W.E. UPJOHN INSTITUTE

PROMISE
INVESTING IN COMMUNITY
a project of the W.E Upjohn Institute

MARCH 2018

EXECUTIVE SUMMARY

Economic Development Incentives

Who Benefits? Who Pays the Costs? How Can They Be Improved?

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Incentives' budget costs may lead state and local governments to neglect education.

Over the past quarter century, state and local business tax incentives to promote economic development have tripled in size (Bartik 2017). Recent incentives have been shockingly large. In 2017, Wisconsin provided Foxconn, an electronics manufacturer, with incentives of up to $4.5 billion. Are incentives a good way to increase the incomes of local residents? Or are incentives excessively costly?

The positive case for incentives is that their job creation effects will provide large local benefits. With more local jobs, local residents will enjoy greater employment and wages. Local growth will increase local property values. More jobs may yield "fiscal benefits"—increases in tax revenue that exceed growth-induced increases in public spending.

The negative case against incentives is their potentially large costs. Incentives' budget costs may lead state and local governments to neglect public services, such as K–12 education. Investing in the skills of local residents might be a better strategy to promote local prosperity.

This executive summary, based on my report (Bartik 2018), describes the results from a simulation model of incentives. Using empirical parameters from the research literature, the simulation model examines how incentives' benefits—and costs—are divided among local residents at different income levels. The model examines how incentives' benefits and costs change if incentives are targeted at different types of firms, or if they are designed and financed differently.

Based on this model, the typical incentive package in the typical state has benefits and costs of almost the same size. Jobs are created, but only in a minority of incented firms. Of the jobs created, only a modest proportion increase the employment of local residents. Financing incentives by cutting education spending has large costs, because it reduces future wages. Cuts in education spending have particularly large costs for low-income groups.

But as this model shows, incentives can be improved by reforms:

- Target incentives at firms with high job multipliers.
- Target firms that pay a high wage premium.
- Target created jobs at the local unemployed.
- Minimize long-term incentives.
- Don't finance incentives by cutting education spending.
- Finance incentives by increasing taxes on out-of-state business owners.
- Focus less on tax incentives and more on incentives that are customized services to small and medium-sized businesses, particularly locally owned businesses.

In sum: tax incentives should be limited by being targeted and up front. Tax incentives should not sacrifice a broader economic development strategy, which includes investing

For additional details, see the full report, *Who Benefits from Economic Development Incentives?* at http://research.upjohn.org/up_technicalreports/34.

A typical incentive program only induces the creation of about 10 to 15 percent of the incented jobs.

in skills and in services that help small and medium-sized businesses. These lessons from the simulation model should be absorbed by state and local policy makers.

BACKGROUND ON INCENTIVES

Economic development incentives are tax breaks or business services that are customized to the individual business. Incentives are intended to encourage that business to locate or expand or retain jobs in a state or local economy.

Typical incentives of state and local governments have a magnitude equal to 2 to 3 percent of the firm's wages, averaged over the life of the investment.[1] Some states provide incentives that are three times greater.

The largest type of incentive is job creation tax credits. The second largest type is property tax abatements. Other tax incentives include investment and research and development (R&D) tax credits. Most tax incentives go to large corporations.

Over 90 percent of incentives are tax incentives. But other incentives may consist of customized business services. Such services include

- customized job training—often provided by community colleges and tailored to the firm's needs;
- manufacturing extension services—advice on improving technology, productivity, and sales;
- small business development centers.

These customized services are of most use to small and medium-sized businesses.

Incentives are front-loaded, but they also persist. In the first year of the incented investment, typical incentives are 7 percent of wages. Incentives persist at 2 or 3 percent of wages from Years 2 through 10 of the investment before tailing off.

Incentives are mostly targeted at export-base businesses. "Export-base" firms are those that sell goods and services outside the state or local economy. Most manufacturing firms are export-base firms, but so are some service firms. Targeting incentives at export-base firms brings new dollars into the state. These new dollars have multiplier effects on other local jobs: the new dollars will be respent by export-base firms on local suppliers, and workers at export-base firms and suppliers will respend their paychecks at local retailers. In contrast, incenting non-export-base firms may hurt sales and jobs at competing non-export-base local firms.

But except for targeting export-base firms, incentives are not otherwise targeted. Incentives do not vary much with a firm's wages, or with whether the firm is high-tech. Nor do they vary much with a state or local economy's unemployment rate.

THE MODEL'S WORKINGS

The model simulates the effects of incentives handed out in a given year on the incomes over the next 80 years of local residents.[2] The simulation uses estimates from the empirical literature.

Based on research about how taxes affect business location decisions, the model assumes that a typical state incentive program, of 2 to 3 percent of wages, only induces the creation of about 10 to 15 percent of the incented jobs.[3] "But for" the typical incentives, the probability of the incented jobs choosing the state would have been reduced from 100 percent to 90 or 85 percent.[4]

1. Statements in this section about typical incentives are based on the incentives database described in Bartik (2017).
2. This lengthy 80-year follow-up is needed to allow for the full effects on local economies of incentives being financed by education spending cutbacks, whose main effect is on the wages of the next generation. See further discussion later in this executive summary.
3. The research that backs up the model's assumptions about various empirical parameters is detailed in the full report, Bartik (2018).

The direct budget costs of incentives significantly exceed their fiscal benefits.

A typical "jobs multiplier" is assumed of 2.5. For each job created by the incentives, 1.5 additional jobs are created in local suppliers and retailers.

Created jobs must increase either the local employment-to-population ratio or the population. Based on research, the model assumes that in the short run, about two-thirds of the jobs go to the local nonemployed and one-third to in-migrants. In the long run, about 15 percent of the local jobs created increase the employment rates of local residents, and 85 percent of the jobs increase the population through migration.

Moderate increases in local employment-to-population ratios will modestly increase local real wages, local housing prices, and other local prices. Higher local wages and prices have some moderate negative feedback effects in reducing other local jobs.

Based on research, state and local tax revenue will go up slightly slower than the percentage growth in jobs. State and local public spending needs are assumed to go up the same percentage as population. Because population growth eventually goes up almost as much as job growth, fiscal benefits are slight.

As a result, the direct budget costs of incentives significantly exceed fiscal benefits. The net fiscal costs of incentives are assumed to be financed half by spending cuts and half by tax increases. Based on typical state and local budgets, 22 percent of spending cuts reduce K–12 spending. Based on typical state tax systems, 44 percent of tax increases are business tax increases.

This financing of incentive costs has "demand-side" effects, in that it reduces either public or private spending on local goods and services. There also are "supply-side" effects, due to how taxes and public spending affect the quantity or quality of the supply of local labor and capital.

Of the public spending cuts, only cuts in K–12 spending are assumed in the model to have supply-side effects, by reducing local skills. A 10 percent cut in K–12 spending will reduce long-run wages by 8 percent (Jackson, Johnson, and Persico 2016). These wage effects are adjusted downwards to only include former K–12 students who stay in the local economy.

Of the increased taxes, only increased business taxes are allowed in the model to have supply-side effects. Based on research, a 10 percent increase in state and local business taxes is assumed to reduce private jobs by 5 percent in the long term.

The model's effects on different types of income are divided across "income quintiles." Households are ordered by household income and put into five income groups of equal population.

Based on research, the increased employment rates and wages due to local job creation are distributed progressively: the bottom three income quintiles have a percentage gain in income of about three times that of the top two income quintiles. Property-value gains disproportionately benefit upper-income groups. Higher state and local taxes and lower public spending are regressive; state and local taxes account for a higher percentage of income for lower-income groups, and state and local public spending has larger percentage effects on lower-income groups. Cuts in K–12 spending are highly regressive, as low-income children are particularly harmed by lower public-school quality.

INCENTIVE EFFECTS ON INCOMES OF LOCAL RESIDENTS UNDER BASELINE ASSUMPTIONS

What effects does a typical incentive program have on local residents' incomes? This typical incentive program is characterized by the following baseline assumptions:

4. This likely effect of incentives on location decisions is far less than is often claimed by economic development policymakers. Often, the claim is made that almost all of the incented business activity would not have located in a state or local area "but for" the incentives. However, this common claim is not backed by the empirical literature. See Bartik (2018) or Jensen (2017). Intuitively, incentives of 2 to 3 percent of wages do not loom large compared to many other costs that vary quite a bit more across local areas, such as worker productivity or wages.

For typical incentives, gross benefits barely exceed costs. Even small changes in assumptions could turn net benefits negative.

- Incentives only to export-base firms.
- A multiplier of 2.5.
- Average wages in incented jobs.
- Local nonemployed get 15 percent of the created jobs.
- Typical time pattern of U.S. incentives: modestly front-loaded, but still large payouts up through 10 years.
- Costs of incentives are financed half from spending cuts, half from tax increases. Spending cuts and tax increases are divided among spending and tax categories based on average state budget patterns.
- Large businesses owned out-of-state receive the incentives.

Later we consider alternative incentive policies, which modify these assumptions.

Using baseline assumptions, Table 1 reports the effects on local incomes of different types. What is reported are effects on the present value of income, summed over 80 years since the location decision. Effects are stated as a percentage of the present value of incentives' direct financial costs. Effects on different income types sum to net overall benefits.

Net benefits of incentives are 22 percent of incentive costs. Gross benefits barely exceed costs: the benefit-cost ratio is 1.22. Even small changes in assumptions would turn net benefits negative.

The most important component of net benefits is higher earnings due to higher local employment-to-population ratios (83 percent of incentives' financial costs). Who gets the jobs matters. But other income effects also matter.

Fiscal costs for local residents are reduced to 64 percent of incentive costs by two factors. First, tax revenues from new jobs exceed costs from more population. Second, incentives are partly financed by higher business taxes; most such taxes are "exported" to out-of-state business owners, which benefits local residents because they do not pay such costs. However, despite these offsetting factors, incentives still have net fiscal costs.

Lower future wages due to education cutbacks exceed 38 percent of the direct dollar costs of incentives. This wage loss is remarkably large, given that in the baseline, only 11 percent of incentives' costs are paid for by reducing K–12 spending.

Higher real wages help local workers, and higher property values help local property owners. But higher local input prices also reduce profits of locally owned businesses.

Table 1 Baseline Incentive Effects, by Type of Income

Net fiscal costs	−64.3	= Direct incentive costs	−100.0
		+ Fiscal benefits from revenues exceeding costs	23.2
		+ Benefits for local residents from exported business taxes	12.5
Direct labor market benefits	102.6	= Earnings increases from higher employment-to-population ratios	82.9
		+ Earnings increases from higher real wages due to tighter labor markets	19.7
Property value gains	28.8		
Local wage losses due to education cutbacks	−38.1		
Profit effects on locally owned businesses	−6.7		
Net benefits	22.3		

NOTE: Derived from Table 4 in Bartik (2018). Incentive effects are stated as the present value of incentive effects on different types of local income, divided by the present value of incentives' financial costs and expressed as a percentage. The present-value figures are calculated by summing effects of incentives over the 80 years after the incentives are awarded and the location decision occurs. A 3 percent real discount rate is used in calculating present values. Net benefits at bottom sum all effects in that column.

A striking result is that typical incentives cause the bottom-income quintile to lose income. This low-income group suffers large losses from incentive-induced cuts in public school spending.

With all these various benefits and costs, net benefits of incentives end up being slight relative to incentive costs. Incentives do have large labor market benefits, fiscal benefits, and property value benefits. But they also have large financial costs and costs due to reduced education spending.

Table 2 shows how a typical incentive policy affects different income "quintiles." Before the policy, the lowest-income quintile receives only 5.1 percent of total household income, whereas the highest-income quintile receives 52.0 percent of total income.

In the next row, the total net income effect of 22.3 percent of incentive costs is divided among the income quintiles. The striking result is that the bottom-income quintile loses income. So does the second-highest-income quintile (Quintile 4). The other three income quintiles gain.

The next row calculates quintile effects as a percentage of the total net income gain. In the last row, these percentages are divided by baseline quintile income shares, to see whether a quintile gains more or less than its baseline share. The middle-income quintile gets almost half of the total net income gain, which is almost four times its baseline share. The richest-income quintile (Quintile 5) and the second-lowest-income quintile (Quintile 2) also gain more than baseline shares, but only slightly. Incentives redistribute from the lowest-income quintile and the second-highest-income quintile to the middle-income quintile.

Table 2 Baseline Incentive Effects, by Income Group

		Quintile				
	Total	1	2	3	4	5
Quintile income baseline share (in %)	100.0	5.1	9.2	13.7	20.0	52.0
Total net incentive effects on income, as % of overall incentive costs	22.3	−3.1	2.3	11.2	−2.4	14.4
Total net effect for each quintile as % of total net effect	100.0	−13.8	10.3	49.9	−10.6	64.2
Proportional effect relative to baseline income share	1.0	−2.7	1.1	3.6	−0.5	1.2

NOTE: Derived from Table 6 of Bartik (2018). Income groups are derived by ordering households by income, and then dividing into five groups of equal population size, as described in Bartik (2018). The baseline income share shows each quintile's share of income before the incentive policy, expressed as a percentage of total household income. The next row shows the effects of incentives on the present value of income of each group, where these effects are "normalized" by being divided by the present value of incentives' financial costs. The quintile figures in this row sum to net overall benefits of 22.3 percent on left. The third row divides the income effect of each income quintile by the overall effect and expresses this result in percentage terms. The fourth row divides this percentage effect by the baseline income percentage of each income group. If this number is greater than 1, it means the group is gaining more than its baseline income share, which necessarily implies that the percentage gain in income for this group exceeds the overall average percentage gain.

What causes these distributional effects? In Table 3, this question is addressed by breaking down effects by both quintile and income type. The effects on each type of income for each quintile are expressed as a percentage of incentives' total direct financial costs.

The lowest-income quintile loses because it suffers disproportionately large losses from cutbacks in public school spending. In addition, the lowest-income quintile pays a disproportionate share of budget costs, because state and local tax systems are regressive. These budget effects on the lowest-income quintile, both immediate and long-term, more than offset the above-average labor market benefits for the lowest-income quintile.

The middle-income quintile has relative gains because labor market benefits for this group are still above average, as this group has many workers gaining from higher employment rates and wages. In addition, the middle-income quintile does not, compared to the lowest-income quintile, proportionately lose as much from tax increases and education cutbacks.

The highest-income quintile gains disproportionately from incentive-induced increases in property values.

Table 3 Baseline Incentive Effects, by Income Group and Income Type

		Quintile				
Income distribution	Total	1	2	3	4	5
Quintile income share (%)	100.0	5.1	9.2	13.7	20.0	52.0
Total net income effects	22.3	−3.1	2.3	11.2	−2.4	14.4
Net local budget costs	−64.3	−6.8	−8.0	−9.9	−12.3	−27.2
Labor market benefits	102.6	12.0	17.5	26.7	13.8	32.6
Property-value benefits	28.8	0.9	1.4	1.9	3.4	21.2
Education cutbacks	−38.1	−9.0	−8.4	−7.3	−6.8	−6.6
Local business effects	−6.7	−0.1	−0.2	−0.2	−0.4	−5.7

NOTE: Derived from Table 6 of Bartik (2018). The first row in the table shows the baseline income of each quintile, before any incentives, expressed as a share of total household income. The other entries in the table show the incentive effects, under baseline assumptions, on the present value of each type of income for each quintile. The effects are "normalized" by being divided by the total present value of incentives' financial costs, and are reported as a percentage of these total costs. The quintile entries for each row sum to the total on the left. The income-type entries for each column sum to the total net income effect in the second row.

The second-highest-income quintile (Quintile 4) loses because labor market benefits of local job growth drop off sharply at this point in the income distribution. For Quintile 4, budget costs and education cutbacks are burdensome, and property value gains and the reduced labor-market benefits are insufficient to overcome these costs.

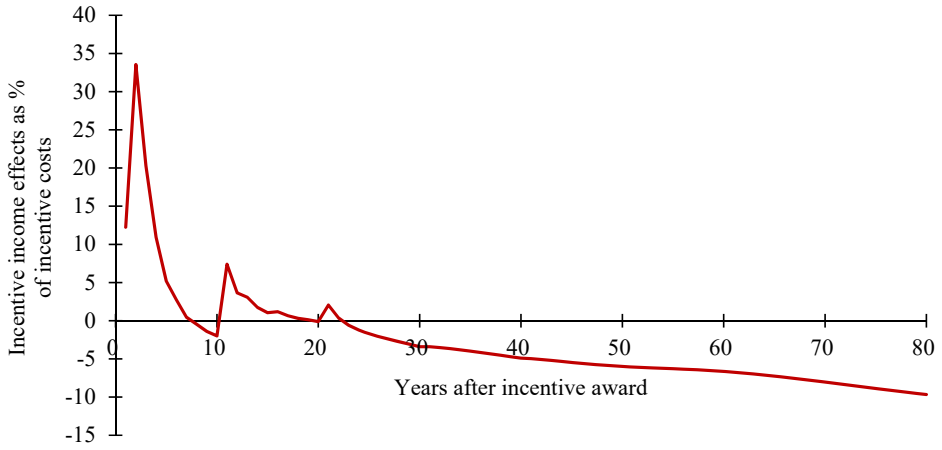
The highest-income quintile gets net benefits largely because it gains disproportionately from increased property values. Also, budget and education cutbacks are not quite as large for this income quintile relative to its baseline share.

The second-lowest-income quintile, Quintile 2, gains modestly because it is somewhat in-between the lowest-income quintile and the middle-income quintile in its income sources.

How do incentive effects vary over time? Figure 1 shows effects on overall net local incomes in each year after the incentive award. Effects in each year are stated as a percentage of the present value of incentives over the entire period.

In the short-run, incentives yield net benefits because of higher employment rates. In the long run, the increased employment rates depreciate due to in-migration. This lowers fiscal benefits.

Figure 1 Baseline Annual Income Effects of Incentives



NOTE: Derived from Table 5 of Bartik (2018). The annual effects on net income of local residents in each of the 80 years after incentives are awarded are "normalized" by being divided by the total present value of incentives' financial costs over the entire 80 years. The annual net income effects are in real terms for each year, but are not discounted.

The full wage losses due to incentive-induced cuts in education spending occur only after a generation.

TRANSLATING THE REPORT'S ESTIMATES INTO AGGREGATE EFFECTS

What do this report's estimates mean for the potential *aggregate effects* of incentives?

Suppose a state was very aggressive in its use of incentives. Specifically, suppose that each year, the state's incentives added up to about 1 percent of state personal income. This is about 3.4 times the incentive usage of the average state, which averages 0.3 percent of personal income.[1] But some states have in the past run incentives at about this level—for example, New York State in the early 2000s. And some states may yet do so in the future, judging from Wisconsin's offer to Foxconn and some of the offers to Amazon.

Then the baseline estimates in this study show that in aggregate, these state tax incentives of 1 percent of personal income, if used persistently, would only raise net incomes per capita of state residents by 0.2 percent.[2] Even the middle-income quintile, which is affected the most, would only have its per capita income increased in percentage terms by 3.6 times 0.2 percent, or about 0.8 percent.

But better-designed incentives can do more. For example, if incentives of 1 percent of personal income were consistently targeted at firms with a multiplier of 6, then the incentives would increase state residents' per capita incomes by about 3.0 percent. And the lowest-income quintile would find its income per capita increased in percentage terms by 1.9 times as much, or 5.7 percent.

As another example of better-designed incentives, suppose that instead of tax incentives, a state focused totally on high-quality customized services to locally owned firms. Then the net benefits of these services would increase state residents' per capita income by 5.8 percent. Effects on the lowest-income quintile would be 1.6 times as great in percentage terms, an increase in per capita income of 9.5 percent.

Conversely, poorly financed and designed incentives can damage state economies. Suppose that a state had tax incentives of 1 percent of personal income but financed the incentives by reducing productive K–12 spending. Then persistent use of such incentives would lower state per capita income by 4.4 percent. The loss for the lowest-income quintile would be 4.6 times greater: a loss of 20.4 percent in per capita income.

Realistically, incentives are modest relative to state economies, and they have a mixture of benefits and costs. To have a large net effect, for good or ill, requires that incentive targeting and design be especially good or bad.

1. This statement is based on Bartik (2017). State and local incentives currently add up to around $45 billion, which is 0.3 percent of U.S. personal income.
2. These aggregate effects' estimates assume that the report's estimated effects can be scaled up, with no diseconomies of scale, to 3.4 times the incentive usage of the average state. See Appendix D of full report for discussion of scaling issue, and alternative assumptions.

More importantly, over time the wage losses due to cuts in education spending become larger. The full wage losses occur only after a generation, when the former schoolchildren who suffered from those education cutbacks are in their prime earnings years.

As a result, incentives have benefits for local economic development in the short-run, but costs in the long-run. Incentives' net effects on local incomes are consistently negative after Year 22 since the incentives were awarded.

Targeting high-multiplier firms can increase net benefits of incentives by more than tenfold.

Table 4 Alternative Incentive Policies

Policy regime	Net overall benefits as % of incentive costs	Relative effect on lowest-income quintile
Baseline	22.3	−2.7
50% of incented firms are non-export-base	−77.0	−3.7
Higher multiplier of 6	297.7	1.9
Incented firms pay 10% wage premium	89.3	−0.0
Local unemployment is 10%	56.7	0.5
Increase jobs going to local residents by about one-fourth	62.5	0.7
Front-load all incentives in first year	89.2	1.0
Incentives 100% financed by education spending cuts	−443.0	−4.6
Incentives 100% financed by business tax increases	98.6	2.4
Customized services of high effectiveness to locally owned firms	582.4	1.6

NOTE: Derived from the following table numbers in Bartik (2018): 6, 8, 9, 10, 12, 14, 15, 18, 19, 22. Net overall benefits for all households is present value of income effects over 80 years, as a percentage of the present value of incentives' financial costs. Relative effect on lowest-income quintile is absolute effect on lowest- income quintile divided by overall effect on all quintiles, but calculated as percentage and then divided by 5.08 percent baseline income share of lowest-income quintile. The sign of this relative effect is then set to be positive if the lowest-income quintile benefits, negative if this quintile loses. The reader can quickly see if the lowest-income quintile gains, and whether it gets a greater-than-baseline share of its gains (relative effect greater than 1.00).

ALTERNATIVE INCENTIVE POLICIES

This section considers alternative incentive policies. For each alternative policy, the present value of net income effects for all local residents is calculated as a percentage of the present value of incentive costs (see Table 4). In addition, calculations are presented that show whether the lowest-income quintile gains and, if so, what its share of total gains is. Each alternative incentive policy is a separate scenario that tweaks one or more baseline assumptions.

Baseline Policy

Under the baseline policy, as previously discussed, net benefits of incentives are 22.3 percent of incentive costs. But the lowest-income quintile loses.

Half of Incentives Are Targeted at Non-Export-Base Firms

The baseline policy had all incentives going to 100 percent export-base firms. But policymakers sometimes target non-export-base firms, such as retailers, or firms that are partially non-export base, such as sports teams.

If half of incentives go to non-export-base business activity, incentives have negative net benefits of −77 percent of incentive costs. Under this policy, half of incentives have no benefits from creating local jobs. But these incentives still have both financial costs and costs from education cutbacks. The lowest-income quintile bears a significantly above-average share of these costs.

Target Firms with Higher Multiplier of 6

The baseline policy targeted firms with an average multiplier of 2.5. But some research (Moretti 2010) suggests high-tech manufacturing may have multipliers as high as 6.

If we target multiplier-6 firms, net incentive benefits increase more than tenfold, to almost three times incentive costs. The lowest-income quintile's share of the gains

Front-loading incentives has more effects on firms' location decisions per dollar of incentive costs, because firms heavily discount the future.

is almost twice its baseline income share. These progressive effects occur because the greater multiplier leads to greater job creation, which disproportionately benefits the bottom three income quintiles.

Target Firms That Pay a Wage Premium of 10 Percent

The baseline policy assumed targeted firms did not pay wages that were high or low relative to the credentials required. (The firms may pay high wages, but with stringent education requirements.) What if instead we targeted firms that paid workers 10 percent more than expected, based on the credentials of the workers hired?

Targeting high-wage-premium firms increases net benefits to 89 percent of incentive costs. However, the lowest-income quintile still loses. The higher wages tend to go to higher-income quintiles that have higher employment rates.

Target Incentives at Local Areas with Unemployment of 10 Percent, or Only Use Incentives When Unemployment is 10 Percent

The baseline policy was implemented in a local economy with an initial unemployment rate of 6.2 percent, which is the average local rate over the past quarter century. What if instead we assumed the initial unemployment rate was much higher, at 10 percent? Based on research (Bartik 2015), higher local unemployment will cause a higher proportion of local job growth to go to the local nonemployed.

Incentive policy could target high unemployment in two ways. First, states could target incentives at high-unemployment local areas. Second, states could vary incentives with overall state unemployment.

Targeting incentives at high-unemployment places or times more than doubles net benefits, from 22 percent in the baseline to 57 percent in the high-unemployment scenario. Net benefits for the lowest-income quintile become positive, as more jobs go to the local nonemployed. However, the lowest-income quintile still gets less than its share of benefits, as its share is only about half of its base income share.

Increase Jobs Going to Local Residents by about One-Fourth

Incentive policy could also try to target job creation at the local nonemployed. This could be done by training policies that encourage incented firms and other firms to hire the local nonemployed (Bartik 2001, pp. 255–261).

If the share of jobs going to the local nonemployed was increased by about one-fourth, from the baseline 15 percent to 19 percent, this would have a similar impact to targeting incentives at high-unemployment local economies. Net benefits increase to 62 percent of incentive costs. The lowest-income quintile gains, but its share of gains is less than its baseline income share.

Front-Load All Incentives in First Year

The baseline scenario assumed that incentives followed the usual state pattern: incentives are highest in the first year but continue to be large through Year 10. What if instead states did 100 percent front-loading, with all incentives occurring in the first year? This has more effects on firms' location decisions per dollar of incentive costs, because firms heavily discount the future. The job creation credit or property tax abatement in Year 10 does not much affect business location decisions, but it undermines future education spending and wages.

Completely front-loaded benefits increase net benefits to 89 percent of incentive costs. The lowest-income quintile now gains roughly the same share of benefits as its baseline income share. This quintile gains from higher job-creation effects of more front-loaded incentives.

Customized services to smaller, locally-owned businesses can have net local benefits of almost six times the costs of these services.

Front-loaded incentives carry the possibility that incented jobs may leave. This problem can be alleviated by designing incentives to include clawback provisions, under which some incentive costs would be recovered if the jobs do not persist (Weber 2007).

Incentives 100 Percent Financed by Education Spending Cuts

In the baseline, about 11 percent of incentives' financial costs are financed by cutting K–12 school spending. What if instead 100 percent of incentives were financed by K–12 spending cuts?

School-financed incentives result in huge overall losses in local incomes, of over four times incentive costs. These losses are disproportionately large for the lowest-income quintile, whose share of the losses is almost five times its baseline income share. The future wage losses due to education spending cuts are bad for all local residents, but are particularly bad for the lowest-income groups.

Incentives 100 Percent Financed by Business Tax Increases

In the baseline, 22 percent of incentives' financial costs are financed by business tax increases. What if instead 100 percent of incentives were financed by increasing the business tax rate?

This financing significantly increases incentive net benefits, to 99 percent of incentive costs. The lowest-income quintile now gains, and its share of the benefits is over twice its baseline income share.

This result is surprising because higher business-tax rates have some negative effects on private job creation. But these negative job effects are outweighed by the gains to local residents from "exporting" more costs of incentives to out-of-state business owners. This financing also avoids negative effects from education spending cuts.

Providing Incentives as Efficient Customized Services to Smaller, Locally Owned Businesses

What if instead of tax incentives to large out-of-state businesses, we provided customized services to small, locally owned businesses? Research shows that customized business services—such as customized job training and manufacturing extension services—can affect location and expansion decisions about 10 times as much, per dollar, as tax incentives.[5] Research also suggests that locally owned businesses spend more than non-locally-owned businesses on local suppliers. However, locally owned businesses may be less likely to be "export-base" businesses.

In this alternative scenario, customized services are assumed to be provided to locally owned businesses that are not export-base businesses. But job creation in these businesses still generates local jobs, because these businesses and their owners spend more locally. These customized services are assumed to affect the probability of job creation 10 times as much as tax incentives of the same cost. Finally, it is assumed that such business services are modestly income-targeted: business owners in the top 10 percent of the income distribution are limited to receiving no more than 10 percent of such services, and therefore 90 percent of such services go to business owners in the bottom 90 percent of the income distribution.[6]

Such efficient customized services to locally owned, non-export-base firms have large net benefits: almost six times incentive costs. The lowest-income quintile gains, and its

5. See research reviewed in Bartik (2018)—in particular, research by Hollenbeck (2008), Holzer et al. (1993), and Hoyt, Jepsen, and Troske (2008) on customized job training, and Jarmin (1998, 1999) and Ehlen (2001) on manufacturing extension.
6. Such targeting seems both politically plausible and economically sensible. Business owners in the bottom 90 percent are more likely to need business services, and more likely to spend their profits locally than higher-income business owners. See full report (Bartik 2018) for more discussion.

The politics of incentives would be quite different if it were understood by all that incentives are best financed by increasing business taxes, and not by cutting education spending.

share of gains is greater than its baseline income share. The extra job creation helps this income quintile.

CONCLUSION

As this model shows, based on research on how local economies behave, incentive policy should be reformed in three ways:

1. Tax incentives to large corporations should be more targeted. The most important targeting is targeting on high-multiplier firms. But tax incentives should also be targeted on export-base and high-wage firms, on places and time periods of high unemployment, and on hiring the local unemployed. Tax incentives should be more up front, and should not undermine long-term tax bases.
2. Resources should be shifted away from tax incentives to large out-of-state corporations, and toward customized services to locally owned small and medium-sized businesses.
3. Incentives should be financed by increasing business tax rates, not by cutting education and other local skills development.

These incentive reforms would significantly increase incentives' benefit-cost ratio. The reforms would also make incentive benefits more progressive.

Such reforms would transform incentive politics. The politics of incentives would be quite different if it were understood by all that incentives are best financed by increasing business taxes, and not by cutting education spending. Business tax incentives should be seen as a tool for redistributing business tax burdens away from job-creating businesses and toward other businesses, rather than as a way to lower overall business taxes, or lower overall tax revenues and public services.

A political barrier to reform is incentives' benefits in the short term. Governors and mayors are tempted to buy jobs now at the expense of their eventual successors' tax base. Researchers and advocates can improve the political debate by focusing more attention on what creates local economic development in the long term. Local prosperity is ultimately driven by local skills. Any economic development strategy that threatens local skills development is a mistake. Better economic development strategies will encourage local job creation now in a cost-effective way, thereby protecting the resources needed to invest in local residents' skills.

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This executive summary is based on a report by Timothy Bartik, *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* (2018). This report and this executive summary were in part supported by Pew Charitable Trusts. The findings and opinions in this executive summary and report are those of the author, and should not be interpreted as necessarily reflecting the views of the Pew Charitable Trusts or the Upjohn Institute.