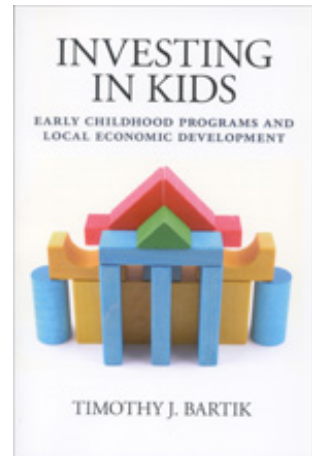

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The National Perspective: How Local Business Incentives and Early Childhood Programs Affect the National Economy

Timothy J. Bartik
W. E. Upjohn Institute



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Timothy J. Bartik

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The National Perspective

How Local Business Incentives and Early Childhood Programs Affect the National Economy

Thus far, this book has adopted the perspective of a state or local policymaker. This perspective focuses on what a state or local area's business incentives or early childhood programs can do for that state or local area. Any benefits or costs of this state's policies for other states are irrelevant.

But what about the national perspective? What if a state's business incentives have spillover effects on other states? For example, some of the jobs created by business incentives may have otherwise been created in other states. This loss of jobs in other states is a cost. From a national perspective, this cost should be considered.

And what if a state's early childhood programs have spillover effects on other states? For example, some former child participants in a state's early childhood programs will end up living in other states. The greater skills of these former child participants will increase their employability and wage rates in these other states. This will enhance earnings in these other states. This increase of earnings in other states is a benefit. From a national perspective, this benefit should be considered.

This chapter explores the national perspective on business incentives and early childhood programs. Two issues are of importance. First, what is the magnitude of the spillover benefits or costs for the nation of one state's business incentives or early childhood programs? These spillover benefits or costs are benefits or costs that states probably will not consider. Larger spillover benefits or costs imply that states are less likely on their own to pursue the best policies toward business incentives and early childhood programs.

Second, what would be the national benefits if the nation as a whole adopted large-scale business incentives or early childhood programs?

This chapter's findings on these two issues will lead to a discussion of the federal role toward business incentives and early childhood pro-

grams. Should the federal government encourage or discourage these programs? If federal intervention is needed, what form should it take? Should the federal government take over these programs?

According to the data presented in this chapter, a national perspective provides more of a case for federal regulation of state business incentive programs than of early childhood programs. The national perspective provides a cautious case for federal encouragement of early childhood programs. However, such federal intervention should allow for local flexibility.

NATIONAL VERSUS STATE BENEFITS OF BUSINESS INCENTIVES

The U.S. . . . derives no social benefit when jobs move from Missouri to Mississippi, and any tax dollars spent to fund such a move result in a net loss of social welfare.

—Ev Ehrlich and Tracy Kornblatt (2004, p. 4)

Business incentives are often argued to be against the national interest. As in the above quotation from Ehrlich and Kornblatt, the argument is that business incentives are a “zero-sum game.” The jobs gained by one state are lost by other states.

If this argument was completely true, then “economic development benefits” of business incentives would not represent national benefits. The increased earnings of this state’s residents would be 100 percent offset by the reduced earnings of other states’ residents.

The zero-sum game argument is far-reaching. This argument does not just apply to the effects of business incentives on relocating jobs from one state to another. The argument would also apply to any newly created jobs. This includes jobs created in small businesses. For example, suppose a business incentive encourages the creation of new export-based jobs in small businesses in industry Y and state X. The zero-sum-game argument is that the national market for industry Y would otherwise be served by businesses throughout the nation. The business incentive only determines where industry Y is located. The business incentive does not affect total national activity in industry Y.

My research suggests that the zero-sum-game argument is partly true. To be more precise, the argument is 79.3 percent true, and 20.7 percent untrue. Simulations suggest that each dollar invested in business incentives creates \$0.65 in increased present value of national earnings. This \$0.65 national “economic development benefit” is 20.7 percent of what investing \$1 in business incentives provides in economic development benefits for a state, which was estimated in Chapter 3 to be \$3.14.

The logic for this national economic development benefit is as follows.¹ There are four reasons why national effects of business incentives might differ from state effects. First, the cost of creating a new job in an industry might be different at the national level, compared to the state level. Second, the multiplier effects of creating a new job might differ at the national level. Third, the earnings effects might differ at the national level because these earnings effects will include persons who move out of state. Fourth, the labor market might respond differently at the national level to an increase in labor demand.

Estimates of how businesses respond to investment incentives at the national level suggest that there is some national response. However, this response is less per dollar of incentives than is true at the state level. This makes sense because at the state level, businesses can respond to incentives in two ways, only one of which is possible at the national level. At the national level, an incentive may induce new job creation. At the state level, an incentive can induce new job creation, or it can cause the location of jobs to be different. This makes it easier to create a new state job than a new national job. Estimates suggest that per dollar of incentives, the job effect at the national level in assisted businesses is only 14 percent of the effect found at the state level (or more precisely, 13.7 percent). To put it another way, the cost of creating a job through business incentives at the national level is seven times as great as it is at the state level ($7.299 = 1 \div 0.137$).

But multiplier effects of the additional jobs in assisted businesses will be greater at the national level than at the state level. Multiplier effects of additional jobs in assisted businesses will in part occur in suppliers to assisted businesses. Some suppliers will be located in the same state, and some in other states. Therefore, more supplier jobs will be created in the nation than in the state. Multiplier effects also occur because of additional retail demand from workers at assisted businesses and suppliers. Only a portion of this increased retail demand will

increase jobs in the same state as the assisted business. Increased retail demand will also increase jobs outside the state. Estimates suggest that multiplier effects at the national level will be about 40 percent greater than at the state level (or to be more precise, 40.7 percent greater).

At the national level, earnings effects will include residents of all states. At the state level, earnings benefits exclude out-migrants. Including residents of all states increases earnings benefits by about 7 percent (more precisely, 7.3 percent).

Finally, there is the issue of how earnings will respond to an increase in labor demand. Increased labor demand does not mean that the quantity of labor supplied will fully match that increase. An increase in labor demand will affect wages, unemployment, and labor force participation. This will in turn affect the quantities of labor supplied and demanded. This will feed back into further equilibrium effects on wages, unemployment, and labor force participation. There will be some final resulting equilibrium effect on earnings. I assume that the earnings response to a labor demand increase is similar at the national and state levels.²

These four factors combine to yield national effects on the present value of earnings, per dollar of incentives, of \$0.65. Net earnings effects at the national level versus the state level will equal the product of the following:

- The ratio of effects on assisted businesses at the national level to those effects at the state level, or 0.137;
- The ratio of the multiplier effect at the national level to the multiplier effect at the state level, or 1.407;
- The ratio of total earnings effects considering residents of all states to effects including only residents who stay in a particular state, or 1.073;
- The ratio of net earnings effects at the national level to net earnings effects at the state level from a shock to labor demand, assumed to be 1.000.

This combines in the following calculation: $0.65 = 3.14 \times (0.137 \times 1.407 \times 1.073 \times 1.000)$.

This calculation of only 65 cents in earnings benefits per dollar of business incentives applies to typical business incentives of reasonable quality, as detailed in Chapters 3 and 5. National benefits would be

lower for lower quality incentive designs. National benefits would be higher for higher quality incentive designs.

For example, as discussed in Chapter 5, some customized job training programs have been estimated to be at least 10 times as effective as average financial incentives to business. This implies that a high-quality customized job training program might yield \$6.50 in national benefits per dollar of incentives (= a 0.65 effect of typical incentives \times 10). As another example, manufacturing extension services have been estimated to be nine times as effective as financial incentives. A high-quality manufacturing extension program might have nine times the national economic development benefits per dollar of program cost, or \$5.85 (= 0.65 \times 9).

Financial incentives could also be redesigned to increase the \$0.65 return to over a dollar. For example, calculations suggest that financial incentive returns would have national benefits of more than a dollar, for each dollar of incentives, if the created jobs paid an average wage premium of 20 percent or more. As another example, increasing the multiplier effects of assisted businesses by 54 percent would also increase the national benefit to more than one dollar per dollar of incentives.

However, the business incentives considered in the baseline simulations are business incentives of reasonable quality. These are the kind of business incentives that are commonly used. Therefore, the findings suggest that commonly used business incentives return considerably less than \$1 in national economic development benefits per dollar invested. This in turn suggests the need for drastic reforms to current business incentive practice.

The \$0.65 in benefits at the national level, versus \$3.14 in benefits at the state level, suggests that state policymakers' perspective on business incentives is distorted. It appears that state policymakers' pursuit of state interests will lead them to use incentives more than is good for the nation. Federal policy to discourage such business incentives would seem warranted. As suggested by Arthur Rolnick and Melvin Burstein of the Federal Reserve Bank of Minneapolis, federal taxes and grants could discourage business incentives (Rolnick and Burstein 1994). The federal government could tax businesses receiving incentives at higher rates. The federal government could deny some federal aid to states providing large business incentives.

In addition, it would appear that the typical incentive does not make any sense for the federal government to pursue. National economic

development benefits are less than two-thirds of the cost of a typical business incentive. It would seem that federal business incentive programs can only be justified if they are significantly above average in quality.

These conclusions about the need for a federal policy stance against business incentives will be analyzed further below.

NATIONAL VERSUS STATE BENEFITS OF EARLY CHILDHOOD PROGRAMS

To sustain America's economic strength, community leaders, business leaders, policymakers, and parents must make providing access to high-quality early childhood education a top priority across the country.

—Jim Rohr (2009), chairman and CEO of PNC Bank

Thus far, this book has focused on the benefits of early childhood programs from a state perspective. But is there also a national stake in early childhood programs, as Jim Rohr contends in the above quotation?

For early childhood programs, focusing on the state level means only including earnings effects for former child participants who remain in the state financing the programs. Obviously some former child participants will leave the state. Their participation in high-quality early childhood programs will raise their earnings. From a national perspective, the earnings benefits for those who leave the state should also be included in economic development benefits.

I resimulated economic development benefits including the earnings benefits of former child participants who leave the state. I also included any earnings benefits for parents who leave the state.

This resimulation leads to significant increases in economic development benefits. Compared to state economic development benefits, national economic development benefits for early childhood programs are increased by more than one-third. Benefits from a national perspective compared to a state perspective increase by the following percentages: pre-K, 36 percent; the Abecedarian program, 35 percent; and the Nurse-Family Partnership program, 34 percent.

The percentage increase in benefits due to considering out-migrants is greater for early childhood programs than for business incentives. In the previous section, including out-migrants only increased the benefits of business incentives by about 7 percent.

Why does including out-migrants make more of a difference for early childhood programs than for business incentives? There are two reasons. First, early childhood programs' effects compared to business incentives are delayed. There is more time for former early childhood program participants to move out of state before most of the earnings effects occur. Second, early childhood affects earnings over the entire work career, whereas business incentives affect earners at a wide range of different ages. The older workers affected by business incentives are less mobile than the younger workers affected by early childhood programs. Cross-state mobility tends to be highest for individuals from their late teens until their late twenties. This high mobility age period intervenes between early childhood programs and their earnings effects for former child participants.

Figure 10.1 shows national versus state economic development benefits for these three early childhood programs. For the sake of comparison, I also show national versus state economic development benefits for business incentives. For each program, I calculate the ratio of the present value effects on earnings to the present value of costs.

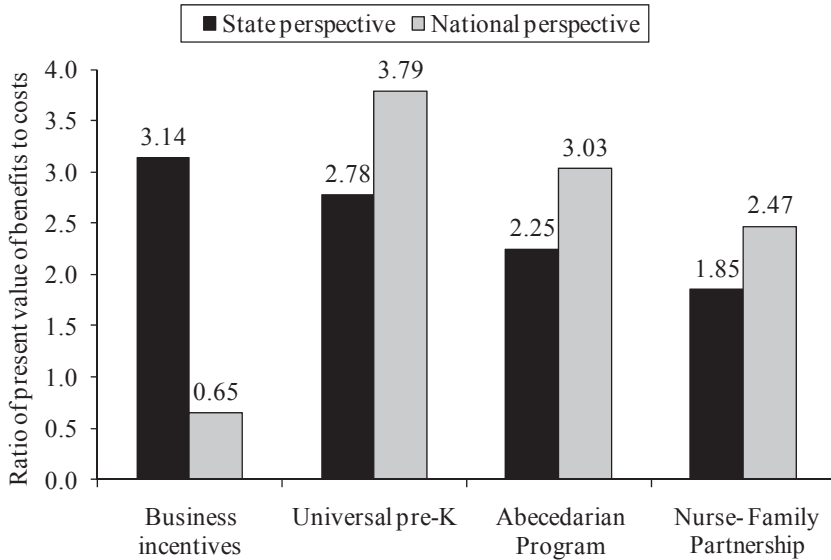
As the figure shows, high-quality business incentives are quite competitive with high-quality early childhood programs in providing state benefits. But early childhood programs do far better in providing national benefits.

The higher rate of return to early childhood programs from a national perspective than from a state perspective would seem to argue for a federal role. State policymakers fail to recognize about one-quarter or more of the total benefits of these programs. Some federal subsidy for these programs would seem warranted. Whether federal subsidies make sense will be further discussed later in this chapter.

The spillover benefits of early childhood programs for the national economy mean there would be net national benefits from adopting these programs at full scale in all states. These net benefits are sometimes sizable.

Figure 10.2 shows gross earnings benefits, costs, and net benefits from full-scale national implementation of each of these three early

Figure 10.1 Ratio of Economic Development Benefits to Costs, State versus National Perspective



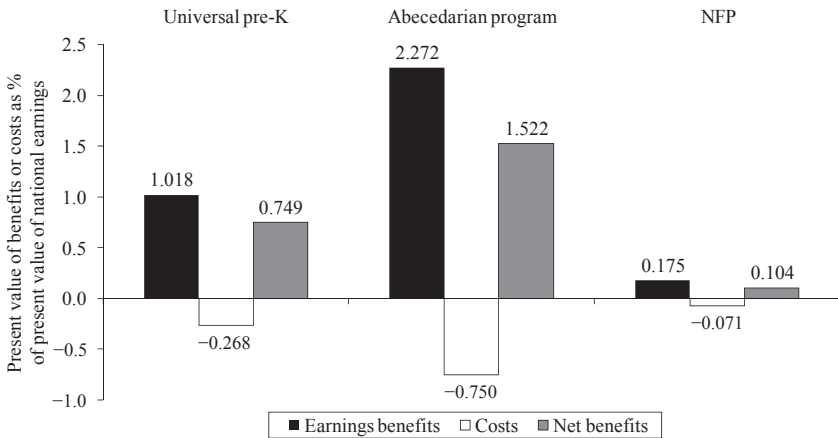
NOTE: This figure shows the ratio of the present value of economic development benefits to the present value of program costs. For each program, this ratio is shown both from a state perspective and from a national perspective. See text for details.

SOURCE: Author's calculations, as detailed in text.

childhood programs. Net national benefits are positive for all three programs. Net national benefits are only truly sizable, however, for universal pre-K and the Abecedarian program. These two programs would have net national benefits in the range of three-quarters of 1 percent to 1½ percent of national earnings. In contrast, the Nurse-Family Partnership has net national benefits of only around one-tenth of 1 percent of earnings.

The NFP simply isn't large enough or intense enough to have large net benefits, although the NFP has quite healthy rates of return per dollar invested. Universal pre-K and the Abecedarian program are large enough and intense enough to have sizable net benefits. On the other hand, the costs of these programs are considerably greater. This is particularly true of the Abecedarian program, which has costs of about

Figure 10.2 National Economic Development Benefits and Costs for Full-Scale National Implementation of Three Early Childhood Programs



NOTE: The figure shows the effects of full-scale national implementation of each of these three early childhood programs. Effects are measured from a national perspective. Effects are measured as effects on present value of benefits or costs as a percentage of the present value of national earnings. Net benefits are simply earnings benefits minus program costs.

SOURCE: Author's calculations.

0.75 percent of earnings. Universal pre-K costs about one-third as much as the Abecedarian program. The Nurse-Family Partnership costs less than one-tenth as much.

These results suggest that the national economy would benefit from full national implementation of any one of these three early childhood programs. Should the federal government implement one or more of these three programs at full scale as federal programs?³ This important issue will also be discussed further below.

MACROECONOMIC BENEFITS OR COSTS FROM REDISTRIBUTING JOBS

The discussion above of business incentives does not consider how redistributing jobs might affect the macro economy. Business incentives in a high unemployment state or local area will redistribute jobs to that high unemployment local economy, and away from low unemployment local economies. Business incentives in a low unemployment state or local area will do the reverse. Redistributing jobs across different local economies may have macroeconomic consequences.

These macroeconomic consequences will occur if the inflationary effects of job creation are different in different local economies. For example, evidence suggests that the effects of 1 percent lower unemployment in increasing wages and prices will be greater in a low-unemployment-rate local economy. If this is so, then redistributing jobs to high unemployment economies, and away from low unemployment local economies, will lower inflation. As a result of this redistribution of jobs, the Federal Reserve and other macroeconomic authorities can expand the economy more, yet keep inflation under control.

Redistributing jobs to low unemployment local economies, and away from high unemployment local economies, will increase inflation. The Federal Reserve and other macroeconomic authorities may need to restrain economic output to control inflation.

I did calculations of the potential macroeconomic benefits and costs of such redistribution of jobs.⁴ For the calculations, I used the U.S. economy in 2007. In 2007, average U.S. unemployment was 4.6 percent, and inflation was a concern. (In the U.S. economy as of 2009, when this paragraph was first written, the Federal Reserve might welcome more inflation.) I considered business incentives in a high unemployment state. I used the unemployment rate of the highest unemployment state in 2007—Michigan, at 7.1 percent unemployment. I also considered business incentives in a low unemployment state. I used the unemployment rate of the lowest unemployment state in 2007, Utah, which had 2.7 percent unemployment.

These simulations suggest a modest macroeconomic benefit from business incentives in high-unemployment-rate states: these business incentives do reduce inflationary pressures. Lower inflationary pressure

allows macro policymakers to be more aggressive in lowering overall U.S. unemployment. Aggregate U.S. earnings are increased. However, the effects are modest. The present value of the additional earnings from these macroeconomic effects is only 0.09 of the overall costs of the business incentives. If national benefits of the business incentives were 0.65 of costs, they would be increased to 0.74 of costs.

The effects are so modest for several reasons. Business incentives only affect unemployment rates for a few years in this model. Michigan's business incentives only slightly increase unemployment rates in the rest of the United States, and therefore only slightly reduce inflationary pressures.

The simulations suggest significant macroeconomic costs from business incentives in low-unemployment-rate states such as Utah. These business incentives increase inflationary pressures, and the resulting need for macroeconomic restraint is estimated to reduce U.S. earnings. This reduction is equal to 0.98 of the costs of the business incentives. If national benefits of the business incentives were 0.65 of costs, they would be reduced to -0.33 of costs. Business incentives in a low-unemployment-rate state reduce total U.S. earnings, once macro policy responses are taken into account.

These effects are larger because the business incentives are lowering unemployment by a great deal in a low unemployment state. In the model, the effects of lower unemployment on wage and price inflation go up quite a bit in low-unemployment local economies. Therefore, the macroeconomic consequences of allowing business incentives in a low unemployment state are large.

It appears that at times of low unemployment, business incentives in low unemployment states may be problematic. The gains for the state are more than outweighed by the macroeconomic costs for the United States as a whole.

SOCIAL BENEFITS FROM MORE JOBS: GREATER IN HIGH-UNEMPLOYMENT LOCAL ECONOMIES?

Thus far, this discussion has assumed that earnings effects measure social benefits. Business incentives are close to a zero-sum game

because most of the earnings benefits in the state adopting the incentives are offset by lower earnings in other states.

However, earnings effects are only an indicator of economic development benefits. Social benefits will be higher with more earnings effects, all else being equal. However, other factors may affect the economic development benefits from more jobs. It is theoretically plausible that the economic development benefits associated with more jobs are greater in high-unemployment local economies. If this is so, then redistributing jobs to high-unemployment local economies would increase social benefits, even if the total number of national jobs is little affected. However, although this is theoretically plausible, there is scant empirical evidence that bears on this hypothesis.

As discussed in Chapter 2, there are several reasons why more jobs might provide social benefits. Based on these reasons, it is plausible that social benefits will be higher in high-unemployment local economies.

One reason that jobs might provide social benefits is that there is involuntary unemployment. Wages may be above the wages that would clear the labor market. As a result, not all of those willing to work at the market wage or below will find a job. Some of the unemployed may have reservation wages—the lowest wage at which the unemployed person will accept a job—that are considerably below the market wage. In such a reservation wage model, the social benefits of hiring an unemployed person are equal to the market wage minus that person's reservation wage.

It seems likely that the average reservation wages of the unemployed will be lower in a high-unemployment local labor market than in a low-unemployment local labor market. In a low-unemployment local labor market, it is relatively easy to find a job. Persons with low reservation wages have high benefits from getting a job. Therefore, they are likely to have already obtained one. The remaining unemployed will be those whose reservation wages are close to the market wage.

In contrast, in a high-unemployment local labor market, even persons with low reservation wages will have great trouble finding a job. The pool of unemployed will include many persons whose social benefits from obtaining a job are large.

Another social benefit from lower unemployment is the value of lowering the risk posed by local unemployment. This social value may partly be a matter of self-interest. Each individual may be concerned

with how the overall local unemployment rate affects his or her risk of losing a job or finding a job. Individuals may also be concerned about how the overall unemployment rate affects the jobs prospects of their friends, family, and neighbors.

It is plausible that this social benefit from additional jobs may be higher in high-unemployment local labor markets than in low-unemployment local labor markets. For many an individual, lowering the overall local unemployment rate from 4 percent to 3 percent would not be perceived as significantly affecting his or her own job prospects, or those persons he or she knows. When the overall local unemployment rate is high, a much larger proportion of the population will consider the unemployment rate to be a serious problem. A higher percentage of individuals will perceive their own job prospects to be at risk, or perceive the job prospects of their family and friends as being at risk. The perceived social benefits from lowering local unemployment from 10 percent to 9 percent are likely to be great for a relatively high proportion of the population.

On the other hand, for the unemployed, the social benefits of lowering unemployment may actually be greater in low-unemployment local labor markets. There is some evidence that the social stigma effects of unemployment for the unemployed are higher when unemployment is low (Clark 2003). If one's unemployment is not shared by others he or she knows, then it may lead to greater feelings of shame and greater doubts about self-worth. However, as there are more employed than unemployed, the employed's perception of social benefits may dominate the overall social valuation. The social value of lowering unemployment sums its monetary valuation across the entire population, so the numbers of people in various groups matter, not just the intensity of effects on individuals.⁵

Although these arguments are plausible, there is little evidence available from empirical research. For example, there is no research showing how the effects of a 1 percent lower local unemployment rate on overall happiness varies at different starting levels for the local unemployment rate.⁶

With respect to reservation wages, the evidence is mixed. One study finds that each 1 point rise in the local unemployment rate reduces reservation wages by 1.2 to 1.6 percent (Jones 1989). Another study finds no effects of local unemployment rates on reservation wages (Haurin

and Sridhar 2003). Several studies find that longer unemployment duration reduces reservation wages (Fishe 1982; Kasper 1969; Kiefer and Neumann 1979; Stephenson 1976). Higher local unemployment rates would increase unemployment duration. This suggests that higher local unemployment rates should reduce reservation wages.

Where does this leave policymakers? Redistributing jobs to high-unemployment local labor markets may raise social benefits. However, empirical evidence on this hypothesis is not definitive. We certainly have no agreement on the magnitude of increased social benefits from such job redistribution.

Perhaps this should leave national policymakers somewhat hesitant to denounce business incentives in high unemployment states or high unemployment local areas as a zero-sum game. It is possible that such incentives may produce net national social benefits. On the other hand, this argument does nothing to advance the case for business incentives in average-unemployment or low-unemployment local economies.

There also is the issue of whether business incentives tend to be higher in high unemployment areas. I will consider this issue below.

FEDERALISM AND BUSINESS INCENTIVES: A POLICY WONK'S PERSPECTIVE

What does this imply for the appropriate federal role in business incentives and early childhood programs? I will first consider the appropriate federal role in business incentives, before going on to early childhood programs. In considering the appropriate federal role, I will first imagine the perspective of a policy wonk. This policy wonk is assumed to have absolute power to design the perfect federal and state policy to advance economic efficiency and equity. I will then imagine a more realistic perspective on what to do given what is politically feasible.

It might seem that typical business incentives are inefficient from a national perspective: national benefits are \$0.65 per dollar of program costs. But state policymakers perceive higher benefits of \$3.14 per dollar of costs. Economic efficiency would seem to demand federal efforts to abolish or curtail typical business incentives, which are dominated by tax and other financial incentives. Only business incentives with

significantly above-average efficiency, such as customized job training and manufacturing extension services, would seem to pass a national benefit-cost test.

However, from the perspective of a policy wonk who can always perfectly implement the ideal policy, it is not obvious that federal intervention is needed. If all states perfectly pursue their own self-interest, competition among states through business incentives may be efficient. Furthermore, any adverse effects on the income distribution from this competition can be offset through other policies.

To explain this somewhat startling conclusion, I first note that the cost of business tax incentives is, from an economist's perspective, largely not a true resource cost. Business tax incentives are mostly a transfer payment from the general taxpayer to businesses. Few real resources are used up in business tax incentives. There are some labor costs and materials costs in administering business tax incentives. But the tax incentive itself is a transfer from the general taxpayer to the assisted businesses.

Business tax incentives have a corresponding financial benefit to the assisted business. In an economic efficiency analysis, we must count equally the benefits and costs to everyone, with no discrimination. The benefit to assisted businesses is equal to the cost to the general taxpayer. The net cost is zero.

Business incentives that are services, such as customized job training and manufacturing extension services, do have real resource costs. These programs require significant use of labor and material resources. However, if these services are efficient, they have benefits to the assisted businesses that exceed their resource costs.

Thus, our analysis up to now has been incomplete. We have acted as if benefits to assisted businesses count for nothing. But from an economic efficiency perspective, these benefits should be fully counted. If the benefits to assisted businesses are counted, this changes our perspective on the net efficiency benefits of business incentives.

Consider an extreme case. Suppose there is some business tax incentive that has zero effects on location decisions. Suppose that this incentive has zero administrative costs. Then the net benefits of this business incentive are zero. The costs of this business incentive to the general taxpayer are exactly offset by the benefits to the assisted businesses.

Who benefits from providing business incentives to the assisted businesses? If nothing else changes, the owners of the assisted businesses get extra profits. If many businesses throughout the United States are provided with these incentives, this may have effects on overall prices or wages. Some of the initial extra profits for assisted businesses may be transferred to consumers through lower prices, or to workers through higher wages. How much will be so transferred? We don't know. Economists have never fully agreed on who bears the burden of the corporate income tax among shareholders, workers, and consumers. A general system of business incentives is similar to having reduced corporate income taxes. It is unlikely that economists will fully agree on the true economic incidence of widespread business incentives.

So far, this analysis suggests that business incentives may have zero efficiency benefits (tax incentives) or positive efficiency benefits (services to businesses whose value is greater than costs). However, this analysis so far has assumed that business incentives have no effect upon business location decisions. As discussed in Chapter 3, that assumption seems to be empirically incorrect. Business incentives do have significant effects on where businesses locate. These location effects are not as big as some economic developers like to claim, but the location effects are not zero.

If business location decisions are affected by business incentives, then an efficiency analysis needs to consider whether a system of business incentives will make the pattern of business locations more or less efficient. If there are no "social benefits" of business location decisions—that is, no benefits to parties other than the business itself—then business incentives can only make location decisions worse from an efficiency perspective. This argument has often been made by opponents of business incentives. For example, economist Art Rolnick, director of research at the Minneapolis Federal Reserve Bank, has told the following story for why business incentives will lead to inefficiency:

Let us suppose a company chooses to relocate its manufacturing plant from a warm climate state, like Louisiana, to Alaska, even though its operating costs are substantially higher in a cold weather climate. I will assume that the company is more than fully compensated by Alaska for the move and for the additional operating costs. However, it now takes more resources for this company to produce the same quantity of output in Alaska than it did in Louisiana. (Rolnick 2007)⁷

But his argument assumes that there are no social benefits of business location decisions. One of the key arguments of this book is that business location decisions, by affecting employment, do create social benefits for the local unemployed population and local workers. If there are such social benefits, then it can be potentially economically efficient to induce different location decisions. Consider a world with all-powerful policy wonks in complete control of each state's policy. These policy wonks have perfect knowledge of their states' social benefits. Accordingly, these policy wonks will tend to adopt business incentives that will match these social benefits. The system of business incentives will induce more efficient business location decisions.

The example given by Rolnick is illustrative. Suppose that there are no social benefits of extra employment in Louisiana. Perhaps Louisiana has enough jobs for everyone who wants one. But suppose there are such social benefits in Alaska. Alaska is assumed to not have enough jobs. Both the unemployed and the working force in Alaska will benefit from creating additional jobs in that state to lower Alaska's unemployment rate. As long as the incentives offered by Alaska are equal to or less than these social benefits of job creation, the relocation of jobs from Louisiana to Alaska is economically efficient. Yes, production costs are higher. But the extra social benefits more than outweigh these higher production costs.

If all-powerful and all-knowing policy wonks are in charge of business incentives in each state, they will always offer business incentives that are equal to or less than the social benefits from additional jobs. Offering higher incentives than social benefits would not be in the state's individual interest. The resulting competition for businesses will drive up business incentives to be equal to whatever the social benefits are from additional jobs in each state. Businesses will make location decisions based on the combination of business incentives and their own private costs. Because business incentives perfectly reflect social benefits, this relocation will be economically efficient. Businesses will not relocate from state X to state Y unless the social benefits from so doing outweigh the extra production costs.

This system of all-out state competition for businesses via business incentives will tend to transfer resources from the general taxpayer to the business sector. Net business taxes after incentives will be lower than they otherwise would be. As mentioned above, it is uncertain what

the incidence will be of lower net business taxes. To the extent that lower net business taxes result in higher profits for owners of businesses, the benefits from this incentive competition will have a regressive effect on the income distribution. Ownership of stock in businesses is highly concentrated in upper income groups.

However, in our perfect policy-wonk world, all-powerful and all-knowing policymakers at the federal level can offset any regressive effects of business incentive competition on the income distribution. For example, federal policymakers could choose to make the personal income tax more progressive. A surcharge for high income groups could offset the extra profits accruing to corporate shareholders. In this perfect world, this income tax redistribution is preferable to trying to prevent incentive competition among the states. The incentive competition leads to businesses taking the social benefits of employment into account in making location choices. It is economically efficient to take such social benefits into account. Therefore, business incentive competition should not be prohibited.

FEDERALISM AND BUSINESS INCENTIVES: A PRACTICAL POLITICAL PERSPECTIVE

A practical politician would regard the policy wonk's perspective as unrealistic. Practical politicians must take distributional effects into account. In an imperfect world, incentives are unlikely to match social benefits.

State and local policymakers cannot count on any regressive effects of business incentives being offset by more progressive federal taxes. In addition, from a state perspective, the "benefits" of business incentives for business owners largely flow to out-of-state residents. There are good reasons for state and local policymakers to heavily discount benefits to wealthy out-of-state business owners. It is reasonable for state and local policymakers to consider business incentives to be largely a cost. The social benefits from payments to business owners should be heavily discounted.

Even from a national perspective, federal policymakers cannot assume that incentive reforms will be offset by tax policy. Expanding

or contracting business incentives will in part expand or contract the incomes of business owners. Because business owners are a very upper-income group, the benefits of incentives to business owners should be heavily discounted. Business incentives should be regarded as largely a cost, with social benefits (if any) coming in terms of increased earnings.

Competition among states in offering business incentives has not led to some ideal pattern of net tax rates. Net business tax rates after incentives are not lowest in state or local areas with the highest unemployment. The best empirical exploration of how incentives affect the spatial pattern of investment returns is by Fisher and Peters (1998). They do find that “explicit development incentives,” such as “state tax credits and . . . local taxes and tax incentives . . . tend to be more favorable in states and cities with higher unemployment” (p. 200). However, these development incentives mostly serve to offset the effects of overall state tax systems. Basic state business taxes tend to be higher in states with high unemployment. Basic state tax systems “exhibit a strong tendency to skew returns on new industrial investment in a perverse direction, producing higher after-tax returns in states with lower unemployment rates . . . The end result [of the combined effect of the basic state and local tax system plus incentives] is a spatial pattern of returns on new investment that has little or no bearing to the spatial pattern of unemployment among cities” (p. 200). The best that we can say of incentives is that “incentive competition has produced a neutral (or random) spatial distribution of returns, which at least is better than what would have prevailed in the absence of incentives” (p. 200). Furthermore, it is possible that the basic state and local business tax system would adjust if business financial incentives were reduced. Perhaps the basic state and local business tax system would adjust toward a more “neutral” pattern, one that would show similar average tax rates in local economies that have different unemployment rates.

Therefore, at most it is only possible to give a weak endorsement of business incentives as helping high-unemployment local economies. Perhaps business incentives even the playing field a bit. But business incentives do not clearly favor high unemployment areas.

It is possible to make a practical political case for federal action to restrict business financial incentives. The case is particularly strong for restricting business financial incentives offered by low unemployment states or local economies. The social benefits of such incentives are

particularly low. They sometimes have adverse effects upon inflation. And encouragement of business financial incentives tends to worsen the U.S. income distribution, which has already become more unequal over the past 30 years.

There is not as strong a case for federal action to restrict business incentives that provide services to business such as customized job training or manufacturing extension services. Well-run programs of customized job training or manufacturing extension probably have sufficient national economic development benefits to justify their costs.

Federal control of business incentives might be modeled after the procedures used by the European Union to regulate “state aid” (Sinnaeve 2007; Thomas 2000, 2007). State aid is broadly defined by the European Union as including “all advantages [to business] selectively granted by the state or through state resources that distort competition or threaten to distort it and affect trade between member states, e.g., grants, loans at nonmarket conditions, state guarantees, all types of tax advantages, and the sale of land at nonmarket conditions” (Sinnaeve 2007, p. 88). The basic principle of the EU’s regulation of state aid is that state aid is outlawed unless “it promotes other EU objectives, such as regional development [of distressed regions], R&D, employment, etc. which outweigh the distortion in a proportional way” (p. 89). The EU then goes on to define “the conditions under which aid projects can be authorized for different types of aid, specifically aid for regional development, promotion of SME [small and medium-sized enterprises], employment, R&D, environmental protection, training of workers, restructuring of enterprises in difficulties, and provision of risk capital . . .” (p. 90). Even for the state aid that is allowed, the EU applies rules for how great the aid can be relative to the project’s overall costs. The state aid is administered by requiring advance EU approval of state aid for specific projects. However, EU member states can apply for blanket approval of some program of state aid (for example, a program to aid small and medium-sized businesses, or to provide job training to employees). If the EU has not given prior approval to a particular state aid project, the EU may then subsequently investigate the legality of the project, with such an investigation being initiated either by the EU or in response to complaints by other member states or competing businesses. If the state aid is found to violate EU rules—i.e., the aid is

excessive relative to the aid's overall benefits for the EU—the European Commission can order that the state aid be repaid by the assisted business, with interest.

The U.S. Constitution would seem to authorize Congress to understate such regulation of business incentives. The Constitution specifically authorizes Congress to “regulate Commerce . . . among the several States” (Article I, Section 8). As argued by Rolnick (2007), this provision was adopted in response to problems under the Articles of Confederation: “Under the Articles, the states had freely engaged in destructive economic warfare by imposing all types of trade barriers against one another. To address this, James Madison, the recognized father of the Constitution, added the Commerce Clause to the Constitution, to help promote an economic union of the states.”

Of course, wrongheaded federal regulation of business incentives could do more harm than good. Federal regulation should not discourage cost-effective business incentives such as customized job training and manufacturing extension programs. Federal regulation should not discourage states from using business incentives to help distressed local labor markets.

It would be politically difficult to enact federal regulatory authority over state and local business incentives. For example, a federal appeals court in 2004 struck down an Ohio tax incentive as unduly interfering with interstate commerce. Soon after, several bills were introduced to get around the court's ruling. Legislation to negate the court's ruling was endorsed by the National Association of Manufacturers, the National Governors Association, and the U.S. Conference of Mayors (Mazerov 2005). The court ruling was eventually overturned by the U.S. Supreme Court on the grounds that the plaintiffs lacked standing.

If a political coalition is powerful enough to enact federal regulatory authority over business incentives, then it might be powerful enough to increase the progressivity of federal income taxes. Suppose the primary national concern about unregulated business incentives is their redistribution to business interests. Then it could be argued that this redistributive issue should be more directly addressed. However, the regulation of business incentives may attract political support beyond those persons concerned about income distribution. For example, there are economists such as Rolnick who are concerned that business incen-

tives may distort market competition. Furthermore, the general public may be more supportive of restraining business incentives than of redistributing income.

If federal regulation of business incentives proves too politically difficult, an alternative is to appeal to state policymakers' own self-interest. As was reviewed in Chapter 6, there is sufficient uncertainty about the effectiveness of business financial incentives that policymakers may decide that reining in incentives is in their state's self-interest. For example, most business tax incentives could be made nondiscretionary and incorporated into the regular business tax system. Incorporating incentives into the overall business tax system is likely to encourage greater discussion of their overall revenue cost. In contrast, discretionary business tax incentives are sometimes promoted as self-financing, from the increased business activity. Discretionary business tax incentives are also promoted as being limited to a few cases. However, in practice, once tax incentives are given to a few businesses, the political pressure to help other businesses is difficult to resist. And, as was discussed in Chapter 3, the effects of business tax incentives are too low for the incentives to be self-financing.

The self-interest of states also is promoted by more efficient incentives. The empirical evidence suggests that customized job training and manufacturing extension services are more cost-effective than business tax incentives.

In fast-growing localities, as was shown in Chapter 9, the benefits from business incentives are lower than costs from the locality's perspective. These fast-growing localities are also likely to have low unemployment rates. It is in the self-interest of booming localities to cut back on the business incentives that also impose national macroeconomic costs.

Advocates of restraining business incentives believe that reform must start with greater transparency (Bartik 2005; LeRoy 2007; Markusen and Nesse 2007). Transparency includes specific information on what incentives have been offered to what businesses. Such information will increase political pressure to rein in business incentives. According to LeRoy (2007, p. 185), "Twelve states have already enacted some sort of economic development subsidy disclosure (Connecticut, Illinois, Louisiana, Maine, Minnesota, Nebraska, North Carolina, North Dakota, Ohio, Texas, Washington State, and West Virginia)."

Another useful reform is more and better evaluation. Even if it is hard to determine whether a particular tax incentive was decisive, it is quite feasible to evaluate the likely labor market effects of a particular business's location or expansion decision. Such evaluation can even be required prospectively, as is done, for example, in Michigan's MEGA program. Such evaluation puts pressure on business incentives to be used more in businesses that have higher wages or multiplier effects.

As was discussed in Chapter 6, more rigorous ex-post evaluation of business incentive programs that provide services to individual businesses can also be done. Such evaluations can be done by matching assisted to unassisted businesses and comparing their relative performance. Past research suggests that such services to businesses are in many cases more cost-effective than financial incentives. Therefore, good evaluations are likely to increase political pressure for reforming business incentives toward more services and less financial incentives.

Moving the mix of business incentives toward services rather than tax incentives is likely to be advantageous for three reasons. First, as was discussed in Chapter 5, the available empirical evidence suggests such incentives are more cost-effective. Second, business incentives that are services are likely to be more strictly monitored, because they are subject to an annual appropriations process. Business tax incentives are not reviewed through an annual appropriations process. Third, business demand for such services will only materialize if the services are useful to businesses. Business tax incentives will be demanded by businesses even if they have no effect upon location or expansion decisions. Tax incentives increase profits even if they do not change business behavior.

Improved evaluation of business incentives may be encouraged from the bottom up. Grassroots political pressure may lead state legislatures to enact evaluation requirements or legislative audit requirements.

Encouraging better evaluation of business incentives may also be an important federal role. The federal government could fund such evaluations; such funding is an appropriate federal role. High-quality evaluations of one state's business incentives provide useful knowledge for all states.

FEDERALISM AND EARLY CHILDHOOD PROGRAMS: A POLICY WONK'S PERSPECTIVE

A policy wonk's analysis of optimal federal policy toward early childhood programs is simpler. Three conclusions seem warranted.

First, the spillover effects of early childhood programs are large enough to justify a considerable federal subsidy. This subsidy in some cases may be larger than the cost of these programs.

For example, the calculations reported in Figure 10.1 suggest that the present value for universal pre-K of national economic development benefits is \$3.79 per dollar of program costs, compared to state economic development benefits of \$2.78. This means that the spillover benefits of universal pre-K that accrue in other states are \$1.01 ($3.79 - 2.78$) per dollar of program costs. Other states should be willing to subsidize the program's entire costs based on these spillover benefits.

Similar calculations based on Figure 10.1 can be made for other early childhood programs. The resulting spillover benefits, per dollar of early program costs, are \$0.78 for the Abecedarian program and \$0.62 for the Nurse-Family Partnership program. Spillover benefits can justify a federal subsidy of a considerable portion of these programs' costs.

Second, as was argued in Chapter 4, these programs produce benefits greater than costs from a state perspective. Therefore, if state policymakers are perfectly rational and are maximizing the present value of benefits, state policymakers should adopt these programs. No federal subsidy should be needed to get states to adopt these programs.

Third, if, despite their self-interest, states choose not to adopt these programs, it is in the national interest for the federal government to pay for these programs. The present value of the national economic development benefits of all these programs considerably exceeds their costs.

FEDERALISM AND EARLY CHILDHOOD PROGRAMS: A PRACTICAL POLITICAL PERSPECTIVE

What political problems might there be with a heavy federal subsidy, or even a federal takeover, of early childhood programs? As discussed

in Chapter 6, one major issue is that our knowledge of what constitutes quality in these programs is uncertain. We need to encourage innovation and creativity in early childhood programs. The concern is that too great a federal role may inhibit the needed innovation and creativity.

As discussed in Chapter 5, Head Start on average seems to be somewhat less effective than some of the better state pre-K programs. Some analysts have expressed concern that Head Start's effectiveness may have been reduced by the way the program has been managed by the federal government. For example, Rolnick has expressed the following concerns about Head Start: "Another disappointing example of a large-scale program is Head Start. It is not getting the kind of returns that we saw in the Perry–High Scope study. I would argue that the disappointing results are partly because Head Start is underfunded relative to Perry–High Scope. More fundamentally, I think that Head Start [has] performed well below expectations because [it] approaches the problem of early childhood development from the top down" (Haskins and Rolnick 2006).

In Head Start's case, as mentioned in Chapter 5, the problem may not be too much federal regulation, but rather the wrong kind of federal regulation. For example, Head Start traditionally has not had strong educational requirements for lead teachers. This may reflect political pressure to use the program as a community jobs program.

One possible compromise is to try to circumscribe the federal role. The federal role should be shaped so that it helps support high quality in early childhood programs without dictating 100 percent of program content. For example, one option would be to have heavy federal subsidies for some of the crucial physical capital, human capital, information, and support infrastructure of early childhood programs. The federal government could support building costs, curriculum materials and instructional supplies costs, costs for testing of children and evaluation of these programs, costs of staff training, transportation costs, and special student support services costs. The remainder of regular operating costs would be paid for at the state and local level.

Such a division of federal versus state responsibilities might encourage programs to be of higher quality by encouraging better staff training, curriculum, and evaluation. Better data and evaluation of these programs would have particularly high spillover benefits for other states. All states can learn from the development of better program models.

The hope is that because federal aid would not pay for regular operating costs, the federal government would not seek to control all program design and content. Of course, it is possible for the federal government to use its control of these support costs to try to dictate programs. For example, the federal government could seek to only fund a very limited number of curriculum approaches. Federally paid-for training could be restricted to particular training approaches. For this model of federal support to still encourage innovation and creativity, there would have to be an understanding that new and different curricula and staff training approaches could be considered and tested.

Federal support for this physical capital, human capital, and information infrastructure would support a considerable percentage of the costs of high-quality early childhood programs. For example, for a three-hour-per-day school year pre-K program, with a class-size ratio of 20 to 2, the Institute for Women's Policy Research estimates the following percentages of costs in some of these categories: 11.5 percent for infrastructure costs, which is mostly the cost of facilities but also includes quality monitoring and evaluation costs; 16.9 percent for student support services and staff training; 6.5 percent for instructional supplies; and 4.5 percent for transportation. The total is almost 40 percent of overall costs. Implementing universal pre-K in all states is estimated to cost \$14 billion per year. If all states implemented universal pre-K, and the 40 percent federal cost share was applied to all pre-K expenditures, then the federal government would pay about \$6 billion for universal pre-K. State and local governments would pay the remaining \$8 billion.

Federal support for uniform measurement of quality might be particularly important. As discussed in Chapter 7, good comparable measures of early childhood program quality across state and local areas might encourage capitalization of these programs' benefits into housing values. Such capitalization would provide greater up-front benefits for early childhood programs. These greater up-front benefits would encourage state adoption of these programs. More voter awareness of program quality relative to national norms might also increase pressure by voters for higher program quality.

But federal operating support may also be needed. Without a federal operating subsidy, many states' investments in early childhood programs may be inadequate. As John Donahue has argued in his book

on the role of American states, *Disunited States*, states may skimp on human capital investments because their benefits are mainly long-term. I made a similar argument in Chapter 7. The possibility of capitalization may only be a partial solution to this problem. Donahue (1997, p. 158) also argues that states may be reluctant to make human capital investments because “education and training policy has a distributional element—an element that becomes more important as economic inequality deepens . . . The political tension inherent in taxing the mobile, the well-off, and the childless to pay for education spending that matters most to the less skilled, the less affluent, and those with large families could quite plausibly lead states to scale back their overall commitment to human-capital development.”

Just because the federal government is sometimes overly rigid does not mean that state and local governments will be willing to make needed investments. We should not naively assume that state and local policymakers will always be wise and far-sighted.

A larger federal role could certainly be justified *if* this larger federal role allowed for needed local flexibility. As mentioned, the spillover benefits justify full federal funding of universal pre-K. If the federal government could be induced to allow creativity and experimentation in early childhood programs, then federal funding for regular operating costs might be encouraged. Federal funding might be particularly helpful in helping overcome possible bias by state and local governments against early childhood investments that only pay off in the long run.

One possible model for federal operating funding is as follows. The federal government could agree to provide states with a certain amount of early childhood funding for each low or middle income household. For example, the federal government could agree to provide 80 percent of early childhood education funding up to a \$10,000 cap per low or middle income household. I am here defining low or middle income households as those belonging to the lower three quintiles in the household income distribution—i.e., up to \$62,000 in annual household income (DeNava-Walt, Proctor, and Smith 2008). This approach would be a compromise between the advocates of targeting and universalism. (See Chapter 8 for more discussion of this issue.) The targeting advocates would be pleased that the federal funding did not include the upper two income quintiles, which are thought to have lower benefits from early childhood programs. The universalism advocates would be

pleased that the federal funding included 60 percent of all households, and probably about half of all children.⁸ The universalism advocates would argue that these children from middle income households would gain considerably from early childhood programs.

To reduce stigma and administrative costs, the funding system might want to avoid collecting income data from every household participating in these federally funded early childhood programs. It would be quite feasible to base federal funding on the incomes found in a random sample of participating households in each state.

The \$10,000 cap would be for total funding per child under age five. For example, the federal government would be willing to pay up to \$10,000 for a one-year program for a child from a low or middle income household, or \$5,000 per year for a two-year program, or \$2,000 per year for a five-year program. How exactly to allocate these funds across different ages from birth to age five, or across different types of programs, would be left to state discretion.

The funding process should allow for considerable state discretion. Some type of state process to monitor and measure program quality would be required. And, as mentioned above, full federal funding would be provided for any quality monitoring and staff training. Federal funding would also be provided for a variety of experimental or other rigorous evaluations of these state programs.

Because a wide variety of early childhood programs would be eligible, this would make it more difficult for the federal government to micromanage the program. In contrast, if the federal government only funded one type of early childhood program, there would be some temptation for federal program managers to only fund the “ideal” pre-K program or “ideal” nurse home visitation program.

With reasonable assumptions about participation, such a program might cost about \$15 billion per year. About half of this funding would be sufficient to provide funding for about half the participants in an age-four universal pre-K program. The other half could support other early childhood programs.⁹

For a variety of reasons, significant new federal funding support for early childhood programs may be hard to come by. (Among other things, looming budget deficits and the cost of health care programs pose barriers. The federal government has a lot on its plate.) Furthermore, it is by no means obvious that any federal support for early childhood programs

would be enlightened enough to support local flexibility. Advocates for early childhood programs may need to rely on states taking the lead.¹⁰ As pointed out in this chapter and throughout this book, high-quality early childhood programs cost a state less than what the state gets back in economic development benefits. But a calculus of benefits exceeding costs means nothing unless accompanied by political pressure. Better information and awareness by the voting and home-buying public of the benefits of high-quality early childhood programs, and the quality of their states' current early childhood programs, may help create the needed state-level political pressures. This book's concluding chapter, Chapter 13, further considers the potential for state and local activism to expand early childhood programs.

CONCLUSION

A national perspective on business incentives and early childhood programs suggests the potential for federal intervention to improve outcomes for these programs. But wrongheaded federal intervention could also make matters worse.

Federal intervention is particularly needed for business incentives. The state perspective on the benefits of these programs differs greatly from the national perspective. Although state and local governments have some self-interested reasons to improve business incentive policies on their own, these reasons are likely insufficient to motivate the needed reforms. The negative national spillovers of wrongheaded state business incentive policies are potentially large, compared to these policies' benefits for states.

Federal intervention should discourage business financial incentives in low unemployment areas, as these lack sufficient national benefits. But federal intervention should not discourage creative new programs that effectively promote economic development. Customized job training or manufacturing extension programs should not be discouraged.

In contrast, for early childhood programs, state and local governments have more reason to pursue constructive policies on their own, without federal intervention. High-quality early childhood programs have benefits that are considerably greater than costs from a state and

local perspective. These programs have some national spillover benefits, but these benefits are more modest in size compared to the state's own benefits.

Federal support for early childhood programs should encourage states to make needed investments while encouraging creativity and experimentation in program delivery. Early childhood programs have sufficient spillovers and national benefits to justify considerable federal support. But there is enough uncertainty about the best program approaches that we also need plenty of state and local discretion.

If federal support is provided for operating spending for early childhood programs, a wide variety of state and local program approaches should be funded. Funding should not be restricted to one supposedly ideal program design, as this overstates our current knowledge.

Federal support for evaluation and data collection for early childhood programs can provide national benefits for all states. Better information on quality may cause voters and the housing market to put more pressure on state and local policymakers to make quality improvements. Federal support for staff training can increase the odds that early childhood programs will be research-based and of high quality.

This policy advice assumes the possible legitimacy of government intervention in business incentives and early childhood education. The next chapter will consider the ethical issues raised by such government intervention.

Notes

1. Appendix 10A presents more detail. This appendix, like all the appendices in this book, is available from the Upjohn Institute.
2. Appendix 10B discusses why this is a reasonable assumption.
3. This ignores the issue of whether the benefits of each of these three early childhood programs are independent of each other. It is possible that implementing one of these programs (e.g., the Abecedarian program) may decrease or increase the net benefits of the other programs (e.g., Universal pre-K).
4. The model details are reported in Appendix 10C.
5. For example, in DiTella, MacCulloch, and Oswald's (2001) evaluation of the social cost of unemployment, 90 percent of the loss in happiness due to higher unemployment is that of the employed. In Blanchflower's (2007) estimates, three-fourths of the loss in happiness due to higher unemployment is that of the employed. When one person becomes unemployed, the monetary value of that individual's loss of happiness is higher than the monetary value of the resulting

- loss of happiness (due to a higher unemployment rate) of an individual employed person. But the sum of the monetary value of the loss of happiness of all the employed is greater than the monetary value of the loss of happiness to the individual who becomes unemployed.
6. DiTella, MacCulloch, and Oswald's (2001) research found no significant influence of national unemployment squared in regressions explaining differences in happiness for a particular country and year in a panel data analysis. If the nation is considered the relevant labor market, this implies that the marginal benefits of lowering unemployment do not vary significantly with the unemployment rate. However, trying to detect nonlinearities in a limited number of countries and years is quite difficult.
 7. Rolnick's testimony also makes two other arguments for the inefficiency of business incentives. One argument is that competing via business incentives erodes the local tax base and leads to economically inefficient underproduction of public goods. This argument is only valid if state and local governments are forced to rely on business capital taxes for all or a fixed percentage of public good costs. If other taxes are available, this result does not hold (Oates and Schwab 1988). A second argument is that business incentives lead to variations across businesses in tax rates that inefficiently reallocate capital. However, as argued in the text of this chapter, if these business incentive differentials are related to the social benefits provided by the business, then this capital reallocation will not be inefficient.
 8. The assertion that the bottom 60 percent of all households include about half of all children is consistent with the calculations in Appendix 8A. It is also consistent with the on-line statistic, from the Census Bureau's data files for the 2008 Annual Social and Economic Supplement to the CPS, that the bottom three income quintiles include 49.7 percent of all family households (U.S. Census Bureau 2008).
 9. I base this calculation on year 2008 data on persons by age in the United States from the Census Bureau. I update these data to 2011 by assuming 0.3 percent growth per year at all age levels. I assume that 49.7 percent of all children are eligible for this federal funding. Among those eligible, I assume 70 percent participation. The funded program is assumed to provide \$5,000 in funding for an age four program. This federal support would be 80 percent of total spending, with total spending at \$6,250 per four-year-old. Such funding would be sufficient to support a high-quality pre-K program, based on data from the Institute for Women's Policy Research (2008). The remaining \$5,000 in federal funding would arbitrarily be allocated at \$1,250 per year across the four years from age zero to age three. Again, since this funding is at 80 percent, it would support spending \$1,563 per year for these four years. Alternatively, the \$5,000 would be sufficient to fund about half the cost of the Nurse-Family Partnership for each child. (The funding would still be only a tiny percentage of the total cost of an Abecedarian program for each child, which would cost over \$60,000 per child.)
 10. One point to note is that state and local governments face incentives, due to capitalization effects, to value the long-run effects of universal pre-K. At the national level, universal pre-K is unlikely to lead to capitalization effects, as capitalization

effects depend upon the attractiveness of a local area affecting in-migration and out-migration. Therefore, the federal government does not have incentives from capitalization to value the long-run effects of universal pre-K. We are depending upon the federal government deciding to expand early childhood programs in the right way because it is the right thing to do.