

Smart Skills versus Mindless Megadeals:

Cost-Effective Workforce Development
versus Costly “Buffalo Hunting,”
with Proven Policy Solutions



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Executive Summary

Using data from dozens of programs and deals in Good Jobs First's Subsidy Tracker database, we draw sharp comparisons between the costs of workforce development programs versus company-specific "megadeals." Whereas 31 out of 33 training programs have four-figure costs per job, our current megadeals database shows an average cost to taxpayers of more than \$658,000 per job. Costs per job are especially high in capital-intensive projects such as oil and gas production, microchip fabrication plants, data centers, and steel mills.

Spending so much on so few companies, a strategy often called "buffalo hunting" in economic development circles, is both risky and wasteful: deals with such high per-job price tags can never break even from a fiscal perspective, much less generate a positive taxpayer return on investment. That is, workers at such facilities will never pay that much more in taxes than public services they and their dependents consume.

By contrast, academic surveys and a sampling of state audit findings—which are typical of others issued in past years—find that workforce development programs consistently stack up well in cost-effectiveness. And they are inherently low-risk because even if the trained workers later become dislocated, their skills will almost always remain in the labor market, benefiting other employers.

Other low-risk economic development choices include cluster strategies and entrepreneurial assistance. They too have the risk-spreading benefit of not putting lots of eggs into any one company's basket.

To curb buffalo hunting and free up funds for more effective uses, states have a menu of proven policy solutions—both federal and state—from which to choose:

- Nineteen states have at least one program with a dollars-per-job cap, and all but three are \$6,000 or less;
- Two federal programs have longstanding per-job cost restrictions: the U.S. Department of Housing and Urban Development's Section 108 program and the Small Business Administration's Section 504 program; and
- The European Union's Regional Aid Guidelines has rules that cap "aid intensity" (the amount of subsidy divided by the amount of private capital investment made) that reflect uniform "public benefit" tests that allow larger packages only in poorer areas.

We hope this analysis will assist practitioners and policymakers in making smarter choices in allocating economic development resources.

Policy Introduction

by Greg LeRoy

I came to the cause of making economic development subsidies accountable by way of a national non-profit consulting practice against plant closings that I created in Chicago starting in the mid-1980s. When the term “Rustbelt” was coined and *The Deindustrialization of America* was a best seller, we repeatedly found that factories slated for closure had received subsidies in the past. And when we read the fine print it was almost always legal to “take the money and run.”

If the subsidy contract rarely protected the jobs, then one immediate policy remedy for such cases was the clawback, or money-back guarantee, which I would document in my 1994 book *No More Candy Store*. (Clawbacks became much more common in the wake of these disputes, and as we have since documented at Good Jobs First, “performance-based incentive” structures have further reduced taxpayer risks.)

But over time, a much more fundamental resource-allocation issue became painfully evident. *Many* facilities that had been subsidized were closing, and there were even some heroic lawsuits in the late 1980s and early 1990s, as localities sought to save good manufacturing jobs. But instead of reconsidering their risky subsidy strategies, states and localities only seemed to down: “buffalo hunting” for “trophy deals” such as foreign-owned auto-assembly “transplants” and other high-profile deals became the norm.

This trend has only gotten worse. As we have documented since 2013 here at Good Jobs First, the annual numbers and costs of “megadeals,” mainly subsidy packages worth hundreds of millions and even billions of dollars, rose in the ‘90s and the ‘00s and have really spiked since the Great Recession starting in 2008.

Instead of learning the lesson that “putting lots of eggs in only a few baskets” is inherently risky, states and localities seem intent on pouring ever-greater amounts of taxpayer money into fewer deals.

But the list of closures and layoffs at “megadeal” facilities continues to grow, often at the same time as many state and federal workforce development programs have suffered budget cuts.

Examples of layoffs at “megadeal” subsidized facilities include:

- AMD in New York
- Bear Stearns in New York

- Boeing in Washington
- Dell in North Carolina
- Eli Lilly in Indiana
- Global Foundries in New York
- IBM in Iowa
- Intel in Oregon
- Pfizer in Connecticut
- Radioshack in Texas, and
- Thyssen Krupp in Alabama.

Informed by my plant-closing experiences and this megadeal trend, in trainings for public officials I have for decades recommended against this buffalo-hunting school of economic development. Spread your risks, I've urged, and at the top of the list of ways to do that are investing in skills and infrastructure that benefit all employers, investments that will remain to benefit the community even if one particular company fails or runs away. Not to mention the fact that great schools are an essential quality of life factor in recruiting and retaining high-wage employers.

Another promising alternative: cluster strategies where a group of smaller firms in a promising growth sector benefits from monies that are often spent through public institutions such as engineering schools or technology partnerships, knowing that some of the companies will fail and workers will change employers, but the cluster will thrive and the low-risk investments will continue to pay off. Based upon the same logic, I have also long recommended entrepreneurial assistance programs as smart alternatives to buffalo hunting.

So it is these experiences and this empirical deal-tracking that we bring to this paper. States and cities can (*and should*) spend less and get more for our economic development bucks, and the first step in changing course is to avoid massive company-specific deals. We hope this paper, by documenting how incredibly disparate spending patterns have become—workforce development versus company-specific megadeals—stimulates more discussion within the economic development profession and among elected officials about more cost-effective strategies and spending priorities.

Workforce Development Programs: the Cheapest and Most Cost-Effective

Both theory and practice suggests that workforce development and training programs are more cost-effective than other kinds of economic development subsidies. As we argue: investing in public goods such as skills and infrastructure are low-risk investments because they don't depend on any single firm's success or regional loyalty. Although U.S. labor markets are more dynamic than many other industrial nations, 96.6 percent of the U.S. workforce doesn't change location in a typical year, so training investments hardly "leak" from regional or state economies.¹

We summarize here just a small sampling of studies comparing the return from training programs versus other subsidy programs. For example, two academic studies conducted in 2008 suggest that, "customized job training incentives are ten to sixteen times more effective in jobs created per dollar of incentive than tax incentives."² According to U.S. Department of Labor research from 2007, states spent \$571 million training about a million workers in FY 2006, on average less than \$1,000 per worker.³ This represented a significant and persistent decline in overall state spending since the year 2000, when spending was estimated at about \$721 million.⁴

State-Specific Findings

An academic review of incentives in Kentucky from 1992 to 2004 concluded that the types of incentives yielding the greatest positive impact on economic activity were training incentives.⁵ Tax breaks had a more modest effect, while financing programs had no statistically significant impact. The authors theorized that dollars spent on training had an outsized impact because workers change jobs over time throughout the local economy, but less frequently leave a region.

Training programs in Massachusetts were found to have a similarly strong effect. The authors measured not just the costs of training programs—less than \$9,000 per job on average—in Massachusetts, but also the impact on economic success.⁶ Although two-thirds of the firms receiving training subsidies were manufacturers, which could explain some of the strength of the effect, the authors estimated a 38.9 percent rate of return on training dollars spending for the state. Employers also saw a significant rate of return and more than 90 percent of the companies reported productivity and competitiveness improvements. Perhaps most interesting, 40 percent of workers reported receiving a promotion and 48 percent reported wage increases as a consequence. About a fifth of workers stated that training resulted in the prevention of layoffs.

Like Massachusetts, the 2015 annual review of workforce training programs in Washington found significant returns for taxpayers through apprenticeship programs, primarily training workers in the construction, services, or manufacturing industries: \$23 for every dollar spent on the program.⁷ But not all training was equal: basic education for adults had no significant taxpayer return, while community and tech colleges (\$3 for every dollar spent) as well as secondary career (\$9 for every dollar) and worker retraining (\$2 for every dollar) had far smaller returns. Most Washington training programs have significant employer satisfaction, net public benefit, employment impact, and wage impact. Interestingly, Washington apprenticeship programs have astoundingly low costs at \$3,647 per trainee, far less all other workforce training programs in the state.

In Virginia, one of the oldest training programs in the U.S., the Virginia Jobs Investment Program (VJIP, launched in 1965), a customized training grant, held its own on a cost basis relative to all other Virginia programs. Across eight distinct and different kinds of grants the state offers, the average amount awarded per expected job averaged just \$2,295 from 2002 to 2011.⁸ The VJIP cost less than half at \$623 per expected job, while large deal-closing style cash grants ranged from \$7,201 per job to \$11,570.

A recent legislative audit in New Mexico found that data issues limit the ability to adequately monitor numerous programs.⁹ However, the state's Job Training Incentive Program (JTIP) carries the lowest annual budget burden. Over a five-year period between 2007 and 2011, the JTIP averaged around \$3,000 per job with one outlier year at about \$5,000 per job. Despite the low costs, the auditors raised questions about use of the training primarily for call center workers. Without adequate monitoring of long-term outcomes on trainees, the auditors questioned whether the state could adequately assess the return on investment for the program.

An audit conducted in Maine categorized the risk profile of subsidy recipients across all programs.¹⁰ Only Business Assistance programs and Training programs had no program classified as "High Risk" meaning a program should be flagged for review for effectiveness, efficiency, compliance, or cost-benefit considerations. Yet despite their low risk, training programs represented an extremely small share of the overall portfolio: just two percent of the state's average annual economic development spending.

Subsidy Tracker Enables New Analyses

In 2010, Good Jobs First launched Subsidy Tracker, a national database of company-specific records of state and local subsidy awards. We have continued to grow and improve the search engine: it now captures more than 500,000 deals worth \$250

billion from more than 740 federal, state and local incentive programs in all 50 states and the District of Columbia. It also attaches the records of subsidiary establishments to more than 3,000 global corporate parent companies.

This new tool provides a new form of empirical evidence for the comparative cost-effectiveness of workforce development programs. Although the quality of data disclosed by agencies is not sufficient in every case, Subsidy Tracker enables us to compute per-job costs for 33 state training programs. As we summarize in Table 2, in only 2 of those 33 programs are costs per trainee over \$10,000. Most of these cost averages are based upon large Ns (i.e., numbers of trainees), making them especially valid (and the highest-cost program, in Montana, is based on the lowest N: only 13 trainees).

Some experts argue that workforce development priorities should extend to very early childhood, before kindergarten or K-12, because expansive policies beyond adult training programs have been shown to have an outsized impact. A leading scholar in the field of economic development has concluded that in the long run, universal pre-school programs have the capacity to outperform traditional business subsidies on a dollar-to-dollar basis.¹¹ And a longtime critic of the “economic war among the states” (when he was the Vice President and Research Director at the Federal Reserve Bank of Minneapolis) now argues that the money wasted on interstate subsidy wars and stadium deals ought to be redirected to early childhood education where the long-term economic development payoff is large and demonstrable.¹²

Table 2: Estimated Cost per Trainee in Select Subsidy Tracker-Captured Programs

Program	Average Cost per Trainee	Number of Recipients
Montana Workforce Innovation in Regional Economic Development	\$12,399	13
New Mexico Job Training Incentive Program	\$10,957	349
Pennsylvania Customized Job Training	\$6,330	468
Iowa Industrial New Jobs Training (260E)	\$5,012	1,006
Montana Primary Sector Workforce Training Grant Program	\$4,394	52
Vermont Workforce Education & Training Fund	\$2,935	109
Kansas Investments in Major Projects and Comprehensive Training Program (IMPACT)	\$2,614	42
Indiana Skills Enhancement Fund	\$2,341	1,252
Arizona Job Training Program	\$1,929	678
South Carolina readySC Training	\$1,861	251
Indiana Skills Enhancement Funds	\$1,786	101
Nebraska Advantage Job Training Program	\$1,650	44
Washington Job Skills Program	\$1,478	197
Oregon Employer Workforce Training Fund	\$1,431	559
Tennessee FastTrack Job Training Assistance	\$1,412	380
California Employment Training Panel	\$1,369	3,000
Florida Incumbent Worker Training	\$1,363	633
Florida Quick Response Training	\$1,353	107
Michigan Economic Development Job Training	\$1,149	478
Vermont Training Program	\$1,129	360
Delaware Blue Collar Training Grant	\$900	527
Kentucky Grant-in-Aid Program	\$863	1,379
New Hampshire Job Training Fund	\$856	489
Virginia Jobs Investment Program	\$717	949
West Virginia Governor's Guaranteed Work Force Program	\$694	433
Kansas Industrial Training	\$686	362
North Dakota New Jobs Training	\$509	102
Kentucky Skills Investment Credit	\$489	232
Maine Governor's Training Initiative	\$443	34
Kansas Industrial Retraining	\$425	296
Kentucky Training Tax Credit	\$382	111
Utah Custom Fit Training Program	\$323	3,339
Mississippi Workforce Training Fund	\$226	1,175

Company-Specific “Megadeals:” Ever-More Expensive and Proliferating

In our 2013 *Megadeals* report, we focused on 240 deals costing over \$75 million. Of those, 170 subsidy packages had sufficient data to enable us to compute their average cost per job created: \$456,000. At such an astronomical cost level, taxpayer risks are not simply elevated—*taxpayer losses are guaranteed*. That is, the typical worker at these facilities is never going to pay \$456,000 more in taxes than public services she and her dependents will consume.

We have since 2013 periodically updated our Megadeals database, most recently in May of 2016. Our latest compilation for those deals with sufficient data finds an even higher average cost: \$658,427 per job created. That is, *more* deals are being done that guarantee taxpayers lose—and that guarantee *bigger* taxpayer losses.

Per-Job Costs Are Especially High in Capital-Intensive Facilities such as Microchip Fabrication Plants, Data Centers, Refineries, and Steel Mini-Mills

As a group, capital-intensive projects show the highest costs per job among the megadeals. As Table 3 shows, the most costly deals on a per-job basis are often oil and gas production, microchip fabrication plants, data centers, and steel mills. Labor-intensive service sector industries such as finance and logistics carry lower average costs per job.

*Table 3: Estimated Cost per Job on Megadeals in Select Industries*¹³

Industry	Average Cost per Job	Number of Megadeals
Oil and Gas Production	\$4,750,582	19
Data Center	\$2,011,306	8
Agribusiness	\$1,230,858	8
Energy Manufacturing	\$729,920	12
Manufacturing	\$524,161	13
Healthcare	\$471,862	5
Biotech	\$429,985	6
Microchip Fabrication Plant	\$424,329	16
Primary Metal Manufacturing (including Steel Mills)	\$309,577	13
Headquarters	\$233,268	47
Aerospace Industry	\$151,997	21
Automotive	\$150,483	58
Logistics	\$87,977	9
Finance	\$49,979	12

For further detail, Table 4 provides some company-specific deals with costs per job, all of them in excess of \$1.9 million.

Table 4: Highest Costs per Job for Subsidy Megadeals

Recipient	Industry	State	Year	Subsidy Value	Jobs	Cost Per Job
Sempra Energy	Oil and Gas Production	LA	2013	\$2,194,868,648	130	\$16,883,605
Valero Refining New Orleans, LLC	Oil and Gas Production	LA	2014	\$234,442,649	15	\$15,629,510
Valero Refining	Oil and Gas Production	LA	2013	\$128,622,663	13	\$9,894,051
Cheniere Energy	Oil and Gas Production	LA	2010	\$1,689,328,873	225	\$7,508,128
Apple	Data Center	NC	2009	\$320,700,000	50	\$6,414,000
Energy Management Inc.	Oil and Gas Production	MA	2010	\$99,500,000	16	\$6,218,750
Empire Gen Holdings	Power Plant	NY	2010	\$87,035,916	20	\$4,351,796
Nike	Headquarters	OR	2012	\$2,021,000,000	500	\$4,042,000
CF Industries	Agribusiness	LA	2013	\$366,380,700	93	\$3,939,577
Shintech	Oil and Gas Production	LA	2012	\$187,200,000	50	\$3,744,000
St. Joseph Energy Partners LLC	Oil and Gas Production	IN	2015	\$60,000,000	20	\$3,000,000
Bayer CropScience	Agribusiness	AL	2013	\$429,500,000	180	\$2,386,111
Apple	Data Center	NV	2012	\$89,000,000	41	\$2,170,732
Yahoo	Data Center	NY	2009	\$258,000,000	125	\$2,064,000
Hemlock Semiconductor (Dow Corning)	Solar Cell/ Semiconductor	MI	2008	\$372,300,000	190	\$1,959,474

Proven Policy Solutions: State, Federal and European Precedents

State Program Dollars-Per-Job Caps

At least nineteen states impose dollars-per-job caps on at least one of their incentive programs, and the caps are quite low, seldom exceeding four figures. Table 1 identifies some of the known cost-per-job limits applied by programs around the country.

Table 1: Selected Cost-per-Job Standards in State Economic Development Programs

State	Program	Cost Per Job Cap (Maximum Benefit Possible)
AL	Full Employment Act of 2011	\$1,000
AZ	2011 Credit for New Employment	\$3,000
CA	New Jobs Credit	\$3,000
FL	Qualified Target Industry Tax Refund (QTI)	\$6,000
GA	Job Tax Credit Program	\$3,500
ID	Small Employer Initiative	\$3,000
IL	Small Business Job Creation Tax Credit	\$2,500
MD	Job Creation Tax Credit	\$1,500
NJ	Redevelopment Authority Project Tax Credit	\$1,500
NM	High Wage Jobs Tax Credit	\$12,000
NY	Economic Transformation and Facility Redevelopment Program Job Training Credit	\$4,000
NC	(Repealed) Article 3J Tax Credit	\$12,500
OK	(Repealed) R & D New Jobs Credit	\$500
OK	Aerospace Industry Engineer Workforce Tax Credits	\$5,000
PA	Job Creation Tax Credit	\$2,500
SC	Jobs Tax Credit	\$8,000
TN	Jobs Tax Credit	\$5,000
UT	Job Creation Tax Credit	\$1,250
VA	Major Business Facility Job Tax Credit	\$1,000
WV	Economic Opportunity Tax Credits	\$3,000

Federal Program Dollars-Per-Job Caps

At the federal level, two longstanding and substantial programs carry per-job cost restrictions: the U.S. Department of Housing and Urban Development's (HUD) Section 108 program and the Small Business Administration's (SBA) Section 504 program.

HUD's Section 108 is a loan program backed by a jurisdiction's Community Development Block Grant funds. In order to ensure that an adequate amount of "public benefit" results, federal rules require that a jurisdiction's overall portfolio of Section 108 loans "create or retain at least one full-time equivalent, permanent job per \$35,000 of CDBG funds used."¹⁴ As well, each individual Section 108 transaction may not exceed \$50,000 per job in CDBG funds used.¹⁵

SBA's Section 504 program allows local Certified Development Companies (CDC) to work directly with or alongside private-sector lenders to provide advantaged financing to small businesses. SBA 504 rules state that a CDC's overall loan portfolio must create at least one job for every \$65,000 in loan funding.¹⁶ Small manufacturers are allowed \$100,000 per job.¹⁷ A 2008 study of the 504 program found a cost per job at about \$41,600 in loans for each job created. (However, that figure likely underestimates the cost per job due to selection bias: it only included companies with job growth and excluded business start-ups.¹⁸)

The history of these two federal programs tells an important story about best practices when it comes to setting cost-per-job thresholds. Created in 1981, the SBA 504 program was an early adopter of a cost-per-job standard, despite the fact that the HUD Section 108 program came into existence in 1974.¹⁹ The SBA standard also started out at the lower rate: as late as 1996, the Federal Register states that the SBA program had a \$35,000 per job threshold.²⁰ In a 1999 study, we at Good Jobs First documented the \$35,000 per job standard then in effect for both programs.²¹

Prior to 1992, the HUD program had no restrictions related to the cost per job. The initial standard was set *at \$3,000 per job*, but in 1994 HUD proposed to raise the threshold to \$10,000 per job. The initial standard appeared to be too constraining. Commenters successfully pushed HUD to set the standard much higher than \$10,000 per job. During its rule-making in 1995, a commenter argued that the \$35,000 cost per job was too high to ensure adequate public benefit, recommending instead that the standard be set between \$5,000 and \$10,000 per job; HUD rejected this argument as a means to allow a select handful of projects greater flexibility in the program.²²

HUD has stated that the \$35,000 cap is too high but provides flexibility in rare circumstances. The agency encourages local economic development organizations administering CDBG to strive to keep actual spending at or under \$10,000 per job.²³

In the years since, HUD Section 108 rules have remained the same. However, SBA rules have been loosened over time, first in 2003 when it was raised to \$50,000 per job,²⁴ then again in 2009 as part of the Recovery Act the requirement was lifted to \$65,000 per job (or \$100,000 for small manufacturers).²⁵

Far and away, training programs meet federal rules adopted to ensure adequate public benefit, but again and again subsidy “megadeals” exceed these very lenient standards.

European Union Aid-Intensity Limits

Finally, we offer another set of standards that could inform U.S. policy. Like cost-per-job caps, the European Union (EU) rules around aid intensity (the amount of subsidy divided by the amount of private capital investment made) could be another useful standard to promote cost-effectiveness and reduce sectoral distortions.

The Regional Aid Guidelines governing aid in the EU require that subsidies cause the least amount of distortion to trade and also pass their own sort of “public benefit” test by intentionally benefiting slow-growth areas, restructuring firms in difficulty, supporting research and development, limiting pollution, and achieving full employment.²⁶ Every region within the EU is assigned a maximum aid-intensity rate inversely proportional to the region’s GDP per capita relative to the EU average. As a result, larger packages are directed towards poorer areas and affluent regions may not award aid and compete with poorer areas.

(This policy also addresses the “reverse Robin Hood” problem that Good Jobs First has found in several studies looking at U.S. metro areas such as Detroit, Chicago, Minneapolis-St. Paul and Cleveland. In those studies, examining the geographic distributions of thousands of incentive deals, we have found subsidy programs to favor affluent areas over communities of color, areas hardest hit by plant closings, and localities suffering tax-base stress. We have also found the net effect of deals has been to make fewer jobs accessible via public transportation, disproportionately harming families of color who own the fewest cars.)²⁷

Currently, aid intensities in Western Europe top out at 35 percent.²⁸ Only the most impoverished portions of Eastern European countries, including parts of Poland, Romania, and Bulgaria, can exceed that maximum, generally up to 50 percent aid intensity.

U.S. megadeals frequently have aid intensity far beyond these EU levels. Using our megadeal dataset, it is possible to determine aid intensities on some 183 subsidy packages. We find that 71 of these packages have estimated aid intensities above 35 percent, and 42 megadeals have aid intensities greater than 70 percent.

Often the highest aid intensities were found in corporate headquarters deals such as American Water Works in Camden, New Jersey (821 percent), Marathon Petroleum in Findlay, Ohio (393 percent), and Nissan in Franklin, Tennessee (329 percent). As

well, two J.P. Morgan Chase packages in Jersey City, New Jersey received astronomical aid intensity (296 percent and 275 percent).

Policy Conclusion

States and localities can spend less and get more by avoiding megadeals and investing instead in workforce development, infrastructure, clusters and entrepreneurs. The trend in megadeals is far too costly, with hundreds of deals guaranteed to lose money for taxpayers—even assuming they remain open at current employment levels—while history tells us many will fail to do so.

By using the available toolkit of policy precedents, capping costs per job and capping aid intensity, governments can redirect their economic development budgets to lower-risk, higher-return investments. Let's put those buffalo muskets in a museum where they belong and start growing a smart skills future.

Notes

¹ U.S. Census Bureau, 2010-2014 American Community Survey 5-Year Estimates. Online at: http://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ACS_14_5YR_B07001&prodType=table

² Bartik, Timothy J., 2008. "The Revitalization of Older Industrial Cities: A Review Essay of Retooling for Growth." Upjohn Institute Working Paper No. 08-143. Kalamazoo, MI: W.E. Upjohn Institute for Employment Research. <http://dx.doi.org/10.17848/wp08-143>

The two papers from 2008 showing training programs to be much more effective than other incentives on a dollar-for-dollar basis are as follows (one looking at the state of Kentucky specifically and one surveying practices in numerous states and then focusing on Massachusetts):

Hollenbeck, Kevin, 2008. "Is There a Role for Public Support of Incumbent Worker On-the-Job Training?" Policy Paper No. 2008-001. Kalamazoo, MI: W.E. Upjohn Institute for Employment Research. <http://dx.doi.org/10.17848/pol2015-001>

Hoyt, William H., Christopher Jepsen, and Kenneth R. Troske. 2008. "Business Incentives and Employment: What Incentives Work and Where?" Working paper. Lexington, KY: University of Kentucky. http://www.igr.org/publication/ifir_working_papers/IFIR-WP-2009-02.pdf

³ Duscha, Steve, and Wanda Lee Graves, 2007. The Employer as the Client: State-Financed Customized Training 2006. U.S. Department of Labor, Employment and Training Administration Occasional Paper No. 2007-14. Washington, DC: U.S. Department of Labor.

⁴ Ibid.

⁵ Hoyt, William H., Christopher Jepsen, and Kenneth R. Troske, 2008. "Business Incentives and Employment: What Incentives Work and Where?" Working paper. Lexington, KY: University of Kentucky. http://www.igr.org/publication/ifir_working_papers/IFIR-WP-2009-02.pdf

⁶ Hollenbeck, Kevin, 2008. "Is There a Role for Public Support of Incumbent Worker On-the-Job Training?" op cit.

⁷ State of Washington Workforce Training and Education Coordinating Board. 2015. "Workforce Training Results 2015." <http://www.wtb.wa.gov/Documents/WorkforceTrainingResults2015.pdf>

⁸ Joint Legislative Audit and Review Commission, 2012. Report to the Governor and The General Assembly of Virginia. "Review of State Economic Development Incentive Grants." Senate document no. 8 (2013). <http://jlarc.virginia.gov/pdfs/reports/Rpt431.pdf>

⁹ Economic Development Department and Taxation and Revenue Department, August 23, 2012. Report to The Legislative Finance Committee. "Job Creation Incentives: The Job

Training Incentive Program, the Local Economic Development Act, and Select Economic Development Tax Expenditures.”

<https://www.nmlegis.gov/LCS/lfc/lfcdocs/perfaudit/Job%20Creation%20Incentives.pdf>

¹⁰ Office of Program Evaluation & Government Accountability of the Maine State Legislature, December 2006. A report to the Government Oversight Committee. “Economic Development Programs in Maine—EDPs Still Lack Elements Critical for Performance Evaluation and Public Accountability.”

<http://www.maine.gov/legis/oepga/reports/Economic%20Development%20Programs%202006/EcDev%20-%20Final%20Report.pdf>

¹¹ Bartik, Timothy J., 2006. “The Economic Development Benefits of Universal Preschool Education Compared to Traditional Economic Development Programs.” Report prepared for Committee for Economic Development. <http://research.upjohn.org/reports/41>

¹² Sharon Schmickle, MinnPost, April 16, 2012. “Making the case for early ed, Art Rolnick has had ‘enormous impact’ ” <https://www.minnpost.com/driving-change/2012/04/making-case-early-ed-art-rolnick-has-had-enormous-impact>

¹³ N.B.: our Megadeals database does not contain NAICS data and therefore these are roughly grouped according to what we know about the individual deal. Deals without known cost per job estimates were excluded. Data sourced from our Megadeals dataset from May of 2016.

¹⁴ Federal regulations about per job cost caps on Section 108 CDBG loans are contained within §570.482(f)(2)(i) accessible online at: http://www.ecfr.gov/cgi-bin/text-idx?c=ecfr&rgn=div5&view=text&node=24:3.1.1.3.4&idno=24#se24.3.570_1482

¹⁵ U.S. Department of Housing and Urban Development, Office of Community Planning and Development, 2010. “The Economic Development Toolkit: A Practical Guide to Constructing Your Economic Development Programs.”

http://www.hud.gov/offices/cpd/economicdevelopment/toolkit/edt_slides.pdf

¹⁶ SBA 504 Loan Fund eligibility rules available online at:

<https://www.sba.gov/offices/headquarters/oca/resources/5991>

<https://www.sba.gov/offices/headquarters/ofa/resources/4049>

¹⁷ Comptroller of the Currency Administrator of National Banks, US Department of the Treasury, March 2012. *Community Development Insights*. “SBA’s Certified Development Company/504 Loan Program: Small Businesses’ Window to Wall Street.”

<http://www.occ.treas.gov/topics/community-affairs/publications/insights/insights-occdmrm-504.pdf>

¹⁸ Ibid.

¹⁹ U.S. Department of Housing and Urban Development eligibility rules available online at: <https://www.hudexchange.info/programs/section-108/section-108-program-eligibility-requirements/>

²⁰ *Code of Federal Regulations*. “Business Loan Programs,” 13 CFR Parts 108, 116, 120, 122, 131 (1996). <https://www.gpo.gov/fdsys/pkg/FR-1996-01-31/pdf/96-1432.pdf>

²¹ Good Jobs First, February 1999. “Economic Development in Minnesota: High Subsidies, Low Wages, Absent Standards.” Page 49. <http://www.goodjobsfirst.org/sites/default/files/docs/pdf/mngif.pdf>

²² *Code of Federal Regulations*. “Special Activities by Community-Based Development Organizations (CBDs)” § 570.204 (Section 105(a)(15) of the Act (1995). Page 1939. <https://www.gpo.gov/fdsys/pkg/FR-1995-01-05/pdf/94-32151.pdf>

²³ Florida Department of Economic Opportunity. “ECONOMIC DEVELOPMENT APPROACHES USING COMMUNITY DEVELOPMENT BLOCK GRANTS (CDBG).” <http://www.floridaleagueofcities.com/Assets/Files/EconDev2.pdf>

²⁴ James E. Rivera, Associate Administrator For Financial Assistance, U.S. Small Business Administration, November 20, 2003. “504 Job Creation Adjustment.” <http://sbacomplete.com/wp-content/uploads/2012/01/5000-894-504-Job-Creation-Adjustment.pdf>

²⁵ Grady B. Hedgespeth, Director, Office of Financial Assistance, U.S. Small Business Administration, April 1, 2010. “Recovery Act - Changes to 504 Job Opportunity Requirements.” https://www.sba.gov/sites/default/files/bank_5000-1101.pdf

²⁶ Kenneth P. Thomas, University of Missouri-St. Louis, November 2007. “Investment Incentives: Growing use, uncertain benefits, uneven controls; An exploration of government measures to attract investment.” Prepared for the Global Subsidies Initiative (GSI) of the International Institute for Sustainable Development (IISD) Geneva, Switzerland Page 40. https://www.iisd.org/gsi/sites/default/files/GSI_Investment_Incentives.pdf

²⁷ Good Jobs First. “Subsidies and Sprawl.” <http://www.goodjobsfirst.org/smart-growth-working-families/subsidies-and-sprawl>

²⁸ European Commission on Competition, “Regional state aid, 2014-2017.” Map online at: http://ec.europa.eu/competition/state_aid/regional_aid/regional_aid_2014_2017.pdf