intervention could potentially help by capping some of the largest incentives, and by providing distressed areas with funding to carry out their development plans.

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## Introduction

This paper argues for improving one type of “place-based” policy: local economic development policies, which seek to increase the number and/or quality of jobs in a particular local labor market.<sup>1</sup> Reforms can increase these policies’ benefits and reduce their costs. To increase benefits, I argue for better targeting the policies, so that a greater share of the local jobs created go to persons who otherwise would not be employed. Targeting can be improved by focusing on distressed local labor markets and by incorporating programs that link jobs with unemployed workers. To reduce the costs per local job created, I argue for reforming local economic development policies so that they rely less on business tax incentives to create local jobs, and more on enhancing local public services that boost business productivity.

“Local economic development” refers to an increase in the number or quality of jobs in a geographic area that constitutes a local labor market. Local labor markets, such as metropolitan areas, are defined as groups of counties that have enough intercommuting that any change in labor demand in one neighborhood will be quickly felt throughout the metro area. For example, the labor market in the Chicago metropolitan area is made up of 14 counties spanning Illinois, Indiana, and Wisconsin with a population of about 9.5 million.

Local economic development could be affected by almost any policy; for example any tax, spending program, or regulation might affect local jobs. But I define “local economic development *policies*” more narrowly, as policies that meet two criteria: First, the policy’s main goal is increasing the number or quality of jobs in a particular local labor market. Second, the policy targets individual businesses or industries, with the goal of catalyzing broader benefits.

As I describe in the next section, these local economic development policies are mainly carried out by state and local governments, at an annual cost exceeding \$50 billion, with about three-fourths of this funding from state governments and the rest from local governments. State and local economic development agencies provide firms with incentives (programs that provide firms with cash via tax incentives or cash grants), to induce these firms to locate or expand jobs. Some economic development programs also attempt to induce job creation via public services to business, such as customized job training, business advice, or access roads.

These economic development programs potentially have large benefits. Local job creation can significantly increase local employment-to-population ratios, also known as the employment rate; these increased employment rates can persist in the long run.

However, current local economic development policies are often poorly designed. Costs are too high, and too few benefits go to those who need the jobs. Thus, reforms are needed in order to lower costs per job created. As I discuss later, based on the research evidence, incentives often do not tip firms’ decisions of where to locate. In 9 out of 10 cases, firms are receiving a tax incentive for a location decision they would have made anyway, even if no incentive had been provided (T. Bartik 2019b, p. 40 and note 60 on p. 127). As a result, incentives have high costs per local job they actually create and thus should receive less emphasis. Based on the research

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<sup>1</sup> This paper does not discuss another type of place-based policy: “community development” policies to improve a specific neighborhood. Such policies are unlikely to significantly improve neighborhood residents’ labor market outcomes. Most people do not work in their neighborhood. Within a metro area, there is enough commuting that more jobs in one neighborhood affect employment rates and wages similarly throughout the metro area.

evidence, lower costs per job created can be achieved by public services to support business development. These public services to business—such as advice to small business and customized training—also tend to enhance the productivity of many small businesses, while firm-specific incentives often go disproportionately to a few large projects, which makes incentives a riskier strategy.

Reforms also need to improve the benefits per job created. Public subsidies for local job creation are rationalized as a way of providing individuals who lack good jobs with better job opportunities. But does this local job creation do enough to help? As I will discuss, the evidence suggests that on average, for every 10 local jobs created, 8 out of those 10 jobs go to in-migrants, and only 2 out of 10 boost employment rates for local residents (T. Bartik 2020b). More jobs will go to nonemployed individuals if local development policy is targeted to places with low employment rates. Nonemployed individuals also can be reached by linking local economic development policies with local workforce programs. As I will later highlight, customized job training programs can help recruit, train, and match local workers with job vacancies, and “success coaches” can help workers retain those job matches.

As I will illustrate with case studies, successful local economic development strategies also tend to avoid focusing on a single dominant firm or industry. Instead, successful strategies seek to encourage local growth more broadly, in a diverse portfolio of many industries.

Reforms to local economic development policies can be done, and have been done, by state and local governments on their own. But governors and mayors are often tempted by the votes gained due to handing out sizable incentives to a few large projects. Moreover, the state and local areas that most need jobs—those with high rates of nonemployment—also are likely to have lower tax bases, which makes it more difficult for these areas to fund local economic development strategies at a sufficient scale.

Potentially, an appropriate federal intervention could help encourage reforms in local economic development policy. Federal policy could encourage capping some of the more excessive incentives to the largest firms. A federal block grant could help distressed areas. I will outline one proposed federal block grant, which would provide \$23 billion per year that would go to distressed areas to help finance needed public services to support local business development.

But any federal intervention must respect the diversity of local needs. One size does not fit all, so any federal regulations or grants must avoid micromanaging local economic development strategies. In addition, it is unclear whether the needed reforms to local economic development policies are more politically feasible through federal intervention, or through encouraging continued reforms at the state and local level.

## 1. The Landscape of Local Economic Development Policies

By “local economic development policies,” I mean policies that promote local job creation by targeting specific businesses or industries. Such targeting has a logic, for the benefits of local job creation will vary greatly across different types of businesses.

For example, state and local economic development agencies often target “export-base industries.” In regional economics, an export-based industry is one that sells its goods and services outside of the local labor market where they are produced. The sales “base” for the goods or services produced by a business establishment in this industry is typically outside the local labor market, even though the establishment’s employment is local. For example, a business establishment that employs Michigan workers, but sells its products in Ohio, would be an “export-base” business for Michigan, even if this business does not export outside of the United States.

By providing tax incentives, cash grants, or customized public services to particular firms in export-base industries, state and local governments hope to induce these firms to create local jobs. The boost to “base” jobs will create a multiplier effect on other local jobs. Local suppliers to assisted firms may experience increased sales, which will increase jobs. Workers in the assisted firms and their local suppliers will spend some of their increased earnings at local retailers, leading to more jobs and earnings in the local economy’s non-base sector.

Why target the export-base sector? Consider the opposite scenario: what if a state or local government aids a non-export-base business establishment, that is a business establishment that employs local workers but only sells its goods or services in that same local labor market? For example, suppose assistance is provided to encourage the expansion of a local McDonald’s franchise. Even if this assistance works—i.e. the McDonald’s franchise location expands its employment in response to the aid—the assistance is unlikely to boost the metro area’s total jobs. The increased sales at this McDonald’s location will reduce sales at other local restaurants. The added McDonald’s jobs are offset by fewer jobs at the Burger King down the street.

In the United States, local economic development policies are mostly run by state and local governments (Table 1). The costliest policies are “incentives,” by which I mean tax incentives or cash grants that provide cash to individual firms. In this paper’s discussion, the term “incentive” only applies to such cash incentives; other economic development policies are not labeled as “incentives,” even though these other policies may induce job growth. Sometimes this paper groups both incentives and other local economic development policies under the label of “economic development assistance.”

In addition to targeting incentives to firms in base industries, economic developers may also target particular firms within base industries. A firm’s targeting may be based on the economic developer’s belief that its location decision is more easily tipped. Firms also may be targeted because they pay higher wages or have a higher multiplier. A firm may be targeted for political reasons: a more prominent firm will attract more favorable public attention. I will discuss incentive trends and costs more extensively later in this paper.

**Table 1. Resources Devoted to Local Economic Development Policies in the United States**

<b>CURRENT PROGRAMS</b>		
Policy/program	Annual dollars (in billions)	
State and local business tax incentives and other cash incentives	47.1	
Customized training programs	0.6	
Other state economic development programs	2.8	
	Subtotal, state/local programs	50.6
Manufacturing extension (federal/state/fees)	0.4	
Economic Development Administration (EDA)	0.3	
Economic development portion of HUD's Community Development Block Grants	1.1	
Small Business Administration	0.8	
Other economic development programs in USDA, HUD, Commerce	2.0	
	Subtotal mostly federal spending	4.7
Other tax expenditures that might promote local economic development	2.4	
	Subtotal, federal tax expenditures	2.4
	Total of federal programs and tax expenditures	7.1
	Total of all levels of government	57.8
<b>PAST PROGRAMS</b>		
Appalachian Regional Commission (peak annual spending 1966–1975)	1.6	
Tennessee Valley Authority (peak annual spending 1950–1955)	1.5	

NOTE: All dollar figures are in billions of 2019 dollars and represent annual resources. State/local tax and cash incentives are based on T. Bartik (2017). Customized training spending from Hollenbeck (2013). Other state economic development expenditures from Council for Community and Economic Research (2018) and include: tourism; film promotion; other special industry promotion; high-tech programs; business finance; entrepreneurial assistance; minority business development; community assistance; business recruitment; trade promotion. Manufacturing extension is from T. Bartik (2018). EDA, HUD, and SBA are based on FY 2017 U.S. federal budget. For CDBG, assume one-third goes to “economic development.” Other economic development spending is based on GAO (2012b). Other tax expenditures are derived from GAO (2012a). ARC figures are based on Jaworski and Kitchens (2019). TVA figures are based on Kline and Moretti (2013).

But economic development policies are more than handing out cash to businesses via incentives. Some local economic development policies provide businesses with customized public services, which meet specific needs of the firm. These services can include customized job training, such as a local community college that provides training for an individual firm’s needs. Another common economic development service is business advice. For example, manufacturing extension service offices, typically funded by some combination of government funding and private fees, provide advice to smaller manufacturers on upgrading their technology or diversifying their markets. Small business development centers are another example of publicly provided advice. Public services to business may also include real estate development and infrastructure improvements to business sites. Industrial parks, business parks, high-tech parks, and business incubators are examples of real estate development that supports business development. Economic development assistance packages to firms often go beyond incentives to include access roads or transit improvements, which help a firm’s employees get to work and help the firm to obtain supplies or ship its products.

Although these public services are important in encouraging local business development, they are not the part of local economic development policy that receives the most resources. The most resources go to incentives. As I will discuss later, this emphasis on incentives may be inappropriate, as incentives are often a costly way to create local jobs.

## **2. Why Local Labor Market Policy is Needed: Disparities in Local Job Opportunities**

But why do we even need local job creation policies? The most compelling reason is this: Local labor markets have *large*—and *persistent*—disparities in job availability. This can be seen in the employment rates for “prime working-age” individuals—defined as those ages 25 to 54—across the 1,468 local labor markets in the United States. (The labor market definition used in this paper assigns each of the 3,143 counties in the United States to one of these 1,468 local labor markets, with this assignment based on commuting flows.<sup>2</sup>) Even before the current recession, when the economy was in recovery and unemployment rates were low, prime-age employment rates varied greatly.

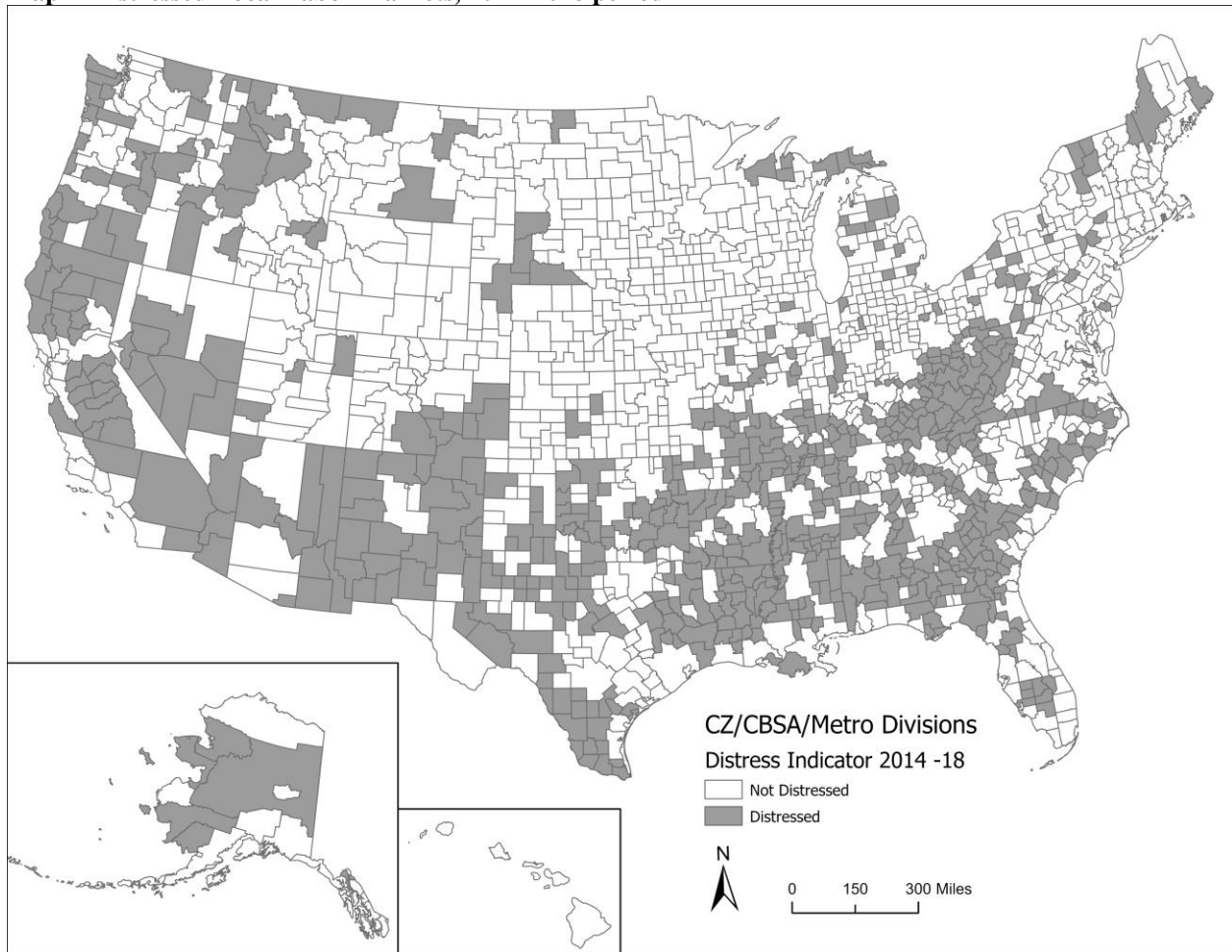
In data from the American Community Survey for the 2014–2018 period—the latest period for which comprehensive county-level employment rate data are available—roughly 15 percent of the U.S. population lived in the 573 local labor markets in which prime-age employment rates were at least 5 percentage points below the U.S. average. Collectively, these 47 million people live in areas where the prime-age employment rate averaged 68.1 percent, 9.6 percentage points below the national average of 77.7 percent. As shown in the map, low-employment-rate areas include much of the South and Appalachia, as well as large parts of the West Coast states outside of the major coastal cities, parts of Michigan, and parts of upstate New York and New England (T. Bartik 2020c). Perhaps surprisingly, the majority of people living in low-employment-rate areas reside in metropolitan areas, not rural areas. Out of the 47 million people in these 573 low-employment-rate areas, 26 million (55 percent) lived in 85 different metropolitan areas. The five largest areas include: Riverside, California, with 4.5 million people; Detroit, Michigan, with 1.8 million people; Fresno, California, with 1 million people; Bakersfield, California with 900,000 people; and McAllen, Texas with 800,000 people.

In contrast, 10 percent of the U.S. population—33 million people—lived in the 239 local labor markets in which the prime-age employment rate was at least 5 percentage points above the U.S. average. The five largest booming areas are: Washington, DC, with 4.9 million people; Minneapolis-St. Paul, with 3.5 million; Denver, with 2.9 million; Cambridge, Massachusetts, with 2.4 million; and Montgomery and Bucks County in suburban Philadelphia, with 2.0 million.

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<sup>2</sup> My local labor market areas are defined starting with the Census Bureau’s “metropolitan areas” and “micropolitan areas,” both of which are commuting-tied groups of counties. A few large metros are divided into “metro divisions,” which are sub-groups of counties with a higher volume of commuting flows. For the remaining rural counties, I use commuting zone designations. More details on definitions and calculations in T. Bartik (2020c).

**Map 1 Distressed Local Labor Markets, 2014–2018 period**



In these 239 booming areas, the prime-age employment rate averaged 84.5 percent, 6.8 percent above the U.S. average. Compared to these booming areas, prime-age persons in distressed areas are one-fifth less likely to have a job.<sup>3</sup>

Labor market disparities cause large social problems (Austin, Glaeser, and Summers 2018 and T. Bartik 2020b provide reviews). Local labor market problems lead to problems with mental health, substance abuse, family break-ups, and crime (Autor, Dorn, and Hanson 2018; Diette et al. 2018; Pierce and Schott 2017). Local economic distress also adversely affects children (Bastian and Michelmore 2018). Labor market problems put fiscal stress on state and local governments by reducing tax revenue and increasing public spending needs (Charles, Hurst, and Schwartz 2018). Local economic problems lead voters to support candidates at the political extremes of both parties (Autor et al., forthcoming).

<sup>3</sup> 68.1 percent in distressed areas divided by 84.5 percent in booming areas = 0.81.

These local labor market problems are persistent. Across these 1,468 local labor markets, a high correlation is found between their prime-age employment rate in 2000 and in the 2014–2018 period, even with the intervening China manufacturing shock and the Great Recession.<sup>4</sup>

Suppose we look at the local labor markets that were distressed as of 2000. Out of our 1,468 local labor markets, 353 local labor markets were at least 5 percentage points below the national average in 2000. These 353 areas had an average employment rate 8.8 percentage points below the national average, as of 2000. As of 2014–2018, these same 353 areas still had a prime-age employment rate that averaged 5.5 percentage points below the national average. There was *some* tendency for below-average areas to improve towards the mean, but it was slight.

Some larger areas have improved since 2000, while other smaller areas have declined. In 2000, the 353 areas in which employment rates were 5 percentage points below the national average comprised 19 percent of the national population. In 2014–2018, there were 573 local labor markets in which employment rates were 5 percentage points below the national average, but these areas comprised just 15 percent of the national population. As this comparison suggests, distressed areas over time have tended to include more smaller communities.

Part of the reason for this pattern is that in a few very large coastal cities that were distressed in 2000, employment rates have dramatically increased. For example, the New York Metro Division went from having a prime-age employment rate of 6.9 percentage points *below* the national average in 2000, to being slightly *above* (0.2 percentage points) the national average in 2014–2018. Los Angeles went from having a prime-age employment rate of 8.2 percentage points below the national average in 2000 to being only 0.7 percentage points below the national average in 2014–2018. These large improvements are the exception to the rule. Of the 353 areas that were distressed in 2000, that is more than 5 percentage points below the national average, 326 of these areas were still distressed in 2014–2018.

Other areas have over time become more depressed. For example, Flint, Michigan, went from a prime-age employment rate that was 1.0 percent below the national average in 2000 to 5.1 percent below the national average in 2014–2018. Such economic problems frequently become evident when a locality experiences a severe recession. Hershbein and Stuart (2020) show that metro areas that experience more severe recessions would typically have lower employment in the long term, compared to a counterfactual world in which the metro area had experienced an average recession. An area that loses 5 percent more employment than the national average during a recession has employment that averages 6 percent lower than comparable areas a decade later, and an employment rate that is 2 percentage points lower.

A recession that targets a particular base industry—whether that industry is travel and tourism, energy, manufacturing, or others—will be particularly damaging to the local economies that specialize in that base industry. But the effects are not just temporary. The local economies that specialize in the hard-hit industries get back on the prior growth track, but they typically do not catch up to where they would have been absent their employment losses, leading their residents to suffer.

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<sup>4</sup> The correlation between the 2000 employment rate and the 2014–2018 rate is 0.88.



Permanent employment losses occur in part because some job losses during a recession reflect permanent structural changes in the demand for a particular industry in the national economy. For example, we might expect persistent, long-run effects of a decline in auto employment in Flint, or coal-mining employment in West Virginia.

But a locally severe recession may also damage local economic assets, thus making the local economy less competitive. Locally severe recessions may damage public services such as education, which may damage the area's future job growth. Locally severe recessions also may cause workers to have greater problems: the recession-induced job loss may lead to a drop in worker skills, and may increase substance abuse and crime. A local area that has experienced multiple negative shocks, either during recessions or over time, will end up having a significantly below-average employment rate, which will often persist for a long time.

As with prior recessions, the current "Pandemic Recession" will unevenly hit different local labor markets. Some areas such as Detroit will find that the pandemic exacerbates their labor market problems. Other areas may find that the current recession may push them over the edge into a severe, job-availability problem. Policymakers should expect these job problems to persist. For example, an area that specializes in tourism may suffer during the current recession. Even if tourism recovers, the short-run job loss may damage the skills and public services of the local area, which may lead to long-run problems.

### **3. Improving Local Labor Markets: Jobs-to-People Strategies Work Better than People-to-Jobs Strategies**

What can be done about local labor market problems? There are two commonly discussed policy approaches: encourage people in distressed areas to move to areas with more jobs (people-to-jobs) or encourage job growth in distressed local labor markets (jobs-to-people). I argue that jobs-to-people is a better solution than the people-to-jobs approach.<sup>5</sup>

#### *3.a. What's Wrong with the People-to-Jobs Approach?*

Policies encouraging people to relocate to areas with greater job availability have been proposed numerous times (President's Commission for a National Agenda for the Eighties 1980; Ludwig and Raphael 2010; Brookings discussion of Austin, Glaeser, and Summers 2018; Strain 2019). But people-to-jobs strategies have two problems. First, it's hard to get people to move. Second, moving people out of distressed local labor markets does not help improve employment rates for those left behind in those markets.

On the first point, many studies find that relocation costs are high. The costs to moving extend far beyond the financial outlay of moving expenses. People bear a psychic cost of moving away from family and friends. Many also bear very real economic costs of moving away from supportive family members, who provide many types of in-kind support. People's migration

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<sup>5</sup> My favoring of "jobs-to-people" over "people-to-jobs" contrasts with an earlier Economic Strategy Group memo by Ziliak 2019. In the context of distressed rural labor markets, Ziliak advocates both types of strategies. To be clear, I am not suggesting that people-to-jobs strategies never help anyone; they do help some people who are helped to move and become more successful as a result. But my argument is that such people-to-jobs strategies only will induce a few people to move and will not help those left behind.

behavior, as well as direct survey evidence, suggests that average “psychological” moving costs exceed 100 percent of annual income.<sup>6</sup>

Negative economic shocks to an area do not increase out-migration by very much. For example, Autor, Dorn, and Hanson (2013) “find no robust evidence that [Chinese trade-induced] shocks to local manufacturing lead to substantial changes in population.” Other research finds that moving from a commuting zone in the 25th percentile of exposure to trade with China to a commuting zone in the 75th percentile increases out-migration over the decade after 2000 by less than 1 percentage point, even though higher exposure to Chinese trade has large effects on lowering local earnings (A. Bartik 2018).

Low outmigration may be due to local labor markets in the same region experiencing similar demand shocks. Out-migrants from distressed metros often move to other distressed metros, in part because many distressed metros are geographically close to other distressed metros (Molloy and Smith 2019). Occupational regulations that vary by state may also inhibit mobility (Austin, Glaeser, and Summers 2018). Housing supply restrictions in booming areas may also discourage the mobility of less-educated workers (Hsieh and Moretti 2019).

But the reluctance to move is not just due to geographic or political barriers. Half of all Americans live within 30 miles of where they were born; in other words, in the same local labor market (Zabek 2019). About 55 percent of all Americans spend most of their career in the metro area where they spent their childhood. This percentage does not drop much for metro areas with lower growth or of a smaller size (T. Bartik 2009).

People have valuable ties to their home area. Local ties have a real value to people that has nothing to do with housing supply restrictions or occupational regulations. We’re deluding ourselves if we think addressing local land-use restrictions or occupational licensing reform will massively increase out-migration from distressed local labor markets.

Even if policies succeeded in getting more people to move out of weak labor markets, this does not serve to reduce disparities in employment-to-population ratios across different local labor markets. Numerous studies show that when migration changes the population of a local labor market by some percentage, employment in the local labor market changes by about the same percentage (T. Bartik 2020b). In other words, when we move people out of a distressed area, employment declines enough that the area’s employment-to-population ratio does not improve. This implies that other local labor market outcomes, such as wages, are also unlikely to improve.

Why do changes in local population have such strong effects on local employment? When people move away, this removes their consumption demand, which hurts local retail jobs. Out-migration also reduces home, commercial, and public construction. The people who move out may be younger and more entrepreneurial; their out-migration may reduce the area’s business start-ups

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<sup>6</sup> T. Bartik 2019a provides a review of this moving cost evidence. Studies inferring such high moving costs from actual moving behavior include Kennan and Walker 2011 and A. Bartik 2018; studies inferring such high moving costs from surveys of what payments would elicit out-migration include Dunn 1979 and Kosar, Ransom, and van der Klaauw 2020.

and make the area's labor quality less attractive for business growth. Out-migration will reduce local housing values, which reduces consumption by local homeowners (Howard, forthcoming).

In other words, moving people out of Flint does not help Flint. Between 2000 and the 2014–2018 period, the overall population of the Flint metro area declined by 6.1 percent, and the prime-age population declined by 19.2 percent. But despite this large population loss, Flint's prime-age employment-to-population significantly worsened over this time period, as previously noted.

Moving people to jobs only helps relatively few individuals, at best, and in most cases will leave the local distressed area no better off. But can jobs-to-people strategies do better?

### *3.b. Jobs-to-People Strategies Can Work, Particularly if They Help the Nonemployed Access Jobs*

Economic development policies seek to help people in distressed local labor markets by bringing jobs to people. Based on research, jobs-to-people strategies can have large, long-run benefits. Local job increases can raise local employment rates, not only in the short-run but the long-run, by an amount that is substantively important.<sup>7</sup> In distressed areas, the employment rate impact of more local jobs is greater, which suggests jobs-to-people strategies should be targeted to distressed areas.

Based on research, a local employment increase of 10 percent will on average increase the long-run local employment rate by between 2 and 3 percent (T. Bartik 2020b). This employment rate effect is closer to 3 percent in distressed local labor markets.<sup>8</sup>

What does this imply for the potential of more jobs to help distressed areas? Consider again the 573 local areas that in 2014–2018 had a prime-age employment rate of at least 5 percentage points below the U.S. average. Their prime-age employment rate averaged 68.1 percent. A 3 percent increase in their employment rate would equal an increase of 2 percentage points. Therefore, if we increased these distressed areas' annual job growth rates by only 1 percent, after 10 years we would have a meaningful improvement in these areas' employment rates.

These long-run effects imply that jobs-to-people strategies have large dollar benefits per job created. If only 20 percent of jobs created result in long-term increases in local employment rates, the present value of increases in local earnings per capita would be in the hundreds of thousands of dollars per job created.<sup>9</sup>

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<sup>7</sup> The available evidence indicates that these changes in employment rates due to local job shocks are largely due to changes in employment opportunities for the original residents, not due to changes in the composition of the local population (T. Bartik 1993; A. Bartik 2018).

<sup>8</sup> Local population growth will also go up, but just not as much in percentage terms as the local job growth, as discussed further below.

<sup>9</sup> Suppose the average local full-time-equivalent job paid \$60,000. A 20 percent employment rate effect implies that an extra job increases local earnings per capita by \$12,000 ( $0.20 \times \$60,000$ ). If this effect persists in the long-run, and we discount future earnings per capita increases by a 3 percent social discount rate, the present value of the future earnings per capita increases, per job created, is \$400,000 ( $\$12,000 \div 0.03$ ).

### 3.b.1 The Mississippi Balance Agriculture with Industry study and long-run employment rates

To illustrate how local job growth can raise long-run local employment rates, consider a study by Matthew Freedman (2017) of Mississippi's "Balance Agriculture with Industry" (BAWI) program, begun in 1936. BAWI was a pioneering program that led to the modern economic development competition among the states. Mississippi offered Northern manufacturers the following deal: if you locate in Mississippi, we will lease you land and a factory for \$1 per year in perpetuity, and, since the land and factory will be "owned" by the state or local government, no property taxes will be due. The northern manufacturers that used this Mississippi program were mainly textiles plants that primarily used female labor. The BAWI program was imitated by other southern states, and then northern states began offering incentives in the 1960s.<sup>10</sup>

To determine whether the program caused an increase in Mississippi's labor force participation, Freedman compared "treatment" counties, which gained these factories, with other Mississippi counties with similar prior trends. Counties that gained factories had higher female labor force participation rates by as much as 4 percentage points over the 20-year period from 1940 to 1960. Effects continued at a diminished rate, with more marginal statistical significance, until at least 1980. Furthermore, although the program did not initially affect male labor force participation rates, male labor force participation rates increased in 1980 and some subsequent years. These results are surprising because most of these textiles plants closed by 1960 or shortly thereafter.

Why do local employment increases have long-run effects on employment rates? Part of the explanation is the effects of short-run employment experience on long-run job skills. The Nobel laureate Edmund Phelps made a similar argument about the long-run effects of national economic booms (Phelps 1972, 79) which can be applied to regional job increases. He highlights that job experience provides workers the opportunity to gain skills—he specifically identifies "skills" such as "getting to work on time," and "learning to work with others." A booming labor market also gives workers "the opportunity to acquire skills at more demanding jobs in the skill hierarchy than they could ordinarily qualify for." As a result, a "rise of aggregate demand may gradually lead to a true upgrading in the average quality of the labor force."

In addition to job-specific skills, narrowly defined, there are effects on "human capital," broadly defined: short-run job experience may reduce the odds of a person suffering health problems or substance abuse, or engaging in crime, all of which obviously affect long-run employability.

Beyond effects on the person getting the jobs, higher employment rates may affect the next generation. Earnings are highly correlated across generations (Chetty et al. 2020; Solon 1999). So, the higher employment rates and earnings rates of one generation, due to a job shock to a local labor market, may improve labor market outcomes for the next generation.

In the Mississippi program, individuals who got textile jobs or any of the multiplier jobs in the treatment counties had greater long-run employability as a result. This greater employability effect may have persisted after the original plants had closed and even into the next generation.

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<sup>10</sup> I will later discuss more recent incentive trends, in the context of some of the current problems caused by incentives.

### 3.b.2 In-movers vs. existing residents: who benefits from place-based policies?

The benefits from jobs-to-people strategies depend on the effects of local job increases on employment rates. Logically, an increase in local jobs must result in some combination of an increase in the local employment-to-population ratio, or a change in the local population due to net migration. Local employment must equal the local employment rate multiplied by the local population. If a local job increase of 10 percent increases the local employment rate by 2 percent, then local population must increase by 8 percent, through shifts in net migration. If the local employment rate increases by 3 percent, then local population must increase by 7 percent. In other words, new jobs must ultimately go either to in-migrants or to a local resident who otherwise would not be employed.

But, can't new jobs also go to local residents who are already employed? Yes, new local jobs have the immediate effect of being filled in one of three ways, by: (1) local residents who are already employed; (2) local residents who are not employed, and (3) in-migrants. But if a new job is filled by a local resident who is already employed, that leads to a job vacancy. That job vacancy must be filled in the same three ways. The resulting vacancy chains are only ended when a new job ultimately results in an additional job for a local resident who otherwise would not be employed, or in a job going to an in-migrant who otherwise would not have moved to the local area.

What determines the share of a local employment increase that affects local employment rates versus net migration? This share is determined by the choices that local employers make along the vacancy chains created by new jobs. All along these vacancy chains, employers are deciding whether to hire a nonemployed local resident or an in-migrant for a particular job vacancy.

Both common sense and empirical evidence suggests that in more distressed local labor markets—where the local employment rate is lower, meaning that a higher percentage of nonemployed persons are available—that a higher proportion of vacancies will tend to be filled by hiring the local nonemployed. In a local labor market at the lowest 10th percentile of local employment rates, the effects of a job shock on local employment rates will be at least 50 percent higher compared to a local labor market with an employment rate at the 90th percentile (T. Bartik 2015, 2020b; Austin, Glaeser, and Summers 2018). If 20 percent of a job increase in a booming local labor market is reflected in higher employment rates, then 30 percent of a job increase in the distressed labor market would be reflected in higher employment rates.

Based on this analysis, jobs-to-people strategies have greater benefits for distressed local labor markets—about half again as great (30 percent over 20 percent). State and local governments should be more aggressive in pursuing job creation in distressed areas. If federal policy seeks to encourage jobs-to-people strategies, the benefits of doing so are greater in distressed areas.

However, policies can also increase the percent of jobs that go to the nonemployed by directly linking the nonemployed with jobs. Local economic development policies sometimes attempt to do so using sticks or carrots. Such sticks or carrots are part of economic development agreements

that state and local governments reach with firms that are locating or expanding jobs in the area, or in some cases local firms that face competitive threats and are potentially downsizing or relocating jobs. These economic development agreements would typically only be negotiated with firms in base industries, and within the group of “base” firms, those firms that are making location, expansion, or retention decisions that affect local jobs.

An example of a modestly sized “stick” is when a state or local government requires firms that are awarded incentives to have “first-source hiring agreements.” A firm that receives incentives is required to consider, for entry level jobs, applicants that are referred by the local workforce agency. Such first-source hiring agreements have been used in cities such as Portland, Oregon, Berkeley, California, and Boston, Massachusetts. These requirements tend to be more popular in booming areas, which have greater leverage in imposing requirements.

An example of a “carrot” is when a state or local government provides customized, job training programs as part of a package of economic development assistance to a firm. Under customized training, a firm that is locating, expanding, or retaining jobs is provided with free training by the local community college, sometimes only for new workers, but in other cases for incumbent workers. In some cases, such programs can encourage a firm to hire nonemployed residents who might not be considered otherwise. These programs also lower the screening and training costs associated with such workers (Osterman and Batt 1993).

However, encouraging hiring of nonemployed workers only at firms that receive economic development assistance is a limited strategy, for at least three reasons. First, such assisted firms make up only a small portion of the local labor market. Second, even if we want to focus on who is hired as a result of the job creation due to assisted firms, these assisted firms may spawn job

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The Upjohn Institute has for many years administered local job training programs in the Kalamazoo (Michigan) area. Some recent programs are designed to alter some features of area labor markets. Two examples are: the Neighborhood Employment Hub program in Battle Creek, funded by the Kellogg Foundation; and the Employer Resource Network, in Battle Creek and Kalamazoo.

Under Neighborhood Employment Hubs in Battle Creek, local workforce operations are decentralized into trusted local institutions in low-income neighborhoods: a local church, a community action agency, and a subsidized housing project. This contrasts with customary practices of locating workforce programs in impersonal offices remote from low-income neighborhoods. If such hubs better involve low-income residents, these residents will be more readily linked to available jobs.

Under Employer Resource Networks, local businesses pay a fee for services from a “success coach,” who helps retain workers. The success coach provides case management to link employees to needed services. For smaller businesses, knowledge and resources for accessing social services for their employees may be lacking. As part of ERNs, a local credit union provides expedited loan services to help employees deal with problems such as getting a car fixed. ERNs aim to increase employee retention and lower the costs to employers of high employee turnover. If such a program succeeds, more employers may be willing to take a risk on hiring local residents whom they otherwise would not hire.

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creation at other firms through multiplier effects, and we need to affect who the multiplier firms hire. Third, even absent multiplier effects, how assisted firms' new jobs affect local employment rates depends upon more than whom the assisted firms hire. It depends upon the entire chain of job vacancies that results from an assisted firm's hiring choices. If we really want to affect whether the local nonemployed get additional job opportunities from new job creation, we need to affect the decisions of all the employers along the resulting vacancy chains.

Whether local firms hire local nonemployed workers is affected by many characteristics of the local labor market, including how the skills of the local nonemployed match available jobs; what information the local nonemployed have about job opportunities; the information that employers have about the local nonemployed; and whether local employers perceive that the local nonemployed will be reliable employees, who will be retained in jobs. Public policy can potentially affect these characteristics, and hence affect hiring patterns.

For example, if a local area has local job training agencies and community colleges that are adequately funded, and that do a good job linking job-seekers with jobs via training and job placement programs, then it is more likely that any new job creation will end up providing more job opportunities for local residents who lack jobs. The sidebar provides two examples of local job training interventions that might affect who employers choose to hire.

#### **4. What Works: Problems with Current Local Economic Development Policies and Better Alternatives**

Even if local economic development policies have large job growth benefits, the benefits must exceed job creation costs to provide net benefits. As previously mentioned, current local economic development policies mainly rely on business incentives, by which I mean tax incentives or cash grants to induce businesses to locate, expand, or retain jobs in a local labor market.

Incentives often have high enough per-job costs that their net benefits are questionable. Based on research and case studies, more cost-effective local strategies would focus on improving the quality of local business inputs. These more effective strategies would include public services and regulatory changes that improve the availability and quality of local land, labor, transportation, research and development (R&D), and information. The specific strategies would build on local assets toward promoting a broad range of local industry growth, in both existing and new industries.

##### *4.a. Incentives: Facts and Trends*

The "average" incentive package awarded in the United States to a base firm has a present value of 1.4 percent of the "value-added" of a firm.<sup>11</sup> Since the average base firm's value-added is about half of its wages expense, this typical incentive package is equivalent in value to about a 3 percent wage subsidy. Table 2 highlights four main types of incentives.

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<sup>11</sup> A firm's value-added is equal either to its sales minus its non-labor and capital input purchases, or alternatively the sum of its payments to labor plus capital. This present value calculation considers incentive payments and value-added over 20 years, and assumes the firm uses a real discount rate of 12 percent (Poterba and Summers 1995). See T. Bartik (2017).

**Table 2 Different Incentives as Percentage of Value-Added, National Averages**

Total	1.36
Job creation credits/grants	0.64
Property tax abatements	0.39
Investment credits/grants	0.20
R&D credits/grants	0.13

SOURCE: T. Bartik (2017).

Property tax abatements are the oldest and most frequently used incentive by local governments, having been used since the southern industrial recruitment of the 1930s. Most other incentives are provided by state governments. The largest and most rapidly growing state incentives are job creation credits, which allow incented firms to keep employees' tax withholdings. If the state's personal income tax is 4 percent, the firm would keep this 4 percent for the incentive term, which is often 10 or more years. These job creation credits can be larger than other business tax breaks because their value often exceeds what the firm pays in business taxes to the state government.<sup>12</sup>

Over the past three decades, the generosity of incentives has escalated dramatically. From 1990 to 2015, the typical incentive package tripled as a percent of the value-added of base firms that are awarded incentives (T. Bartik 2017). Given that national GDP has approximately doubled since 1990, the dollar volume of incentives has increased roughly six-fold. A few recent incentive deals have been even larger. For example, the Foxconn deal agreed to by the state of Wisconsin in 2017 promised incentives per job of about 10 times the size of the typical incentive.

#### 4.b. *Concerns about Incentives*

Current incentive policies raise several concerns. I highlight four specific concerns: cost escalation; a lack of sensible targeting by region; the lack of sensible targeting by industry; and a systematic favoring of the largest firms.

First, the budgetary cost of incentive packages has been rising over time. The annual cost of economic development incentives is around 3 percent of state and local tax revenue. Absent new revenue, these costs crowd-out funding for other necessary state and local public services. Though 3 percent of state and local tax revenue is not a trivial amount of resources, it does not loom large compared to other challenges facing state and local budgets. For example, a 1 percentage point increase in the unemployment rate in a state or local area is estimated to cause budget problems, largely due to reduced tax revenue, of more than 3 percent of state and local tax revenue (Fiedler, Furman, and Powell 2019; T. Bartik 2020d). Based on this relationship, the current pandemic-induced recession seems likely to cause annual budget problems for state and local governments of close to 20 percent of tax revenue.

However, the average cost in the United States of the typical business incentive package tripled between 1990 and 2015. Furthermore, a few recent incentive offers, by a few states to a few companies, are 10 times as large per job, or as a percent of value-added, compared to the current

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<sup>12</sup> Employee tax withholdings are not a business tax liability, but rather the business collecting tax liabilities of its workers on behalf of the government.



more typical offer. If these few offers end up setting the pattern for the typical offer, incentive costs would become more burdensome. If the budgetary costs of business incentives were to increase 10-fold from 3 percent to 30 percent of state/local tax revenue, then the awarding of incentives would necessarily require significant cuts in other state and local public services.

Second, variation across states in the size (and cost) of incentive packages is not systematically driven by the level of economic need. For instance, New Mexico, New York, and Louisiana provide the largest incentives (as a percent of a company's value-added) of 3.7 percent, 3.5 percent, and 3.1 percent, respectively. Washington, Nevada, and Virginia each provide the smallest incentives measured by the share of value-added at just 0.02 percent, 0.2 percent, and 0.2 percent, respectively. Cross-state variation is more closely related to politics than to economic need. For example, Indiana's incentives are twice as large as Illinois', and South Carolina's incentives are twice as large as North Carolina's, even though each pair of states have similar employment rates. Incentives are not targeted to creating jobs where they are most needed.

Third, the industrial targeting of incentive packages is not necessarily forward-looking or well-designed from an economic, as opposed to political, perspective. State and local governments target incentives to base industries, such as manufacturing. But within base industries, incentives are not targeted to high-tech industries even though these industries might offer greater local benefits. For example, T. Bartik (2017) looked at how incentives vary among all 31 industries that are plausibly base industries.<sup>13</sup> Among these 31 industries, the two highest in R&D intensity are chemicals manufacturing and computer manufacturing. However, these industries are ranked 24th and 8th, respectively, according to the incentives they receive as a share of value-added, indicating that incentives are not targeted to the most high-tech industries.

Finally, incentives are disproportionately awarded to the largest firms. State and local governments tend to steer discretionary incentives to the largest firms. Smaller firms receive few incentives: less than 10 percent of all incentives go to firms with fewer than 100 employees, even though these firms' account for a third of U.S. jobs (T. Bartik 2020b). The very largest firms are particularly favored. Among new establishments with more than 1,000 employees, more than 36 percent receive incentives, while less than 10 percent are awarded to establishments of 500 to 999 employees, and less than 2 percent are awarded to establishments of 250 to 499 employees. The smallest establishments receive even lower shares of development incentives (Slattery and Zidar 2020).<sup>14</sup>

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<sup>13</sup> As detailed in T. Bartik (2017), these 31 industries are defined roughly at the 3-digit NAICS level, and include all 19 manufacturing industries, as well as 12 non-manufacturing industries that sell their goods and services outside local economies, such as software, computer design services, accommodations, warehousing, and professional/scientific/technical services. These 31 industries, out of all private industries, comprise 27 percent of full-time equivalent employment, 34 percent of value-added, and 39 percent of compensation (T. Bartik 2017, Table 2).

<sup>14</sup> Although the Slattery and Zidar data are by establishment size, not firm size, it seems likely that their results imply a heavy concentration in the largest firms as well. They also do some comparisons of firms receiving incentives with publicly listed firms, and these comparisons also suggest disproportionate incentive aid to the largest firms.

#### 4.c. *Incentives' Effectiveness: Costly per Job Actually Induced*

Incentives may be costly, because many of the firms awarded incentives would have made the same location or expansion decision even if no incentives had been provided. This lower effectiveness drives up the cost of each additional local job that is created. So, do incentive costs outweigh the benefits from the local jobs that incentives generate?

Based on research, incentives do tip some of the location decisions by firms, but the success rate is less than the 100 percent often claimed by economic developers. An incentive whose present value is 1 percent of the present value of a firm's value-added—slightly less than the typical incentive package in the United States—will increase the probability that a firm will locate or expand in a particular state or metro area by about 10 percentage points (T. Bartik 2020a).<sup>15</sup> Larger incentives will tip more decisions, but at a higher cost, leaving the cost per job generated about the same.

Why are incentive effects modest? Given that wages make up about half of value-added, a 1 percent cost reduction as a percent of value-added is equivalent to about a 2 percent wage reduction. It is not surprising that in many cases, the differences across states or metropolitan areas in other business costs—wages, business productivity, access to markets, regulatory climate—might easily offset an incentive equivalent to a 2 percent wage reduction.

Consider the recent Amazon Headquarters II competition. Amazon initially chose Northern Virginia and New York, over many competing offers. Virginia offered almost \$800 million in incentive dollars. But Amazon could have chosen Maryland, in the same metro area, and received an incentive of over \$3 billion (Simmons 2018). New York offered about \$3 billion in incentive dollars. But Amazon could have chosen Newark and received over \$7 billion (Shafer 2018). Clearly, Amazon's location decisions were driven by other factors than incentives.

Given their modest effects, incentives will be costly per local job that is created. For a typical incentive package, I estimate a present value cost, per local job created, of \$196,000 (T. Bartik 2020b).<sup>16</sup>

As mentioned above, plausible benefits per local job created would likely be several hundreds of thousands of dollars. Therefore, benefits and costs per job created of incentives are likely of a similar order of magnitude. In many cases, benefit-cost ratios will be close to 1, with the exact magnitude depending upon the details of the incentives and the local economy, and on the assumptions made by the analyst doing the benefit-cost evaluation. In my recent book on incentives, I estimate an "average" incentive benefit-cost ratio of 1.5 (T. Bartik 2019b). This estimate is based on the average economic development incentive, in an average metro area, with average local multipliers. This calculation relies on many estimated parameters, all with some

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<sup>15</sup>The typical incentive package is 1.36 percent of value-added over a 20-year time horizon, but about 1.18 percent over an infinite time horizon. The simulation model in T. Bartik (2018b) suggests this will tip between 11 percent and 12 percent of location decisions.

<sup>16</sup> This calculation uses the typical time pattern of incentive offers over 20 years. To get some intuition about why the cost is so high, consider that if an incentive equivalent to a 2 percent wage subsidy tips 10 percent of all location decisions, then the cost of creating a job is equivalent to a 20 percent continuing wage subsidy. The present value of a 20 percent wage subsidy will be high, with the exact cost per job created depending on the time pattern of incentive payments and on the assumed discount rates for both the firm and for society.

uncertainty. Because of this uncertainty, plausible differences in assumptions could lead to a typical incentive having net costs.

Incentives are more likely to pass a benefit-cost test if they are targeted at industries with higher local job multipliers. With higher multipliers, any jobs induced in a firm that receives incentives will generate more total local jobs. Multipliers in high-tech industries are large (Moretti 2010) with some estimates suggesting magnitudes twice as high as those of the average industry in areas that have an above-average share of high-tech (Bartik and Sotheland 2019). These higher multipliers for high-tech occur because of spillover benefits: for example, the ideas and workers of one high-tech firm boost the productivity of nearby high-tech firms.

The benefit-cost ratio for incentives can also be increased by targeting more jobs to nonemployed workers, through targeting distressed areas or better workforce policies.

#### *4.d. More Cost-Effective Job Creation Strategies: Overcoming Local Barriers to Economic Development*

Relying less on incentives and more on other types of local economic development policies that have lower costs per job created can be more cost effective. Based on the evidence, local jobs can be more effectively created by addressing local barriers to job creation, such as an insufficient quantity or quality of local business inputs. Specific barriers vary locally and can include problems with job training and local skills; a lack of information by small businesses; lack of real estate that is ready for business development; inadequate infrastructure; and insufficient linkage to new R&D ideas. Solving local problems inhibiting business development is effective; a cash incentive to get around the problems is less effective.

To remedy insufficient quantity or quality in business inputs, local public services to business may help. The greater effectiveness of public services to business is documented in research studies of specific programs and case studies of local economies. Customized job training and manufacturing extension can increase assisted firms' productivity by at least five times the program costs. Based on these productivity effects, I estimate the cost per job created of these programs is \$34,000 (T. Bartik 2020b). Surveys of firms suggest even lower job creation costs for customized training and manufacturing extension, of no more than \$15,000 per job (Ehlen 2001; Hollenbeck 2008). Such low-cost job creation policies would have a very high benefit-cost ratio.

The lower costs associated with these approaches make sense. For example, manufacturing extension helps smaller manufacturers figure out new technologies or move into new markets. Advice is cheap. But if the advice is high-quality, effects on job creation can be high relative to costs.

For customized job training, smaller businesses lack training staff, and may under-invest in training because of fears of losing trained workers. If a community college provides training that meets the firm's needs, the productivity benefits can greatly outweigh the training costs.

Case studies of successful local economies also suggest that strategies that go beyond incentives tend to be the most effective at creating jobs and ushering in lasting economic improvements. In this section I highlight seven cases of effective local economic development policies: the Tennessee Valley Authority (TVA); the Appalachian Regional Commission (ARC); the Lehigh

Valley area in Pennsylvania (Allentown/Bethlehem); the Pittsburgh area; Grand Rapids, Michigan; Crosby/Ironton, Minnesota; and the recent Amazon project in Northern Virginia.

These case studies primarily feature distressed areas, except for Grand Rapids and Northern Virginia, which are included as additional examples of innovative strategies that could be relevant to distressed areas. Two common themes run through these success stories: First, these successful local strategies do not primarily rely on handing out large amounts of cash through incentives, but rather relied on improving local infrastructure, land, or public services to business. Second, rather than just aiding one firm or industry, many of these successful strategies were broader, encouraging the growth of many local businesses in many industries.

#### **Tennessee Valley Authority (TVA), 1933–present**

The TVA, a New Deal program begun in 1933, was intended—by its principal sponsor, progressive Republican Senator George Norris of Nebraska, and by President Franklin D. Roosevelt—as a model for how to help distressed rural regions (Kline and Moretti 2013). But TVA ended up being unique. The TVA targeted Tennessee plus surrounding areas in Kentucky, Mississippi, Alabama, Georgia, Virginia, and North Carolina. The population of the TVA area is today around 10 million. The TVA built dams and provided reliable electrification. The TVA also invested in roads, public health, agricultural extension, and education and training. The TVA was most active from 1940–1960. The TVA’s peak funding was in the early 1950s, with annual average funding of \$1.5 billion in 2019 dollars, around \$310 per capita.<sup>17</sup> Total TVA funding over the years is \$30 billion (again, in 2019 dollars). Kline and Moretti (2013) compare the TVA region to seven other proposed regional authorities, which came close to being federally funded in 1937 and 1945. Based on their research, the TVA generated 250,000 manufacturing jobs at a cost per job in 2019 dollars of \$77,000 (T. Bartik 2020b).<sup>18</sup>

#### **Appalachian Regional Commission (ARC), 1965–present**

The ARC, begun in 1965, sought to improve economic development in a region that included 13 states, and today contains a population of about 25 million people. Funding peaked in the late 1960s and early 1970s at about \$1.7 billion per year in 2019 dollars, or about \$85 per capita.<sup>19</sup> Total funding since 1965 has been, in 2019 dollars, about \$37 billion. Two-thirds of ARC funding has gone to highways to increase transportation access to remote, rural counties. The ARC highways increased jobs in affected counties by 5.2 percent and per capita incomes by 1.3 percent (Jaworski and Kitchens 2019). The *annual* boost in per-capita incomes is about 16 percent of the highway investment, which is a very high rate of return.

#### **Lehigh Valley, Pennsylvania (Allentown/Bethlehem area)**

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<sup>17</sup> For 1950–1955, annual average TVA spending was \$1.51 billion in 2019 dollars (Kline and Moretti 2013). The 1950 population of the TVA region was about 4.9 million. The somewhat-vague TVA region today has a population of 10 million; my 1950 estimate is based on Tennessee’s population trends.

<sup>18</sup> This calculation allows for a reasonable job multiplier for the manufacturing jobs, estimates TVA costs and jobs created by year, and then calculates a present value per job created, including multiplier jobs.

<sup>19</sup> Based on Jaworski and Kitchens (2019). During the ARC’s peak, 1966–1975, funding averaged \$1.65 billion per year in 2019 dollars. The ARC’s 1970 population was about 19.5 million.

The Lehigh Valley's economic success is highlighted in Sean Safford's *Why the Garden Club Couldn't Save Youngstown* (2009). Safford contrasts the economic policies of the Lehigh Valley to those of Youngstown, Ohio, both of which were economically devastated by the steel industry collapse of the early 1980s. The Lehigh Valley was far more successful than Youngstown in diversifying its economy, broadening its manufacturing sector beyond steel, and growing high-end service industries. More recently, manufacturing in the Lehigh Valley has exceeded national growth by 2 percent annually (T. Bartik 2018a).

As Safford describes, the Lehigh Valley area has long had a broad business, university, and political leadership with an interest in diversifying the area's economy into new industries. Starting in 1959, the Lehigh Valley developed seven industrial parks that today have more than 400 businesses with more than 20,000 workers. When Pennsylvania set up a high-tech program, the Ben Franklin Technology Partnership (BFTP), in the 1980s, the Lehigh Valley's leadership successfully lobbied the state of Pennsylvania to add the Lehigh Valley as a fourth BFTP site. The BFTP program includes a business incubator, applied research grants to encourage business spinoffs from Lehigh University, and a local venture capital fund. The local economic development group, funded by an area hotel tax, has been active in organizing a lending network for smaller businesses, brownfield redevelopment at 21 sites, and education and training initiatives. The local economic development group is currently focused on encouraging growth in key industry sectors such as: (1) high-performance manufacturing, (2) life sciences research and manufacturing, (3) high-value business services, and (4) food and beverage processing.

In contrast, in Safford's view, all the different local business and civic groups in Youngstown were centered around promoting the steel industry. Civic groups that were independent of the steel industry were weak. Youngstown's problem was not that it lacked local organizations or local "social capital." Rather, when steel declined, the local community could not organize any coherent plan for economic diversification. Lobbying for higher steel tariffs was more attractive.

### **Pittsburgh**

Both Pittsburgh and Cleveland were hurt similarly in the early 1980s by the steel industry collapse. Pittsburgh has rebounded as a high-tech center, attracting significant high-tech investment from Google, Apple, Facebook, and Amazon; Cleveland has not (Armstrong 2020).

Pittsburgh's state and local strategy relied on cooperation with Carnegie Mellon University and the University of Pittsburgh to encourage high-tech business growth, which was combined with state and federal investments in that strategy. In 1985, the state of Pennsylvania encouraged both universities, along with the Pittsburgh Mayor and Allegheny County political leaders, to develop a unified high-tech economic development strategy, known as Strategy 21. This strategy helped promote successful applications to the federal government to fund a National Science Foundation Supercomputing Center and a Defense Department Software Engineering Institute. The state of Pennsylvania provided the area with more than \$280 million to support Strategy 21. This support included the development of a 48-acre research park, the Pittsburgh Technology Center, with facilities of both universities along with the Supercomputing Center and numerous businesses.

In contrast, as Armstrong (2020) highlights, Cleveland's economic development strategy focused on supporting current manufacturing industries and existing priorities of key research institutions

such as Case Western Reserve University and the Cleveland Clinic. Cleveland's major institutions did not cooperate to promote new industries.

### **Grand Rapids, Michigan**

Grand Rapids is perhaps the most successful larger manufacturing-intensive local economy in the United States. The share of Grand Rapids' employment in manufacturing is about twice the national average. Grand Rapids is not a distressed area, but its success may be a model for other manufacturing areas that are experiencing distress due to the challenges facing American manufacturing. From 1990 to 2019, Grand Rapids' manufacturing employment expanded by 16 percent, while national manufacturing employment declined by 27 percent. This strength in Grand Rapids manufacturing is spread across different industries, including chemicals, fabricated metals, and food (T. Bartik 2018a).

Grand Rapids' success reflects investments in both existing and new industries. The area's economic development program, The Right Place program, has convened over a dozen industry clusters to discuss various challenges, such as job training needs, and to try to develop local solutions. The Right Place encouraged the co-location of a branch office of the Michigan affiliate of the national Manufacturing Extension Partnership. The program has also worked with local family owned businesses to encourage continued local control.

Grand Rapids has done extensive private and public investments in expanding life science industries. The area has developed the Medical Mile corridor, starting with a privately endowed health research center (the Van Andel Institute) in 2000, and including several hospitals, community colleges, and related businesses. In 2010, area business leaders put up funds to entice Michigan State University to locate a greater share of its medical school operations in Grand Rapids. The life sciences investment includes a cluster effort, the West Michigan Medical Devices Consortium, which provides advice to promote local industry growth. For example, one auto parts company was able to diversify to produce orthopedic products. A bakery wrappings supplier diversified into making packaging for medical testing kits.

### **Crosby/Ironton, Minnesota**

This small community of 2,400 is on the southwest edge of Minnesota's Iron Range area, but the last iron mine closed in 1984. These open pit mines have since filled with water and become picturesque lakes. The state, responding to local pressure, redeveloped the old mining area into the Cuyuna Country Recreation Area in 1993. Local cyclist groups also lobbied the state to put in 25 miles of mountain biking trails in 2011. Since then, the area has become a popular site for mountain biking races and recreation. Tourism has doubled to over 180,000 visitors per year. This has led to new restaurants, brewpubs, yoga studios, bike shops, and real estate demand to set up Airbnb rentals (Aamot 2017).

### **Virginia and Amazon**

Virginia provided an incentive of up to \$770 million to attract a portion of Amazon's Headquarters II project to Northern Virginia. This area is obviously not distressed, but Virginia's approach to providing economic development assistance is a useful model for state and local policymakers around the country, including areas that are distressed. Although the overall price

tag of Virginia's incentives to Amazon is large, the total per job is only \$20,000 for the estimated 38,000 Amazon jobs expected to be located in Northern Virginia, which is below the average national cost of incentives per job created.

Virginia's assistance package for Amazon placed more emphasis on job skills and transportation infrastructure, with around \$1.4 billion in these programs (Virginia Economic Development Partnership 2018). The state is putting up \$250 million for a new Virginia Tech campus in Northern Virginia. The state is also investing \$125 million in George Mason University for expanded computer science programs and an additional \$700 million in computer science programs elsewhere in the state. Finally, the state is investing \$133 million in mass transit improvements near the Amazon site, and \$162 million in nearby highways.

Although the Virginia case study is focused on one firm, Amazon, Virginia sought to use this project to leverage larger local changes that will benefit business growth in many industries. For example, investments in transportation and skills will be useful even if the new Amazon facility does not live up to its hype. In addition, these skills programs may increase the odds that Amazon jobs go to Virginia residents. Both skills programs and Amazon job experience will increase the job skills of many Virginia residents, which will make the area more competitive for future economic growth.

## **5. Institutional Inadequacies: Why Current American Institutions often Fail to Solve the Labor Market Problems of Distressed Areas and How State and Federal Interventions Might Help**

If state and local policymakers were to maximize the net benefits for their residents, job creation would be most aggressively promoted where it is most needed: in areas that are distressed. Job creation policies would use the most cost-effective approaches. But this ideal solution is impeded by problems with politics, leadership, and money. Governors and mayors are often tempted by quick fix solutions that provide political wins. Some local labor markets do not have the leadership needed to support and implement sustained local strategies that will broadly encourage growth in a wide variety of businesses and industries. Finally, the most distressed areas often have lower tax bases, which makes it more challenging for them to pay for the needed investments in local economic development.

I discuss state and federal interventions to address these challenges. States can encourage better thinking about economic development, encourage more coordinated local leadership, and better target their distressed areas. The federal government can restrict some of the more wasteful incentives and provide financial resources to promote economic development in distressed areas. Are reforms more feasible at the state or federal level? That is open to debate.

### **5.a. Political Temptations of Incentives**

Based on surveys, voters are more likely to re-elect a governor who offers large incentives to businesses (Jensen and Malesky 2018). Voters appreciate that their governor is visibly trying to increase job availability. Given the voter appeal of incentives, many governors are tempted to offer large incentives, particularly to highly visible businesses such as Amazon. Alternatives to incentives are harder to sell to voters. Consider alternative job creation policies such as

infrastructure, job training, business parks, university-business partnerships, manufacturing extension. Such policies are complex, with a long-term payoff, at best.

*5.b. Lack of Unified Local Leadership Focused on the Local Labor Market*

Most government institutions, at the state or local level, are not organized around local labor markets, which usually span multiple counties. Local labor markets also often lack business leadership that takes a civic interest in the local economy. In the past, local banks often played such a role, given their natural interest in local economic development; however, that has diminished as banks have consolidated nationally. Local universities and community colleges, local charitable groups, and local hospitals increasingly play a role in local economic development. But these institutions have their own interests, and do not always cooperate well to promote regional interests.

As shown in the above case studies of the Lehigh Valley and Youngstown, and of Pittsburgh and Cleveland, it is sometimes difficult to get local political and business interests to unite around a local labor market strategy that cooperates to improve the overall local economic environment for many local businesses throughout the local labor market. Sometimes, local elites are more inclined to support one key local industry or one key local firm, even if that one industry or firm is declining.

*5.c. Lack of Resources*

Transforming a local economy and meaningfully increasing job growth requires significant resources. The TVA at its peak spent about \$310 per capita. Calculations of plausible job creation costs, and the needed jobs to really help a distressed area, suggest similar figures for needed annual per capita resources for at least a decade.<sup>20</sup> An economic development program of \$310 per capita is 14 percent of average local tax revenue. Distressed areas have lower tax bases and problems with legacy costs. Carving out 14 percent of tax revenue for a long-term economic development program is not impossible, but would often be challenging.

At the state level, raising adequate resources for distressed areas is more feasible, from an economic perspective. An economic development program of \$310 per capita is 10 percent of average state tax revenue. If a state targeted its neediest quintile of distressed areas, the annual costs would only be 2 percent of state tax revenue.

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<sup>20</sup> As already mentioned, the average prime-age employment rate from 2014–2018 was 77.7 percent. Suppose we consider an area that was 5 percentage points below this, and we wanted to close half this gap in 10 years, increasing its employment rate from 72.7 percent to 75.2 percent. This is a logarithmic change of 0.0338. If the elasticity of the local employment rate with respect to employment is 0.3, then the log of local employment has to change by 0.1127, which is a percentage change of 11.93 percent. For local labor markets below the national prime-age employment rate by 5 percentage points or more, the average ratio of total civilian employment to total population is 0.3891. So, employment needs to increase by 4.64 percent of the population ( $= 11.93 \times 0.3891$ ). At a cost of \$50,000 per job created, this requires job-creation policies that cost \$2,321 per capita. Over 10 years, the annual per capita cost is \$232.



#### 5.d. Possible State Government Interventions

The most direct way to reform local economic development policies is to reform the practices of state governments. Currently, state governments provide most economic development resources. In the American system, local governments are creatures of the state, with organization and powers set by state governments. State and local economic development agencies in most states are already enmeshed with each other in jointly planning, financing, and implementing local economic development policies.

State economic development policies can be reformed with better evaluation, more aggressive promotion of local economic development planning, and greater targeting of distressed local labor markets. All these reforms have occurred at some time in some states, just not all the time in all states.

##### 5.d.1 Evaluation

In recent years, evaluation of economic development policies has been pushed by Pew Charitable Trusts, in cooperation with the National Conference of State Legislatures.<sup>21</sup> Almost two-thirds of states have adopted evaluation requirements for economic development programs. Sixteen states are currently actively using evaluations of economic development programs to influence policy development (Goodman and Chapman 2019).

Evaluation practices have improved. For example, in the past, many state evaluation studies simply assumed that incentives' success in inducing jobs was 100 percent. Lower, more realistic success rates of incentives have been used in more recent state evaluations, for example by Rhode Island, Maryland, and Connecticut (T. Bartik 2019b).

Program evaluation has also become more influential in decisions about economic development policy. A recent Pew publication lists examples of evaluation-guided policy changes from DC, Oklahoma, Virginia, Nebraska, Minnesota, Pennsylvania, Indiana, and North Dakota (Goodman and Benz 2019). As another example, consider the Washington state R&D credit. In 2012, the Washington Joint Legislative Audit and Review Committee sponsored an evaluation of this credit by two outside economists, including me. Our evaluation concluded that this R&D credit was relatively expensive per job created (T. Bartik and Hollenbeck 2012). This evaluation contributed to the program's sunset in 2015 (T. Bartik 2019b).

##### 5.d.2 Local labor market planning

Local governments, including local universities and community colleges, are creatures of state governments. A significant portion of their funding is provided by the state government and their powers to raise revenue from taxes and fees are set by the state government. State governments decide the scope of these governments' jurisdiction and set the rules to determine whether these governments can expand their jurisdiction through annexation or consolidation. State governments also decide what services these local governments can provide, and what regulatory power they have over land use or local labor markets.

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<sup>21</sup> Full disclosure: some of my research has been supported by Pew.

Given local government dependence upon state legal authority and funding, state governments certainly can take numerous policy actions to encourage local governments to cooperate in pursuing creative local economic development at the local labor market level. State governments can encourage local governments to develop broad strategies to improve a local economy, rather than focusing on a single industry. This is illustrated above by the example of Pennsylvania and Pittsburgh.

#### 5.d.3 Targeting distressed areas

Sometimes states have succeeded in overcoming the political hurdles of targeting distressed areas. For example, North Carolina divides its counties into three tiers, based on county distress, with each tier eligible for different levels of state economic development assistance (T. Bartik 2019b). For many years, these distress tiers resulted in quite large differences in state aid. For example, from 1996 to 2013, the most distressed counties had a job creation credit of over \$12,000 per job, and the least distressed counties a job creation credit of less than \$1,000 per job (Perez and Suher 2019).<sup>22</sup>

#### 5.e. Possible Federal Interventions

Federal policy could help reform local economic development by discouraging excessive incentives, and by providing federal block grants for economic development in distressed areas. But it is unclear whether a significant federal intervention is politically feasible. Moreover, if federal intervention led to federal micromanagement of local economic development policies, the federal intervention might do more harm than good.

##### 5.e.1 Restrictions on the largest incentives

The federal government could legally restrict the size of incentive packages that a state or local government could offer to an individual business. One model for incentive restrictions comes from the European Union, which regards “regional state aid” as a potential interference with free trade within the EU. Incentive magnitudes are restricted, with the restrictions varying with the distress level of different local regions within countries, and with project size (LeRoy and Thomas 2019). In most of the EU, incentives are limited for large projects to 3.4 percent of the project’s investment or 3.4 percent of the first two years of the project’s wage bill. In some areas, such as Berlin, incentives are disallowed. In some depressed regions, such as Bulgaria, incentives can be five times larger. In the United States, similar restrictions would rule out the largest incentive offers.<sup>23</sup>

The federal government could potentially take a similar approach: Congress could make it illegal for state and local governments to award “discretionary” incentives to individual businesses that exceed a specified size. The restrictions would only be applied to incentives whose dollar

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<sup>22</sup> Targeting has since been reduced, but distressed counties still have lower match requirements.

<sup>23</sup> For example, the Foxconn project was planned to have \$10 billion of investment. In most of the EU, its maximum incentive would have been \$340 million. Wisconsin offered \$3 billion. Amazon’s two-year wage bill for its Headquarters II project would be \$12 billion. In most of the EU, Amazon’s maximum incentive would have been \$408 million. Virginia offered almost \$800 million, New York offered \$3 billion, and other offers exceeded \$7 billion. If these projects had been eligible for “Bulgaria-level” incentives, Foxconn could have received \$1.7 billion, and Amazon could have received \$2.0 billion.

magnitude exceeded some specified dollar value, and whose value as a percent of investment and the wage bill exceeded some specified percentages. In distressed areas, the restrictions could be relaxed to allow for higher discretionary incentives.

By “discretionary” incentives, I mean incentives whose award is decided on by some state or local economic development agency, which may award credits to one firm, but not to another firm in the same industry that is making an investment or job creation decision. Restricting discretionary incentives would not restrict other incentives, which are received as an entitlement under the state’s tax law by all firms in an industry making an investment or job creation decision. But discretionary incentives tend to be the largest incentives; state and local governments are reluctant to make incentive offers “automatic” if they are large per job or per dollar of investment. Such discretionary incentives are the incentives that are most likely to go to the largest firms and make up a large portion of incentives’ budget costs. Discretionary incentives are also the incentives most likely to be driven by politics rather than long-term economic strategies.

States would still be free to design their business tax systems, including non-discretionary tax credits. Therefore, states would retain authority over the design of their business tax laws, and significant authority over their economic development strategies.

Limiting the restriction to the largest incentives would reduce the administrative burden on the federal government for enforcing these restrictions. These large incentive offers to larger projects are the most politically tempting for governors and mayors. Allowing distressed areas to have higher discretionary incentives would help reallocate job growth to these areas.

Such a congressionally enacted restriction would rely on the federal government’s constitutional authority to regulate interstate commerce, which forbids state tariffs, and can be construed as allowing federal restrictions on incentives for firms that sell goods and services across state lines. Legal scholars have long argued that Congress taking such action would be well within the power of the federal government to govern interstate commerce (Frickey 1996). Some legal scholars have gone further and argued that the Supreme Court could outlaw some incentives on their own, without congressional action (Hellerstein and Coenen 1995; Enrich 1996).

If outlawing excessive incentives was infeasible, either politically or due to court decisions, the federal government could tax excessive incentives, or cut-off various federal grants if a state’s incentives are excessive (LeRoy 2012). For example, Burstein and Rolnick (1994) proposed a 100 percent federal business tax on incentives, which would make them worthless to firms. The federal block grant discussed next could be conditioned on a state and local area being willing to put some restrictions on excessive incentives.

#### 5.e.2 Aid for distressed regions

A second way the federal government could encourage local economic development in distressed areas is through the direct provision of a federal block grant, as it did in the past with the TVA and the ARC.<sup>24</sup> The grant could be used to carry out a wide variety of economic development

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<sup>24</sup> We do not currently have such block grant aid. The federal Community Development Block Grant program is focused mainly on housing-related improvements in low-income neighborhoods. CDBG is mostly a

services, including business advice programs, customized training, infrastructure, and land development.

To determine how large such a block grant should be, we could look to the experiences of the TVA and the ARC. Suppose the amount of aid was similar to that of the TVA at its peak: \$310 per capita. Further suppose the block grant were awarded for a 10-year period and went to local labor markets that were 5 percentage points or more below the U.S. average in prime-age employment rates. As mentioned, these 573 local labor markets comprise 14.7 percent of the U.S. population (47 million people). This regional aid program would cost around \$15 billion annually, or \$150 billion over a decade.

Under reasonable assumptions, this program after 10 years could boost employment in these distressed areas by 3 million jobs. Prime-age employment rates in these areas would be expected to increase from 68.1 percent, 9.7 percentage points below the national average, to 72.3 percent, an improvement of 4.2 percentage points.<sup>25</sup> More could be done over longer time periods, or if there was a state match to these federal dollars.<sup>26</sup>

If such a highly targeted program proved politically infeasible, one could add aid tiers. For example, an additional 29 percent of the American population lives in one of the 352 local labor markets where the prime-age employment rate is below the national average, but by less than 5 percentage points. Suppose aid of \$85 per capita was applied to these areas, similar to the ARC at its peak. This would add another \$8 billion annually to the cost of the program, for a total of \$23 billion per year. This \$23 billion program would include more congressional districts.

Any federal aid should be flexible. One size does not fit all. Mountain biking worked for Crosby, Minnesota, but is not a general solution. Not all areas can be high-tech centers. Grand Rapids, Michigan has succeeded by doubling down on manufacturing, but other manufacturing areas might be wiser to diversify. Different local economies have different needs for business advice, training, infrastructure, and land development. The federal government should avoid the political temptation of attaching too many strings to federal aid. The block grant should allow for a broad range of local economic development programs to be supported, based on the local area's needs.

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community development program which redistributes some economic activity within a local labor market, not a program that promotes economic development of an entire local labor market. Some CDBG dollars for non-metro communities go to state governments, which in some cases use these funds for infrastructure improvements which may support rural economic development. However, CDBG in total is funded at only \$3.4 billion annually, of which only a small portion is usable for economic development purposes.

<sup>25</sup> This calculation assumes that the program could create jobs at \$50,000 per job, which seems reasonable for public services to business, based on prior discussion in this paper. This yields 3 million jobs, which is a large boost from baseline employment in these areas of 18.5 million jobs. I assume that because these areas are distressed, and with policies to help match the local nonemployed to jobs, that the elasticity of the prime-age employment rate with respect to this employment increase would be 0.4.

<sup>26</sup> In T. Bartik (2020c) I suggest some administrative details of a similar program. For example, I propose the following: eligible areas would be official local labor markets designated by the United States that have a history of low prime-age employment rates; the eligible entity applying for the grant would be a consortium of local governments and the relevant state governments; grants would be awarded by a formula related to how much job creation is needed in each area to close employment rate gaps versus the national average; grants would be committed to eligible areas for at least 10 years. I also propose evaluating the program by comparing the economic performance of areas that just made or just missed the distress cut-off for assistance.

## **Conclusion**

Local job creation yields significantly higher employment rates that persist in the long run. The benefits of job creation in distressed areas are in the hundreds of thousands of dollars per job. Local job creation can be boosted at affordable costs by reforming local economic development policies and focusing on boosting business growth via public services. From the Tennessee Valley Authority of the 1930s to Grand Rapids Michigan, sustained investments in well-designed local economic development policies have had high benefit-cost ratios.

Although new federal regulations or grants could help encourage reformed local economic development policies, such federal intervention may prove politically infeasible. But even without new federal action, reformed local economic development policies should be adopted by state and local governments, acting in their residents' best interests. State and local governments have the collective resources to significantly address the labor market problems of distressed areas. As discussed, a program to help distressed areas might cost \$23 billion per year, less than half of the resources that state and local governments currently devote to economic development policies. If the political will is there, state and local reforms to economic development policies are possible.

## References

- Aamot, Gregg. 2017. "Small Town, Big Wheels: How Mountain Biking Saved a Minnesota Mining Town." *MinnPost*, October 26, 2017.
- Armstrong, Ben. 2020. "Industrial Policy and Local Economic Transformation: Evidence from the Rustbelt." Working paper, Brown University.
- Austin, Benjamin, Edward Glaeser, and Lawrence H. Summers. 2018. "Saving the Heartland: Place-based Policies in 21st Century America." *Brookings Papers on Economic Activity*, BPEA Conference Drafts, March 8–9.
- Autor, David H., David Dorn, and Gordon H. Hanson. 2013. "The China Syndrome: Local Labor Market Effects of Import Competition in the United States." *American Economic Review* 103(6): 2121–2168.
- Autor, David H., David Dorn, Gordon H. Hanson, and Kaveh Majlesi. 2018. "When Work Disappears: Manufacturing Decline and the Falling Marriage Market Value of Young Men." Casio Working Paper No. 7010. Munich, Germany: CESifo Group Munich.
- . Forthcoming. "Importing Political Polarization: The Electoral Consequences of Rising Trade Exposure." *American Economic Review*.
- Bartik, Alexander W. 2018. "Moving Costs and Worker Adjustment to Changes in Labor Demand: Evidence from Longitudinal Census Data." Working paper, Department of Economics, University of Illinois at Urbana-Champaign.
- Bartik, Timothy J. 1993. "Who Benefits from Local Job Growth: Migrants or the Original Residents?" *Regional Studies* 27(4): 297–311.
- . 2009. "What Proportion of Children Stay in the Same Location as Adults, and How Does This Vary Across Location and Groups?" Upjohn Institute Working Paper No. 09-145. Kalamazoo, MI: W.E. Upjohn Institute for Employment Research. <https://doi.org/10.17848/wp09-145>.
- . 2015. "How Effects of Local Labor Demand Shocks Vary with the Initial Local Unemployment Rate." *Growth and Change* 46(4): 529–557.
- . 2017. "A New Panel Database on Business Incentives for Economic Development Offered by State and Local Governments in the United States." Report prepared for the Pew Charitable Trusts.
- . 2018a. "What Works to Help Manufacturing-Intensive Local Economies?" Upjohn Institute Technical Report No. 18-035. Kalamazoo, MI: W.E. Upjohn Institute for Employment Research. <https://doi.org/10.17848/tr18-035>.
- . 2018b. "Who Benefits from Economic Development Incentives? How Incentive Effects on Local Incomes and the Income Distribution Vary with Different Assumptions about Incentive

- Policy and the Local Economy.” Upjohn Institute Technical Report 18-034. Kalamazoo, MI: W.E. Upjohn Institute for Employment Research. <https://doi.org/10.17848/tr18-034>.
- . 2019a. “Should Place-Based Jobs Policies Be Used to Help Distressed Communities?” Upjohn Institute Working Paper 19-308. Kalamazoo, MI: W.E. Upjohn Institute for Employment Research. <https://doi.org/10.17848/wp19-308>.
- . 2019b. *Making Sense of Incentives: Taming Business Incentives to Promote Prosperity*. Kalamazoo, MI: Upjohn Institute Press.
- . 2020a. “Introduction to Special Issue: Learning More About Incentives.” *Economic Development Quarterly*. <https://doi.org/10.1177/0891242420916033>. Published online ahead of print.
- . 2020b. “Using Place-Based Jobs Policies to Help Distressed Communities.” *Journal of Economic Perspectives*. Summer. Page numbers to be determined.
- . 2020c. “Promoting a Pandemic Recovery that Includes Distressed Communities.” Policy Brief. Washington, DC: Brookings Metropolitan Policy Program.
- . 2020d. “A Proposal for Timely, Responsive Federal Aid to State and Local Governments During the Pandemic Recession.” Blog post, Upjohn Institute. Accessed June 29, 2020. <https://www.upjohn.org/research-highlights/proposal-timely-responsive-federal-aid-state-and-local-governments-during-pandemic-recession>.
- Bartik, Timothy J. and Kevin Hollenbeck. 2012. “An Analysis of the Employment Effects of the Washington High Technology Business and Occupation (B&O) Tax Credit: Technical Report.” Upjohn Institute Working Paper 12-187. Kalamazoo, MI: W. E. Upjohn Institute for Employment Research.
- Bartik, Timothy J. and Nathan Sotherland. 2019. “Local Job Multipliers in the U.S.: Variation with Local Characteristics and with High-Tech Shocks.” Upjohn Institute Working Paper 19-301. Kalamazoo, MI: W. E. Upjohn Institute for Employment Research.
- Bastian, Jacob, and Katherine Michelmore. 2018. “The Long-Term Impact of the Earned Income Tax Credit on Children’s Education and Employment Outcomes.” *Journal of Labor Economics* 36(4): 1127–1163.
- Burstein, Melvin L., and Arthur J. Rolnick. 1994. *Congress Should End the Economic War Among the States*. Federal Reserve Bank of Minneapolis.
- Charles, Kerwin Kofi, Erik Hurst, and Mariel Schwartz. 2018. “The Transformation of Manufacturing and the Decline in U.S. Employment.” *NBER Macroeconomics Annual* 33 (2018): 307-72.
- Council for Community and Economic Research. 2018. *State Economic Development Program Expenditures Database*. Online database.

- Chetty, Raj, John N. Friedman, Nathaniel Hendren, Maggie R. Jones, and Sonja R. Porter. 2020. "The Opportunity Atlas: Mapping the Childhood Roots of Social Mobility." Working paper, Opportunity Insights Project, Harvard University.
- Diette, Timothy M., Arthur H. Goldsmith, Darrick Hamilton, and William Darity. 2018. "Race, Unemployment, and Mental Health in the USA: What Can We Infer about the Psychological Cost of the Great Recession across Racial Groups?" *Journal of Economics, Race, and Policy* 1(2–3): 75–91.
- Dunn, L. F. 1979. "Measuring the Value of Community." *Journal of Urban Economics* 6(3): 371–382.
- Ehlen, Mark. 2001. "The Economic Impact of Manufacturing Extension Centers." *Economic Development Quarterly* 15(1): 36–44.
- Enrich, Peter D. 1996. "Saving the states from themselves: Commerce clause constraints on state tax incentives for business." *Harvard Law Review* (1996): 377-468.
- Fiedler, Matt, Jason Furman, and Wilson Powell III. 2019. "Increasing Federal Support for State Medicaid and CHIP Programs in Response to Economic Downturns." In *Recession Ready: Policies to Stabilize the American Economy* (Heather Boushey, Ryan Nunn, and Jay Shambaugh, editors). Washington, DC: The Hamilton Project, Brookings Institution.
- Freedman, Matthew. 2017. "Persistence in Industrial Policy Impacts: Evidence from Depression-era Mississippi." *Journal of Urban Economics* 102: 34–51.
- Frickey, Philip P. 1996. "The congressional process and the constitutionality of federal legislation to end the economic war among the states." Minneapolis Federal Reserve Bank, *The Region* Jun (1996): 58-59.
- GAO. 2012a. *Limited Information on the Use and Effectiveness of Tax Expenditures Could Be Mitigated through Congressional Attention*. GAO-12-262. Washington, DC: GAO.
- . 2012b. *Economic Development: Efficiency and Effectiveness of Fragmented Programs Are Unclear*. GAO-12-5531. Washington, DC: GAO.
- Goodman, Josh, and Shane Benz. 2019. *Governments Increasingly Rely on Evaluations for Tax Incentive Reform*. Washington, DC: Pew Charitable Trusts.
- Goodman, Josh, and Jeff Chapman. 2019. *State Tax Incentive Evaluation Ratings*. Washington, DC: Pew Charitable Trusts.
- Hellerstein, Walter, and Dan T. Coenen. 1995. "Commerce clause restraints on State business development incentives." *Cornell L. Rev.* 81: 789.
- Hershbein, Brad, and Bryan A. Stuart. 2020. "Recessions and Local Labor Market Hysteresis." Upjohn Institute Working Paper 20-325. Kalamazoo, MI: W.E. Upjohn Institute for Employment Research.



- Hollenbeck, Kevin. 2008. "Is There a Role for Public Support of Incumbent Worker On-the-Job Training?" Upjohn Institute Working Paper 08-138. Kalamazoo, MI: W.E. Upjohn Institute for Employment Research.
- Hollenbeck, Kevin. 2013. "Public Financing of Workforce Services for Incumbent Workers?" Working Paper, School of Public Policy, University of Maryland.
- Howard, Greg. Forthcoming. "The Migration Accelerator: Labor Mobility, Housing, and Demand." *American Economic Journal: Macroeconomics*.
- Hsieh, Chang-Tai, and Enrico Moretti. 2019. "Housing Constraints and Spatial Misallocation." *American Economic Journal: Macroeconomics* 11(2): 1–39.
- Jaworski, Taylor, and Carl T. Kitchens. 2019. "National Policy for Regional Development: Evidence from Appalachian Highways." *Review of Economics and Statistics* 101(5): 777–790.
- Jensen, Nathan M., and Edmund J. Malesky. 2018. *Incentives to Pander: How Politicians Use Corporate Welfare for Political Gain*. Cambridge University Press.
- Kennan, John, and James R. Walker. 2011. "The Effect of Expected Income on Individual Migration Decisions." *Econometrica* 79(1): 211–251.
- Kline, Patrick, and Enrico Moretti. 2013. "Local Economic Development, Agglomeration Economies, and the Big Push: 100 Years of Evidence from the Tennessee Valley Authority." *The Quarterly Journal of Economics* 129(1): 275–331.
- Kosar, Gizem, Tyler Ransom, and Wilbert van der Klaauw. 2020. "Understanding Migration Aversion Using Elicited Counterfactual Choice Probabilities." IZA Discussion Papers 12271. Bonn, Germany: IZA Institute of Labor Economics.
- LeRoy, Greg. 2012. "What the Country Needs Now, Mr. President." *Planning* (November): 10–11.
- LeRoy, Greg, and Kenneth Thomas. 2019. "Lessons for the U.S.: How the EU Controls Bidding Wars for Jobs and Investment." *Shelterforce*, June 17, 2019.
- Ludwig, Jens, and Steven Raphael. 2010. "The Mobility Bank: Increasing Residential Mobility to Boost Economic Mobility." Hamilton Project Discussion Paper, Brookings Institution.
- Molloy, Raven, and Christopher L. Smith. 2019. "U.S. Internal Migration: Recent Patterns and Outstanding Puzzles." Presented at "A House Divided: Geographic Disparities in Twenty-First Century America" conference, Federal Reserve Bank of Boston.
- Moretti, Enrico. 2010. "Local Multipliers." *American Economic Review: Papers & Proceedings* 100(May): 1–7.

- Osterman, Paul, and Rosemary Batt. 1993. "Employer-Centered Training for International Competitiveness: Lessons from State Programs." *Journal of Policy Analysis and Management* 12(3): 456–477.
- Perez, Jorge Perez, and Michael Suher. 2019. "The Efficacy of Hiring Credits in Distressed Areas." Working paper, Banco de Mexico and Federal Reserve Board.
- Phelps, Edmund. 1972. *Inflation Policy and Unemployment Theory*. New York: Norton.
- Pierce, Justin R., and Peter K. Schott. 2017. "Trade Liberalization and Mortality: Evidence from U.S. Counties." Working paper. Washington, DC: Board of Governors of the Federal Reserve System.
- Poterba, James M., and Lawrence H. Summers. 1995. "A CEO Survey of U.S. Companies' Time Horizons and Hurdle Rates." *MIT Sloan Management Review* 37(1): 43.
- President's Commission for a National Agenda for the Eighties. 1980. *Urban America in the Eighties*. Report of the Panel on Policies and Prospects for Metropolitan and Nonmetropolitan America. Washington, DC: U.S. Government Printing Office.
- Safford, Sean. 2009. *Why the Garden Club Couldn't Save Youngstown: The Transformation of the Rustbelt*. Cambridge: Harvard University Press.
- Shafer, Dan. 2018. "New Jersey Offers \$7 Billion Tax Break for Amazon's HQ2." *Seattle Business*, October.
- Simmons, Melody. 2018. "Here are the Details of Maryland's Failed \$5.84 Billion Bid for Amazon's HQ2." *Baltimore Business Journal*, November 20, 2018.
- Slattery, Cailin R., and Owen M. Zidar. 2020. "Evaluating State and Local Business Tax Incentives." Working Paper No. 26603. National Bureau of Economic Research.
- Solon, Gary. 1999. "Intergenerational Mobility in the Labor Market." In *Handbook of Labor Economics, Volume 3*, edited by Orley Ashenfelter and David Card, 1761–1800. Elsevier.
- Strain, Michael R. 2019. "Pay Workers to Leave Depressed Towns." *Bloomberg Opinion*, December 23, 2019.
- Virginia Economic Development Partnership. 2018. "Project Cooper: Briefing for the House Appropriations Committee." November 13.
- Zabek, Mike. 2019. "Local Ties in Spatial Equilibrium," Finance and Economics Discussion Series 2019-080. Washington, DC: Board of Governors of the Federal Reserve System.
- Ziliak, James P. 2019. "Restoring Economic Opportunity for "The "People Left Behind": Employment Strategies for Rural America". Policy Memo in *Expanding Opportunity for More Americans: Bipartisan Policies to Increase Work, Wages, and Skills* (Melissa

Kearney and Amy Ganz, editors). Aspen, CO: The Aspen Institute, Economic Strategy Group.