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What Works in Economic Development

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Thank you for inviting me to speak at your conference. The title of my speech is “What Works in Economic Development”. But before we can determine “what works”, we need to talk about goals. What goals should state policymakers be aiming at when they talk about economic development policy?

My view is that too many economic development policymakers are overly focused on the goal of economic growth as being obviously good in and of itself. But growth is only good to the extent that it brings about increased real incomes for state and local residents, and ideally in a way that is broadly shared among many state residents.

If one looks at serious benefit cost studies of economic development, the main way in which attracting jobs to a state or local economy might increase per capita incomes of local residents is by increasing per capita earnings, through some combination of higher employment to population ratios, and higher real wage rates. Research shows that about three-quarters of the increased incomes due to job growth is due to higher per capita earnings.

Studies sometimes claim other benefits of faster local job growth, for example they claim fiscal benefits due to growth increasing government revenues. But fiscal benefits turn out to be quite modest once one accounts for the extra spending required to accommodate job growth. The increased population attracted by job growth will require additional public spending to keep public service job quality from deteriorating, and in particular will require considerable

infrastructure spending. These increased public spending needs end up coming close to offsetting most of the additional government revenues generated.

So, the main goal or benefit that might rationalize state or local government policies to attract job growth is higher earnings per capita for a broad segment of the population. Once one has identified that as a goal, this has several immediate consequences for how we think about local economic development policy.

One consequence is that it immediately draws our attention to the issue of job quality. Obviously earnings per capita will go up more if any jobs created pay higher wages.

A second consequence is that it draws our attention to the issue of who gets the new jobs. Is the increase in new jobs accommodated by employing state residents who otherwise would be unemployed or out of the labor force, or by attracting new state residents? If one thinks about it, ultimately that is what new jobs have to do – even if new jobs go to currently employed state residents, this creates job vacancies that must be filled in some way, and ultimately this chain of vacancies must end up either in employing a non-employed state resident, or employing someone from outside the state. Whether non-employed state residents get the new jobs has a big effect on how local job creation affects a state's per capita earnings.

A third, and perhaps most crucial consequence, is that once the goal is identified as a broad increase in local earnings per capita, it becomes clear that local economic development policy is really just local labor market policy. Earnings per capita is a labor market outcome. Better labor market outcomes can be achieved by either working on the “labor demand” side of the local labor market, or the “labor supply” side of the local labor market. We can directly increase the quantity and quality of jobs for local residents by directly interacting with local

employers. Or, we can indirectly increase the quantity and quality of jobs for local residents by increasing the quantity and quality of local labor supply, by interacting directly with households.

It might seem strange, but interacting with potential workers to change how much labor they supply to a local economy, or changing the skill level or quality of labor they supply to a local economy, can in fact be an extremely effective way of changing the behavior of businesses, even though it is an indirect way of affecting businesses. Why? Because labor supply conditions in a local economy is one of the most crucial aspects of a local economy that affects business location and expansion decisions.

An important example is that empirical studies show that increasing the quality of local labor supply is in fact a very effective way of increasing the number of high-quality jobs, as employers are very responsive to the quality of labor supply in decisions they make about investing in new technology and expanding their operations. For example, a consistent finding in the research literature on local wages is that my wages not only depend upon my own education, but upon the education of those in my same local economy. If the percentage of college graduates in a local economy goes up by 1 percentage point, from 30% to 31% say, that has direct effects on the wages of those getting a college degree – their wage rates will go up by 80% due to the college degree, on average, and this will raise overall wages directly by 0.8% -- that is, average overall wages go up by 80% times the 1% extra of the population with a college degree. But empirical studies suggest that actually, total wages in the population will increase by 1.9%. This extra 1.1% is due to everyone's wages going up – including the wages of those who already had a college degree, as well as the wages of those without a college degree.

What is going on here? Well, even if I am the most productive worker in the world, my productivity will be enhanced if my co-workers also are more productive. My employer will be

better able to introduce new technology if all the workers at the workplace are more skilled, not just some workers. And my employer's competitiveness will be enhanced if the local suppliers to my employer are more productive because they have better workers. For all these reasons, when skills go up in a local economy, employers will be more likely to invest in new technology, more likely to invest in new capital equipment, and more likely to create new and better jobs. And this enhances everyone's wages, not just the wages of those whose skills are increased.

Therefore, if we interact with potential workers in a state or local labor market to increase skills, this has profound implications for local job creation, by increasing the number of high-skill and high-wage jobs that are created. And therefore policies to increase the quality of local labor supply can be considered to be economic development policies, because they lead to the growth of more and better jobs, and thereby boost employment rates and wage rates.

The key question for sound local economic development policy is the following: Which local labor demand and local labor supply policies have the best evidence of being the most cost-effective in increasing local earnings per capita across the local population?

But before I get to the research evidence on specific labor demand and labor supply policies, are there any general rules for when it is more effective for a state or local area to emphasize labor demand policies versus labor supply policies? When should we emphasize interacting with business to enhance labor demand, and when might we emphasize interacting with potential workers to enhance the quantity or quality of their labor supply? There is one principle that should be kept in mind. In general, although we should always do both labor demand and labor supply policies, because they complement each other and are more effective together, labor demand policies will be somewhat less effective when the local unemployment rate is already low, and local labor force participation rates are already high, and therefore the

policy emphasis should shift a bit towards labor supply policies. The reason is that when local employment to population rates are already quite high, further labor demand policies that just add jobs tend to have a greater percentage of the jobs go to in-migrants, not current state residents.

Quantitatively, in one study I did, when unemployment was around 4%, compared to 10%, the percentage of new jobs that goes to local residents is about 54% in the short-run, and 13% in the long-run, compared to 94% and 35% when unemployment is initially high. So when unemployment rates are low, as they are in Nebraska at present, you still get benefits from directly creating new jobs, but they are somewhat less. A little more emphasis should be on labor demand policies that target increasing the quality of jobs, and on labor demand policies that increase the quality of state residents' job skills to help encourage higher quality job growth in the state

What about specific policies? In general, ANY state or local policy has SOME effects on local labor demand and/or local labor supply, that is have some effect on either business behavior or household behavior. But will it have benefits greater than costs? Specifically, the question I will ask for all policies is: will they increase the present value of state residents' per-capita earnings by more than \$1 for each \$1 of program costs? In order for state or local policies to have a high bang for the buck, by which I mean have a ratio of earnings benefits to program costs that exceeds 1 by a lot, it turns out these policies have to be highly targeted on business or household behavior that is either highly responsive to policy interventions, or that has large benefits in increasing earnings.

Let's first consider policies that work on the labor demand side. A perennially popular labor demand policy for boosting job growth is across the board general business tax cuts. But

empirical research suggests that general business tax cuts are unlikely to be cost-effective in boosting overall per capita earnings growth, for several reasons.

First, even if these general business tax cuts had no budget cost, for example if Bill Gates decided to finance a general business tax cut in your state, these general business tax cuts are too broad to be cost-effective. General business tax cuts include not only export-base businesses but also locally-oriented businesses. And tax cuts for locally-oriented businesses don't do much for local economic development.

In regional economics jargon, "export-base" businesses are companies that sell their goods and services to consumers and businesses outside of your state or local economy. For example, for Nebraska, these export-base businesses include businesses that sell their goods and services to consumers and business in such a strange foreign place as Iowa. Export-base businesses bring new dollars into your local economy. These new dollars then recirculate into spending at local suppliers and retailers, and thus have a multiplier effect on local jobs. So, cutting business taxes on export-base businesses may increase their share of the national market, with multiplier effects on other local jobs. In contrast, because locally-oriented businesses by definition only sell to a local market, their economic activity is not determined by their business taxes, but by the incomes and demands of local consumers and businesses. How many restaurant jobs there are in a local community is largely determined by how much disposable income people have to spend at local restaurants, not by business taxes. So, since much of a general business tax cut goes to non-export-base businesses, much of a general business tax cut does not do much to boost local job growth.

In addition, across the board business tax cuts go to all businesses, regardless of whether or not they have any interest in making new business investment or creating new jobs. This is

very inefficient compared to conditioning business tax cuts on business job creation. Therefore, even if general business tax cuts are magically financed from outside the state, I estimate, based on the large literature on how a state's business activity responds to state and local and business taxes, that for each \$1 reduction in state and local business taxes, the present value of per capita earnings of state residents only is increased by 51 cents. These policies simply aren't cost-effective.

Furthermore, absent charity from Bill Gates, general business tax cuts must be financed in some way. With state balanced budget requirements, lower business taxes mean higher personal taxes or lower public spending. Lower public spending will have short-run negative effects on demand for goods and services. These short-run negative effects will outweigh any short-run stimulative effects of general business tax cuts. The local restaurant's lower taxes are outweighed by the lower demand when teachers are laid off or take salary cuts. In the long-run, if lower public spending leads to lower quality infrastructure, or lower quality labor supply, these negative effects on long-run local growth can outweigh any positive effects of lower business taxes.

What about business tax incentives? These can be significantly more cost-effective than across the board business tax cuts in increasing local earnings per capita, but only if they are well-designed. Well-designed incentives must be highly targeted on businesses that are export-base, are actually creating jobs, pay high wages, have high multiplier effects, and are likely to hire local residents. Targeting is essential to maximize benefits for local earnings per capita, while minimizing the negative effects of the costs of financing the incentive program. Business tax incentive programs can be more effective in raising earnings per capita if accompanied by community benefits agreements or local hiring agreements that encourage businesses to work

with local job training providers to hire local residents who are unemployed or underemployed. Good design also includes a budget constraint on the incentive program, clawback provisions to recover incentives if the business leaves, and public disclosure and accountability for results. An exemplary business tax incentive program might provide benefits, for each dollar invested, of increasing the present value of local per capita earnings by \$3. This is about 6 times the cost-effectiveness of general business tax cuts. Some studies suggest this can be further increased, to a ratio of 6 to 1, if business incentives are more narrowly targeted ONLY to job creation that directly goes to hiring the local non-employed, rather than subsidizing ALL job creation.

An even more cost effective type of labor demand policy is customized services to small and medium-sized export base businesses. For example, we have good studies showing high bang for the buck for customized job training and manufacturing extension services.

Under customized job training, state governments totally or partially subsidize the provision of job training, either for new workers or incumbent workers, which is customized to the particular skill needs of an individual employer. This customized training is frequently delivered by local community colleges.

Under manufacturing extension services, manufacturers are provided with free or highly subsidized advice on how to improve their productivity or product design, and how to find new markets. Most manufacturing extension services are in part supported by the U.S. Department of Commerce.

There are several good studies that suggest that well-run customized job training and manufacturing extension services are far more cost-effective in creating jobs than is true of even the best-designed business tax incentive programs. The estimates suggest that per dollar invested, customized job training and manufacturing extension increase the present value of local per

capita earnings by at least \$10, over 3 times the cost-effectiveness of typical high-quality business tax incentives.

These customized services seem most effective with small and medium sized businesses. Why are these programs cost-effective in helping small and medium sized businesses? These policies can be cost-effective largely because small and medium sized businesses frequently face numerous barriers of information, expertise, and financing in accessing needed services. Public policy can have a high impact by helping small and medium sized businesses to overcome these barriers.

In sum, labor demand programs can be an effective way to increase local earnings per capita. But to be effective, they need to be targeted where they can do the most good, which typically is being targeted towards export-base businesses, towards job creation decisions, towards higher wage jobs, towards hiring local non-employed residents, and towards services and financing that helps small and medium sized businesses whose expansion is inhibited by problems in private markets. Targeting increases the effects on earnings per capita, while minimizing program costs and hence the adverse effects from paying for these programs.

On the labor supply side, a wide variety of measures could be considered to increase the effectiveness of our current educational and training efforts in improving local labor force quality. I will just focus on a few labor supply initiatives for which I think there is good evidence from research of cost effectiveness.

The labor supply programs with the most rigorous evidence of effectiveness are high-quality early childhood programs, such as high-quality preschool. I extensively discuss early childhood programs in two of my books, one published in 2011, and one published in 2014, and my 2011 book specifically focuses on how preschool can boost local economic development.

We have the best research evidence for early childhood programs because in this policy area we have done some high-quality experiments. These experiments show, for example, that high-quality preschool not only increases test scores at kindergarten entrance, but also increases high school graduation rates and educational attainment. High-quality preschool increases adult employment rates and earnings rates by even more than we would predict based on preschool's effects on educational attainment. High-quality early childhood programs seem to have their long-run effects on adult outcomes by increasing "soft skills" as well as "hard skills". "Hard skills" refers to the cognitive skills measured by reading and math tests. "Soft skills" refer to the social skills of how well a person gets along with peers and authority figures. "Soft skills" also include a person's ability to plan and their self-confidence. The "soft skills" and hard skills that a child obtains in preschool translate into greater success in kindergarten, which in turn reinforces and augments these skills, particularly these soft skills. The process continues on in first grade, and subsequent ages. Eventually, we have an adult who has greater "soft skills" in adulthood. Such soft skills are probably at least as important as hard skills in determining labor market success.

Early childhood programs can boost local economic development because a majority of all participants in early childhood programs will spend most of their working career in the state in which they spend their early childhood. For example, in Nebraska, of those born in Nebraska, about 56% currently live in the state, and the percentage is even greater if one restricts oneself to persons who were not only born in Nebraska but stayed there in early childhood.

Therefore, the investment of a state like Nebraska in early childhood will have significant effects on the state's long-run labor force quality. As already mentioned, there is good research evidence that in today's global economy, higher local labor force quality is a key competitive

factor affecting a local area's attractiveness for the location and growth of business. If you develop higher local labor force quality, this will drive the local creation of high-quality jobs. And as a result, local earnings per capita will increase.

If we consider for example the effects of high-quality preschool, the estimates suggest that for each dollar invested in preschool, the present value of a state's earnings per capita will increase by about \$6. These programs pay off purely in economic development terms, without even considering such social benefits as lowering the crime rate. As a result, many states have made significant investments in state support for high-quality preschool. For example, in the most recent data, the percentage of 4-year-olds in state-financed preschool is the following in various states: 84% in Vermont; 77% in Florida; 75% in Oklahoma; 68% in West Virginia; 64% in Wisconsin; 61% in Iowa, and 59% in Georgia. The national average is 29% of all four-year-olds in state-financed preschool. Nebraska is at 31%, which is slightly above the national average, but less than half the percentage of leading states.

One big advantage of preschool as a policy intervention is that it seems that it works for a wide variety of children. For example, based on research from pre-K programs in Tulsa and Boston, pre-K has similar dollar benefits on future earnings for children from both low-income and middle-income backgrounds. In both cases, it raises future earnings over a career on average by around \$50,000. The percentage boost to future earnings is greater for someone from a low income background, as they would tend to be on average have lower career earnings, but pre-K still has a large payoff for children from middle-income backgrounds. Basically, at ages 3 and 4, a wide range of children's futures are quite malleable. Adding some additional instructional hours in a group setting, that can teach both hard skills and social skills, seems to be a useful intervention for children from many diverse family backgrounds.

After early childhood, policy interventions to boost the quality of labor supply can sometimes still be quite cost-effective. But the evidence suggests that at later ages, policy interventions that go beyond what we already do with our K-12 system and post-secondary system tend to be more successful if they are narrowly targeted on specific problems of specific groups.

One K-12 educational intervention for which we have good evidence of success is mandatory summer school for elementary school students who are significantly behind grade level. Such summer programs are made mandatory by backing the program up by the threat of possible grade retention for the child. There is good data from Chicago Public Schools that such a summer school program can be effective. A 6 week mandatory summer program can raise average student achievement by the equivalent of what students typically learn in two or three months. Based on plausible estimates of benefits and costs, each dollar invested in mandatory high-quality summer school would increase the present value of state residents' earnings by about \$13. These gains would of course be highly targeted on the students who otherwise would have stayed significantly below grade level.

High school reform is a harder nut to crack. However, one program that has shown good results is "Career Academies". A Career Academy typically serves 150 to 200 students from grades 9 or 10 through 12th grade. Career Academies have three key features. First, each academy is designed as a small learning community with the same team of teachers working with the same students throughout high school. Second, each academy would integrate both academic and career material around a single career theme, such as health-related occupations. Third, each Career Academy establishes partnerships with local employers to make sure the curriculum is relevant, and to provide students with work-based learning opportunities. Career

Academies have been studied using a randomized control trial. The estimated adult earnings effects significantly exceed estimated costs. For each dollar invested in Career Academies, the increase in the present value of state residents' earnings is estimated to be about \$13. These benefits would be highly concentrated among students who otherwise would drop out of school or not attend a four-year college.

Another high school reform program that shows great promise is small group tutoring for students behind in core subjects. For example, a recent math tutoring intervention in Chicago for 9th graders behind in math shows extremely large effects on both math and reading scores. These test score effects predict that this program would eventually increase the present value of state residents' earnings by about \$15 per dollar invested. Again, the benefits of such a program are tightly focused on students significantly behind in math as of 9th grade.

Finally, adult job training has been sometimes maligned. There is actually considerable favorable evidence on well-designed adult job training programs. Such well-designed job training programs would work closely with employers to identify needed skills in expanding occupations, and to make sure that the training curriculum is relevant to these needed high-demand skills. They also need to be highly targeted at workers who already have good soft skills already, as these are difficult to quickly teach at later ages in these employer-oriented job training programs. For such well-designed adult job training programs, each dollar invested can yield an increase in the present value of state residents' earnings of about \$6. Again, these benefits are concentrated among unemployed or economically disadvantaged or displaced workers who also have decent social and soft skills.

There are no doubt other programs that can effectively improve labor supply quality and boost state and local residents' earnings per capita, although perhaps not with as firm a research

basis as the programs I have identified in this speech. Based on what we know about what best improves labor supply quality, high returns to labor supply programs can be obtained in two ways. First, we can obtain high returns by investing early, in early childhood or early elementary school. Second, we can obtain high returns by investing in programs that have strong ties to employers, and that are designed to address the specific labor market problems of a targeted group of individuals. Either approach has some political pluses and minuses. Preschool programs can benefit children from a wide variety of family backgrounds, which helps build political support, but the early childhood approach has the problem that a large percentage of the benefits are in the future, and our political system, and our society in general, does not always seem to do a good job of rewarding policymakers who prioritize the future ahead of the present. Investing in later labor supply interventions brings more immediate returns, but unlike early childhood programs, we only get large benefits by targeting on a narrower section of the population, which might not be as politically popular as policies that benefit many people, such as universal preschool.

What about other commonly proposed policies to boost labor supply, such as personal income tax cuts? For personal income tax cuts at the state level, the evidence suggests that these tax cuts will have modest, if any effects on labor supply, and in particular on the supply of skilled labor supply. Whether people participate in the labor market is not that sensitive to personal income taxes, at least at the levels commonly seen in the United States. And state income taxes don't seem to have large aggregate effects on migration, and therefore personal income tax cuts would not be a particularly cost-effective way to boost the quantity or quality of a state's labor supply. Furthermore, any full analysis of how economic development is affected by personal income taxes would have to consider the effects on economic development of how

personal income tax cuts are financed. If financed by cutting public services for example, this might reduce attractiveness of state. In addition, financing personal income tax cuts by cutting public spending may have some adverse effects on overall state demand for goods and services. These financing effects may offset part or all of any presumed positive effects of personal income tax cuts by themselves, if they exist. In sum, it seems unlikely that personal income tax cuts have major effects on per-capita earnings in a state. There is certainly no research consensus that such effects exist – most of the studies of this topic are not that strong methodologically, and their results are all over the map.

To sum up, local economic development should be seen as the task of broadly increasing local earnings per capita through a combination of labor demand policies and labor supply policies. These two types of policies complement each other. Labor demand policies help make sure the high-quality jobs are available. Labor supply programs help create high-quality jobs as well, but not necessarily one for one. So labor supply policies will be more effective if accompanied by labor demand policies. Labor supply policies also make labor demand policies more effective in attracting business growth by helping make sure that there are local residents with the requisite skills to fill high-quality jobs.

Labor demand policies and labor supply policies should be designed to have a high impact on local residents' earnings per capita per dollar invested. There is good research that identifies some of the policies that work. These policies frequently have impacts on local earnings per capita that are many multiples of costs. The table presented here summarizes some of the policies I have previously discussed.

This research also suggests that policies are more effective if appropriately targeted on particular entities and activities. This targeting either involves targeting particular types of

businesses or targeting businesses at a certain stage of their development, such as when they making new investment decisions, or targeting particular types of individuals, or targeting people at a particular stage of development, such as early childhood, or targeting particular types of skill development. In general, the key to a high bang for a buck seems to be to intervene early, with either businesses or people, or to intervene in a way that is particularly attuned to a specific type of problem for a specific targeted group.

So what is the answer to the question of “What works in economic development”? There is no one answer, rather a broad strategy of complementary policies are needed. But we can achieve a great deal in local economic development if we use research-proven strategies, and focus local economic development strategies on achieving the important social goal of high-quality local employment opportunities for all.