



The District's tax incentive strategy is unique



D.C. POLICY
CENTER

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The District's strategy for targeting industries, and the dollar value of incentives offered, is unique when compared to neighboring Baltimore, Maryland and Virginia Beach, Virginia, and other large cities around the country. The District's incentive-granting strategy relies primarily on local property tax abatements. Since D.C. is a local and state level government combined, the more frequent use of property tax abatements—which is a function of local tax authority—is not surprising. However, the paucity of other types of incentives in the District that are common elsewhere across the country warrants future study to determine the most effective incentive-granting strategy.

Further analysis reveals a lack of coherent targeting strategy in the ways the District uses tax incentives. Research suggests that tax incentives would be more efficient and effective if tax abatements more strategically targeted export-based industries—or sectors of the D.C. economy that primarily cater to tourists, commuters, and or sends products to those outside of the District.

Introduction

Tax incentives have recently endured public scrutiny as a tool for economic growth. In 2017, Amazon announced its plans to open a second headquarters, invest \$5 billion, and create 50,000 high-paying

jobs at a location that can provide sufficient inducements. Larry Hogan, the governor of Maryland, touted Amazon HQ2 as “... the single greatest economic development opportunity in a generation.” Across the country, 238 cities and localities including Maryland, Virginia, and the District of Columbia submitted bids offering billions in tax incentives. The District offered [a standard tax incentive package, which was, at the time](#), offered to all high technology companies and could have been worth somewhere between \$0.5 billion to \$1 billion;¹ Maryland offered the largest incentive package in the nation amounting to \$8.5 billion; the Commonwealth of Virginia offered \$573 million in performance-based incentives.² All three jurisdictions qualified as finalists but ultimately, Amazon chose Virginia’s National Landing site. [Good Jobs First](#), a non-partisan organization that tracks state and local tax incentives (along with other subsidies), reports that Amazon and its subsidiaries have received nearly \$3 billion in incentives for its warehouses, data centers, and film productions.

Tax incentives are very common

Because of its massive scale, the Amazon HQ2 bid is one of the most well-known examples of states using substantial tax incentives to lure relocating companies. But it is just one such instance among thousands.³

In the last two decades, incentive amounts paid have tripled, adding up to \$50 billion in state budgets annually.⁴ To compare, in 2018, all state and local government combined collected \$56 billion in corporate income taxes.⁵

States, faced with large budget shortfalls, have come under tremendous pressure to create jobs and strengthen their economies and have turned to business incentives as a policy tool. Today, virtually every state has at least one type of tax incentive program in place to influence firm expansion, relocation, and startup decisions. Yet, the effectiveness of incentives remains highly disputed. Critics question the government’s ability to pick the right winners and dismiss incentives as a wasteful redistribution of taxpayers’ money to large businesses. Those who favor incentives argue that targeting expansion and relocation of large firms is the best use of public resources. The justification is that large firms are not only the most productive and able to create high-paying jobs, but that over time, they also generate higher tax revenues for local governments.

One major analysis on incentives in the United States, conducted in 2012 by the [Pew Center on the States](#), finds that at least half of states included in the study have introduced incentives without conducting rigorous program evaluations for accountability. Thirteen states (characterized as “Leading the way” in the report) were using program evaluations to measure the effectiveness of state business incentives. Twelve states (“Mixed results”) had mixed results and the other 25 states, including

¹ D.C.’s [Qualified High Technology Company \(QHTC\)](#) are tax benefits to companies that deliver technology product or services. The package consists of a combination of discounts on property, sales, and corporate franchise taxes over a 15-year period. Since then, D.C. has significantly pared back the QHTC program.

² Maryland’s incentive package included \$3 billion tax credits and exemptions spread out over the 15 years, over \$5 billion in infrastructure improvements, and \$150 million in direct grants to Amazon from the state Sunny Day Fund — \$10 million a year for 15 years.

³ In 2012, the [New York Times](#) conducted a 10-month investigation and put together a searchable database on business incentives. It identified 48 companies that have received more than \$100 million in state grants since 2007. Some 5,000 other companies have received more than \$1 million in recent years.

⁴ By some estimates, total incentives offered across the country are as high as \$80 billion annually. Amazon HQ2 was a discretionary mega deal, but many incentives are non-discretionary, meaning that any eligible firm can apply.

⁵ According to the U.S. Census Bureau, the total amount of state and local tax revenue (excluding intergovernmental revenue, charges and fees, utility revenue, and unemployment taxes) was \$1.76 trillion [in 2018](#).

Washington, D.C., (“Trailing behind”) lacked evaluation criteria to measure scope or quality of incentives. However, according to the study, “No state regularly and rigorously tests whether [their incentives] are working and ensures lawmakers consider this information when deciding whether to use them, how much to spend, and who should get them.”

Until recently, rigorous program evaluations were sparse among researchers and state agencies due to lack of available data and methodological issues, despite being necessary to inform lawmakers and improve policy choices. While Pew Charitable Trusts notes in a follow up study that 27 states and the District of Columbia have made progress in gathering evidence on the outcomes of tax incentives, additional research and evaluation can strengthen policy decisions. When properly reviewed and the key results integrated into policy deliberations, tax incentives can be an effective engine of job growth in the short-term, but more importantly, of economic growth in the long-term.

States - even those that share a border - have adopted vastly different incentive-granting strategies.

Some of key differences include *what type* of incentives are offered, *how much* are offered, and *what* sectors are targeted. In this sense, incentives provide a useful context for understanding a state’s economic development strategy. Often researchers will analyze outcomes of competing business incentives at inter-state borders to determine whether the use of incentives is beneficial, or if instead they lead to wasteful competition as companies pit one jurisdiction against another to maximize their “relocation” benefits at the expense of taxpayers. The textbook example of wasteful competition is the [border war](#) between Kansas and Missouri, which resulted in approximately 10,000 jobs moving between two states at an incentive cost of \$330 million, for a net gain to Kansas of only 1,200 jobs.

But is this a universal story? And is this the case in our region? Are incentives purely creating handouts to companies without generating the hoped-for positive employment and economic benefits? To assess this, I study the Washington D.C. metropolitan area and describe how three adjacent jurisdictions took three different economic development incentives strategies. Specifically, I evaluate tax incentives in the District and compare them to the incentives offered in adjacent jurisdictions in Maryland and Virginia; specifically, Maryland’s largest city, Baltimore, and Virginia’s largest city, Virginia Beach, as well as the national average. I compare and contrast incentives offered by type, amount, and sector.

The main findings from this analysis are the following:

- The District’s incentive-granting strategy relies primarily on property tax abatements. By comparison, Baltimore relies on job creation tax credits and research & development tax credits. Virginia relies on job creation tax credits and customized job training subsidies. The remarkable similarity in industry-targeting of job creation tax credit policies in Maryland and Virginia provide suggestive evidence of competitive behavior.
- In the District, taxes and tax incentives are positively correlated, meaning that industries with high tax rates get high tax incentives. By contrast, in Baltimore and Virginia Beach, taxes and tax incentives are negatively correlated, meaning that industries with low tax rates get high tax incentives. This suggests that unlike in the District, these two cities use tax rates and tax incentives together to make strategically important industries more appealing to businesses.
- The District offers some of the nation’s highest tax incentives when measured as a share of the industry value-added. For example, the District’s industry with highest incentives receives tax

incentives that are nearly 10 times higher than industries with highest tax incentives in Baltimore or Virginia Beach. Its tax rates are similar to the national average. Therefore, tax incentive recipients benefit from tax rates below national averages.

- The District appears to lack a coherent incentive-granting strategy. Many non-export based industries are given some of the highest tax incentives while some export-based industries are given some of the lowest tax incentives.

What are tax incentives for economic development?

Incentives are “tax breaks, cash grants, loans, or services” that target individual firms or industries with the objective of promoting job growth. Timothy Bartik, economist at [W.E. Upjohn Institute](#) and the foremost expert on the topic, [classifies](#) incentives into five broad types: property tax abatements, investment tax credits, job creation tax credits, R&D tax credits, and customized job training subsidies.

Table 1. Estimated annual tax expenditures on state and local tax incentives, by type of incentive

Level of government	Type of incentive	Estimated Tax expenditures
Mostly local	Property tax abatement	\$14 billion
Mostly state	Investment tax credit	\$7 billion
	Job creation tax credit	\$19 billion
	R&D tax credit	\$7 billion
Mixed federal/state/local	Customized job training subsidy	\$3 billion
Grand total		\$50 billion

Source: Bartik (2019)



The [primary objective](#) of incentives is to promote local investment and hiring. Following the [Great Recession](#), states have become hard-pressed to create jobs, protect jobs, and reduce high unemployment rates. Many have turned to tax incentives to accomplish these goals. These pressures are only amplified by the pandemic-induced economic recession.

The [primary target](#) of incentives is the relocation and expansion of large firms.⁶ Incentives target large firms for their ability to both create many high-paying jobs and make significant capital investments.

Business incentives offered by state and local governments are substantial at around \$50 billion annually for export-based industries (See Table 1). This amounts to about 1.4 percent of all [industry value-added](#)—how much that industry contributes to the GDP—and about 30 percent of the average state and local tax liability to businesses (Bartik 2017). These numbers are also comparable to [state corporate income tax revenue](#), which was \$45 billion in 2013.

Who gets tax incentives?

Incentives [go to firms in virtually every industry](#) both large and small, profitable and unprofitable, domestic and foreign. The largest incentive deals nationally are found in the manufacturing sector, oil and coal conglomerates, technology and entertainment companies, and banks and retail chains.

⁶ Typically, in the US context, firms employing less than 500 employees are considered small businesses. But often, large firms is used more loosely to refer to firms employing more than 100 employees.

Research suggests that states can get the best “return on investment” by targeting export-based industries. This is because export-based industries have the highest employment multiplier effect.⁷

What is an Employment Multiplier effect?

The employment [multiplier](#) is one type of measure used to determine the impact a particular industry will have on the local economy upon its arrival or departure. It estimates the total jobs generated as a result of one job in that industry. According to [Upjohn Institute](#)’s estimates, high-tech sectors is believed to have highest multipliers, as high as 2.9. That is, for each new high-tech job in a city, 1.9 additional jobs are created (e.g., lawyers, teachers, nurses, waiters, hairdressers).

When studying tax incentives, economists like to distinguish between export-based industries and non-export industries. An export-based industry refers to a sector in which goods and services produced locally are “exported” (not necessarily to other countries but other areas) and consumed outside the local economy. For example, publishing (which falls under the “Information” classification) is generally considered export-based: almost all the work that goes towards producing Washington Post happens in D.C., but readership is spread across nation. In contrast, real estate is generally considered non-export-based since almost all the work done by realtors is consumed by D.C. residents. (See Table 2).

Table 2. List of 16 Industries in the Panel Database of Incentives and Taxes

Industry	Naics	Export-based
Construction	23	
Manufacturing	31-33	X
Wholesale trade	42	
Retail trade	44-45	
Transportation and warehousing	48-49	X
Information	51	X
Finance and insurance	52	X
Real estate and rental and leasing	53	
Professional, scientific, and technical services	54	X
Management of companies and enterprises	55	X
Administrative and support and waste management and remediation services	56	
Educational services	61	
Health care and social assistance	62	
Arts, entertainment, and recreation	71	X
Accommodation and food services	72	
Other services (except public administration)	81	

Source: [Panel Database of Incentives and Taxes](#) (2017)
 Note: Bureau of Economic Analysis industry classifications. Manufacturing (31-33) is an aggregate average of 3-digit NAICS codes: 311, 312, 313, 314, 315, 316, 321, 322, 323, 324, 325, 326, 327, 331, 332, 333, 334, 335, 336, 337, and 339. Retail (44-45) is an aggregate average of 3-digit NAICS codes: 441, 442, 443, 444, 445, 446, 447, 448, 451, 452, 453, and 454. Transportation and Warehousing (48-49) is an aggregate average of 3-digit NAICS codes: 481, 483, 484, 485, 486, 487, 488, 492, and 493. All 16 aggregated industry averages are weighted based on 2011 national industry value-added for 45 industries. Export-base designation for 45 industries is computed by Bartik (2017) determined based on preliminary work looking at how much the location quotient of each industry varies across metropolitan areas. An industry’s location quotient in the metropolitan area is equals the share of the area’s employment in that industry divided by the national share for the same industry. Of the 45 industries, mostly 3-digit level, thirty-one of these industries is considered to be export-based. These industries are comprised of 18 manufacturing industries and 13 non-manufacturing export-base industries, such as professional services. Taking a conservative approach, out of 16 aggregated industries, 7 are considered export-based. Finance and Insurance (52) is composed of two non-export sectors (522, 523) and one-export sector (524). Professional, scientific, and technical services consists of one non-export sector (5411) and two export sectors (5415, and 54 excluding 5411, 5415). Administrative and support and waste management and remediation services (56) consists of one non-export sector (561) and one export sector (562). Arts, entertainment, and recreation (71) consists of consists of one non-export sector (713) and two export sectors (711, 712). Accommodation and food services (72) consists of one non-export sector (722) and one export sector (721). See the appendix for all 45 corresponding industry names.



⁷ Industry targeting involves giving benefits to certain sectors that are not given to all sectors.

Research suggests that targeting export-based industries is the most effective incentive-granting strategy. These industries are more likely to create many jobs in the local economy. Giving incentives to non-export industries is likely to displace jobs at existing local non-export industries. Consider that a large retailer, like Walmart, offers to invest in the local economy and hire workers in return for state business incentives. Walmart is in the retail industry, which a non-export sector with low multiplier effect. If Walmart enters the local market and creates 500 jobs but wipes out 600 jobs in local grocery businesses – the result will be a net decline in 100 jobs, a displacement effect. Given that tax incentives are large, it is likely that the retailer’s long-run tax contribution to the state will be less than the total tax contribution of all mom-and-pop shops, leading to a decline in the total tax revenue for the state.

The next section introduces the database used for the analysis. We use the database to identify which of District’s industries receive property tax abatements as well as the value of the assessment. Next, we compare District’s state and local business incentives with other jurisdictions.

About the data

The [Panel Database of Incentives and Taxes \(PDIT\)](#) estimates marginal business taxes and business incentives for 47 cities in 33 states across 45 industries for a 26 year span, between 1990 and 2015 (See Appendix B for the full list of cities). The 33 states compose more than 90 percent of U.S labor compensation.⁸ This constitutes the most comprehensive database on incentives and taxes to date, including all five major types of incentives: property tax abatements, customized job training subsidies, investment tax credits, job creation tax credits, and research and development tax credits.

State and local taxes and incentives are calculated for each year of the assumed 20 years of operation of the new facility, using:

1. Balance sheet information
2. Information on state and local tax rates
3. Information on how incentives are determined based on firm characteristics.

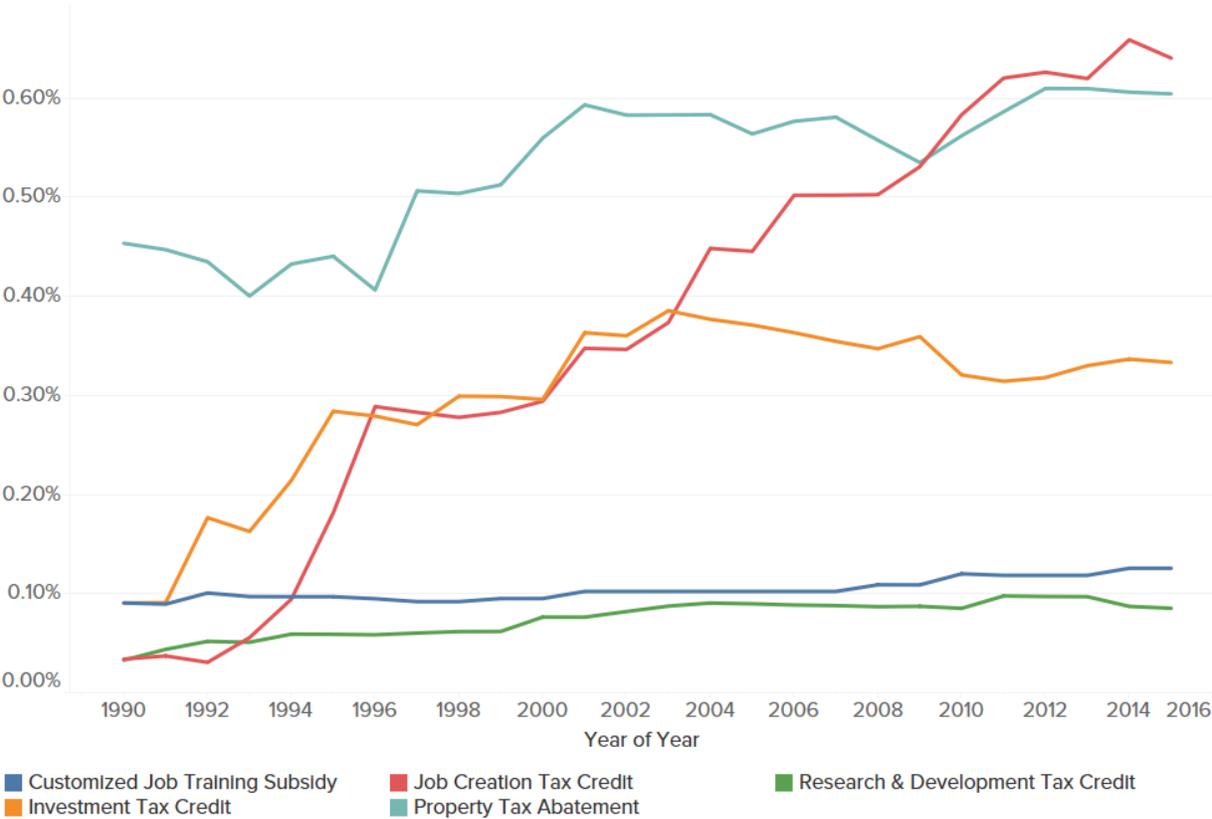
The PDIT database computes present the value of taxes and incentives as a percentage of the present value of the new facility’s value-added over the same 20 years using a discount rate of 12 percent.⁹ The database does not aim to include all incentives but rather include the incentives that are *commonly used* by medium to medium-large export-base firms. The database does not include incentives rarely used or those that only apply to a few very large firms.

⁸ The Council for Community and Economic Research (C2ER) maintains a state incentives database with a detailed description of each incentive program but does not provide information on the magnitude of incentives or jobs created/promised. The National Association of State Development Officers (NASDA) annual report also provides incentive summaries. Arguably the best available database on incentives is Good Jobs First’s Subsidy Tracker, which contains profiles of state incentives and incentive history. However, the major limitation of these databases is the lack of different incentives’ magnitude that vary across state, industry, and year. This is where simulations are most useful. Using a simulation, it is possible to predict what would happen if incentives are modified. The previous attempt to simulate the magnitude of incentives was done by Peters and Fisher (2002), but its data extended only from 1990 to 1998. Cline, Phillips, and Neubig (2011) is probably the latest attempt but again is limited to only a few years and a few industries. Bartik (2017) collects data on the rules of each tax and incentive (by type) offered in a locality/state and predicts incentive magnitude, given estimated activity. The drawback of this rule-based approach is that certain assumptions need to be made about balance sheet of firms. More recently, Slattery (2019) and Slattery and Zidar (2020) proposed expenditure-based and narrative-based measures for state business incentives. These measures provide actual outlays for each program and credit year and allow the researcher to examine individual discretionary incentives. But these alternative measures are available only at the state-level, cannot differentiate by incentive type, and do not observe the contract or rules.

⁹ The 12 percent discount rate is based on research on typical discount rates used by corporate executives (Poterba and Summers 1995). $Net\ Present\ Value_{ist} = \sum \frac{Value\ added}{(1.12)^{20}}$ where $Value\ added = Output - Material\ Cost$. And, the measure included in PDIT is $\% of\ NPV\ of\ Value\ Added_{ist} = \frac{NPV\ of\ tax\ credits\ and\ incentives}{NPV\ of\ total\ value\ added}$.

Figure 1 shows that, for unweighted averages between 1990 and 2015, job creation tax credits and property tax abatements receive the highest amount of incentives as a percent of “value-added”.¹⁰ In 2015, tax incentives for new or expanding businesses in export-industries had a present value that averaged 1.42 percent of business-value added, which is about 30 percent of average state and local business taxes.

Figure 1. Economic Development Incentives as Percent of Business "Value-Added"



Source: Panel Database of Incentives and Taxes (2017)
 Note: 1990-2015. 33 states, 31 industries. Export-base sectors only. In 2018 dollars. The cost estimates derived from Bartik (2019)



State and local business incentives offset a substantial percentage of taxes for businesses, although this amount represents only a small amount of total business expenses. For an average firm that receives incentives, tax incentives offset about 30 percent of the *overall state and local business taxes* that the firm would be obligated to pay otherwise – a substantial amount. However, in terms of the *size of business activity*, average business incentives subsidize only 3 percent of the firm’s wages for 20 years or on average about 5 percent of the value of a business’ productive activity (which is referred to as “value-added”).¹¹ Another way to think about it is in terms of overall state and local budgets. Tax

¹⁰ The database uses Bureau of Economic Analysis’s (BEA) statistics on value added. The [BEA definition](#) is “The gross output of an industry or a sector less its intermediate inputs; the contribution of an industry or sector to gross domestic product (GDP). Value added by industry can also be measured as the sum of compensation of employees, taxes on production and imports less subsidies, and gross operating surplus.” For example, when a baker makes and sells a cake, the baker’s value added is the market price of the cake minus the input costs.

¹¹ Refer to Table 3 in Bartik (2017)

incentives comprise only about 3 to 5 percent of [total state and local annual tax revenue](#) of \$ 1.1 trillion (for 2019).

The usefulness of tax incentives in DC is limited by the make-up of its sectors

The District takes a very different approach to state business incentives when compared to neighboring jurisdictions in Maryland and Virginia.

The District offers a different mix of tax incentives than Baltimore or Virginia Beach. The District's incentive-granting strategy relies primarily on local property tax abatements. According to the Subsidy Tracker, the recipients of the District's largest property tax abatements were Gallery Place (\$84 million) for mixed-use development in 1999, and the Advisory Board Co. (\$60 million) for its corporate headquarter relocation in 2015 (See Appendix C for a selected list of abatements). By contrast, at the city level, neither Baltimore nor Virginia Beach have major property tax abatements.¹²

At the state level, Maryland's tax incentives principally depend on job creation tax credits and research & development tax credits. Virginia's tax incentives principally rely on job creation tax credits and customized job training subsidies. Interestingly, job creation tax credits in Maryland and Virginia are remarkably similar in industries they target. The remarkable similarity in industry-targeting of job creation tax credit policies in Maryland and Virginia provide suggestive evidence of competitive behavior.

The District's highest tax incentives correspond to high tax rates, diverging from strategies in Baltimore and Virginia Beach. In the District, industries with highest tax rates receive the highest tax incentives. By contrast, in Baltimore and Virginia Beach, many industries with low tax rates receive some of the highest tax incentives. These patterns suggest that Baltimore and Virginia Beach are more selective in what industries they target. Consider, for instance, that Virginia offers tax incentives only in nine out of sixteen industries. Clearly, the objective is to incentivize business activity in certain industries over others. By contrast, the District offers tax incentives across all sixteen industries.

The District offers much higher tax incentives than Baltimore or Virginia Beach. The second column in Table 3, below, quantifies the tax incentives in terms of percent of present-value of value-added. The District's highest tax incentives are ten times larger than the largest tax incentives in Baltimore or Virginia Beach. In addition, the District's lowest tax incentive in "Professional, Scientific, and Technical Services" is as large as the highest tax incentive in Baltimore or Virginia Beach.

The District offers tax incentives to all industries while Baltimore and Virginia Beach employ a more targeted incentive strategy. As discussed earlier, research suggests that state and local policymakers ought to target export-based industries, which not only have highest job multipliers but also are less likely to result in job displacement. Notice that two of District's top five industries receiving tax incentives are non-export base industries, while several of export-based industries ("Management of Companies and Enterprises"; "Transportation and Warehousing"; and, "Professional, Scientific, and

¹² It is worth noting that property tax abatements are locally-determined, while all other tax incentives (e.g., job creation tax credits, research & development tax credits, and customized job training subsidies) are state-determined.

Technical Services”) rank low. By contrast, all of Baltimore’s top five industries and four of Virginia Beach’s top five industries are all export-based industries (See Table 3).

Table 3. Comparison of Tax Rates and Tax Incentives in the District, Baltimore, and Virginia Beach, 2015

Panel A: Washington, D.C.

Industry	Export-based	Total Tax	Total Incentives	Net Tax	Incentives /Tax	Tax Rank	Sum of Incentives Rank	Net Tax Rank	Incentives /Tax Rank
Real Estate and Rental and Leasing		0.129	0.06	0.08	42.2%	1	1	1	1
Information	x	0.079	0.03	0.05	35.4%	2	2	3	3
Educational Services		0.075	0.02	0.05	32.5%	3	3	4	4
Manufacturing	x	0.062	0.02	0.04	32.4%	8	4	8	5
Arts, Entertainment, and Recreation	x	0.064	0.02	0.05	29.6%	6	5	7	9
Finance and Insurance	x	0.064	0.02	0.05	26.4%	5	6	6	11
Other Services (except Public Administration)		0.052	0.02	0.04	31.9%	10	7	10	6
Accommodation and Food Services		0.055	0.02	0.04	29.8%	9	8	9	7
Retail Trade		0.044	0.02	0.03	35.6%	12	9	13	2
Health Care and Social Assistance		0.050	0.02	0.04	29.7%	11	10	11	8
Management of Companies and Enterprises	x	0.062	0.01	0.05	20.4%	7	11	5	14
Construction		0.074	0.01	0.06	14.9%	4	12	2	16
Transportation and Warehousing	x	0.044	0.01	0.03	24.2%	13	13	12	13
Wholesale Trade		0.031	0.01	0.02	29.1%	16	14	16	10
Administrative and Support and Waste Management and Remediation Services		0.034	0.01	0.03	24.5%	15	15	15	12
Professional, Scientific, and Technical Services	x	0.034	0.01	0.03	16.7%	14	16	14	15

Panel B: Baltimore, Maryland

Manufacturing	x	0.035	0.01	0.03	15.7%	14	1	16	1
Information	x	0.097	0.00	0.09	3.9%	3	2	3	4
Professional, Scientific, and Technical Services	x	0.032	0.00	0.03	6.1%	16	4	15	2
Transportation and Warehousing	x	0.049	0.00	0.05	4.3%	12	3	12	3
Accommodation and Food Services		0.068	0.00	0.07	1.0%	8	6	9	6
Arts, Entertainment, and Recreation	x	0.078	0.00	0.08	0.7%	5	8	5	8
Finance and Insurance	x	0.069	0.00	0.07	0.9%	6	7	6	7
Management of Companies and Enterprises	x	0.068	0.00	0.07	1.6%	7	5	8	5
Administrative and Support and Waste Management and Remediation Services		0.036	0.00	0.04	0.5%	13	10	13	9
Construction		0.078	0.00	0.08	0.1%	4	14	4	11
Educational Services		0.100	0.00	0.10	0.1%	2	15	2	15
Health Care and Social Assistance		0.059	0.00	0.06	0.1%	10	12	10	13
Other Services (except Public Administration)		0.067	0.00	0.07	0.1%	9	13	7	14
Real Estate and Rental and Leasing		0.150	0.00	0.15	0.0%	1	16	1	16
Retail Trade		0.056	0.00	0.06	0.1%	11	11	11	12
Wholesale Trade		0.035	0.00	0.04	0.3%	15	9	14	10

Panel C: Virginia Beach, Virginia

Transportation and Warehousing	x	0.029	0.01	0.02	20.4%	12	1	12	1
Management of Companies and Enterprises	x	0.040	0.00	0.04	7.1%	6	2	6	4
Manufacturing	x	0.020	0.00	0.02	13.0%	13	3	15	3
Professional, Scientific, and Technical Services	x	0.019	0.00	0.02	13.4%	15	4	16	2
Accommodation and Food Services		0.038	0.00	0.04	4.6%	7	5	9	5
Information	x	0.051	0.00	0.05	3.0%	4	6	4	7
Arts, Entertainment, and Recreation	x	0.044	0.00	0.04	3.0%	5	8	5	8
Finance and Insurance	x	0.038	0.00	0.04	3.7%	8	7	8	6
Administrative and Support and Waste Management and Remediation Services		0.020	0.00	0.02	1.7%	14	9	13	9
Construction		0.061	0.00	0.06	0.0%	2	0	2	0
Educational Services		0.057	0.00	0.06	0.0%	3	0	3	0
Health Care and Social Assistance		0.033	0.00	0.03	0.0%	10	0	10	0
Other Services (except Public Administration)		0.037	0.00	0.04	0.0%	9	0	7	0
Real Estate and Rental and Leasing		0.072	0.00	0.07	0.0%	1	0	1	0
Retail Trade		0.030	0.00	0.03	0.0%	11	0	11	0
Wholesale Trade		0.019	0.00	0.02	0.0%	16	0	14	0

Source: [Panel Database of Taxes and Incentives](#) (2017).

Note: The tables are ranked based on total incentives in Column 2. 45 Industries are aggregated up into 16 industries at the two digit NAICS code. The first three columns show present value of taxes, incentives, and the net rates as percent of value-added. The present value is calculated using 12 percent discount rate, for a new facility begun in 2015, and operated at the same scale for 20 years. The fourth column measures total incentives as percent of total state and local taxes. The next four columns are rankings based on the first four column values. The last column denotes whether the industry is considered an export-base or non-export base. The table is ordered based on Incentives rank column. The District offers only property tax abatements. Maryland offers job creation tax credits and research & development tax credits. The Commonwealth of Virginia offers job creation tax credit and customized job training subsidies.



D.C. tax incentives tend to target non-export base industries

Figure 3 compares taxes and tax incentives of the District, Baltimore, and Virginia Beach to the national averages based on 2015 data. Panel A displays tax incentives as percent of total state and local taxes (total incentives / total tax * 100). Panel B displays total taxes, and Panel C, total incentives. Panel D displays the difference between total tax and total incentives (total tax – total incentives).

The District offers high tax incentives to some non-export based industries and offers low tax incentives to some export-based industries. The District's most generous tax incentives are in "Real Estate and Rental and Leasing," a non-export based industry; on average, recipient of tax incentives in this industry will get a 40 percent discount on the tax liabilities compared to others (See Panel A). Although the industry has comparable tax rates to the national average and slightly lower tax rates than Baltimore, once accounting for generous tax incentives, the difference widens, such that a recipient of tax incentives pays lower taxes than the national average and the non-recipient pays higher taxes than the national average (Panel B is the tax liability of the non-recipient and Panel D is the tax liability of the recipient). The District's unusual targeting of this industry is perhaps reflective of the federal government's presence.

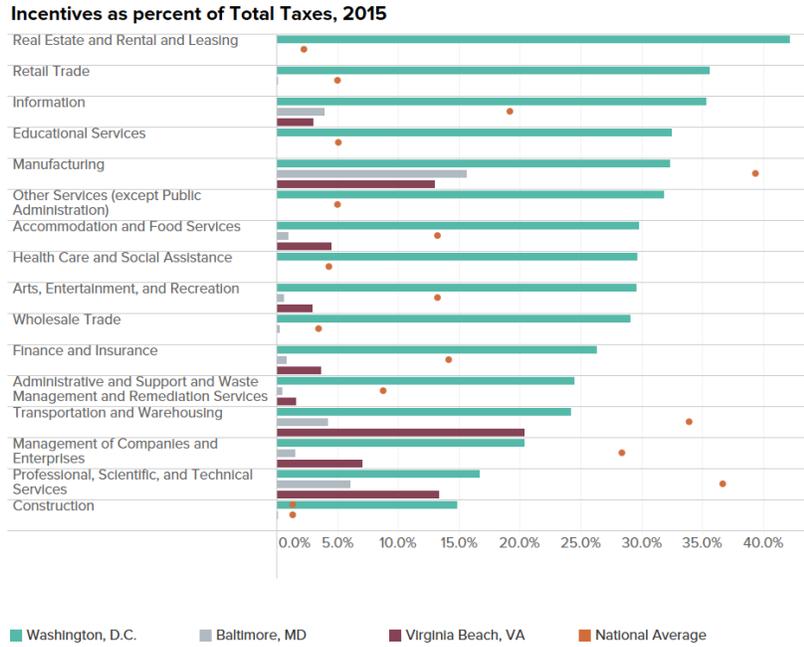
Another unusually targeted industry is the "Retail Trade," also a non-export based industry. This is, at least in part, reflecting the District's "[Supermarket Tax Incentives](#)." Through the Supermarket Tax Exemption Act of 2000, the District waives certain taxes and fees to grocery stores that locate in specific neighborhoods, in order to encourage local development and investment in areas lacking access to groceries.

But what is rather most unusual about the District's incentive-granting strategy is the absence of targeting in "Professional, Scientific, and Technical Services," an export-based industry. Nearly a quarter of the District's establishment expansion is found in this industry (See Appendix A for the industry breakdown of each local economy). More so than Baltimore or Virginia Beach, the District already has agglomeration economies in this industry and could better harness this advantage.

The District's targeting of "Real Estate and Rental and Leasing" and "Retail Trade," and the lack of targeting in "Professional, Scientific, and Technical Services" suggests a need for rigorous program evaluation to inform lawmakers and improve policy choices. There are many questions that arise, such as: Are the District's generous tax incentives justified or should they be reduced across the board? Should the District discontinue tax incentives in certain industries and increase on others? Should the District adopt a mix of tax incentives rather than relying so heavily on property tax abatements? The only way to answer these questions is through continued program evaluation.

Figure 3. Comparison of Taxes and Tax Incentives to the National Average, 2015

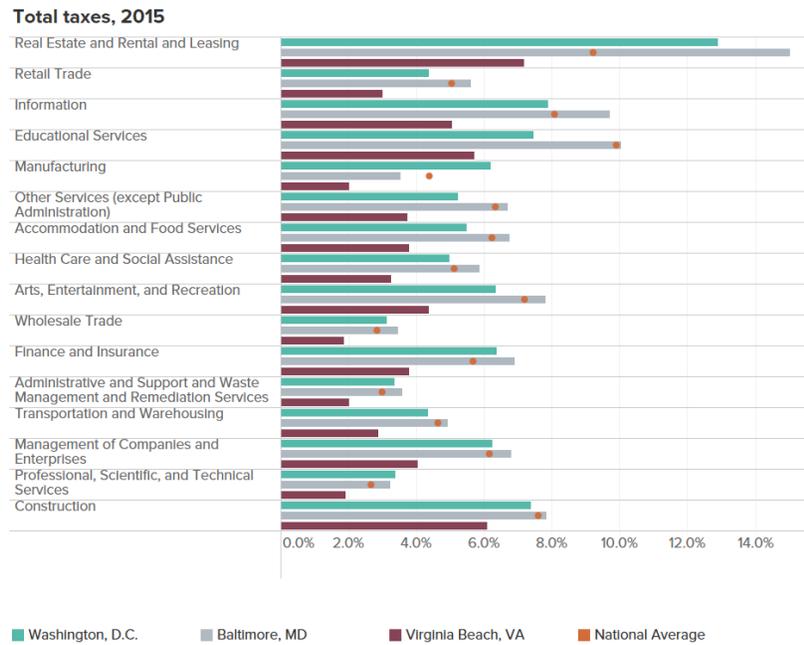
Panel A: Incentives as % of Total Taxes, 2015



Source: Panel Database of Incentives and Taxes (2017)
 Note: The national average is computed as an unweighted average of 16 aggregated industries in 33 states for 2015. The Figure is ranked by the District's highest to lowest.



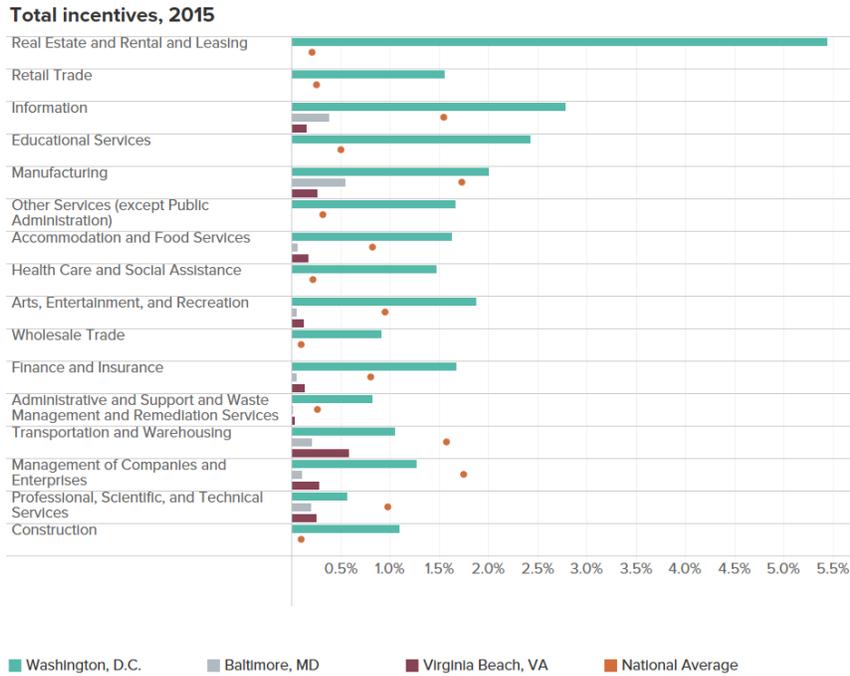
Panel B: Total Taxes, 2015



Source: Panel Database of Incentives and Taxes (2017)
 Note: The national average is computed as an unweighted average of 16 aggregated industries in 33 states for 2015. The Figure is ranked by the District's highest to lowest.



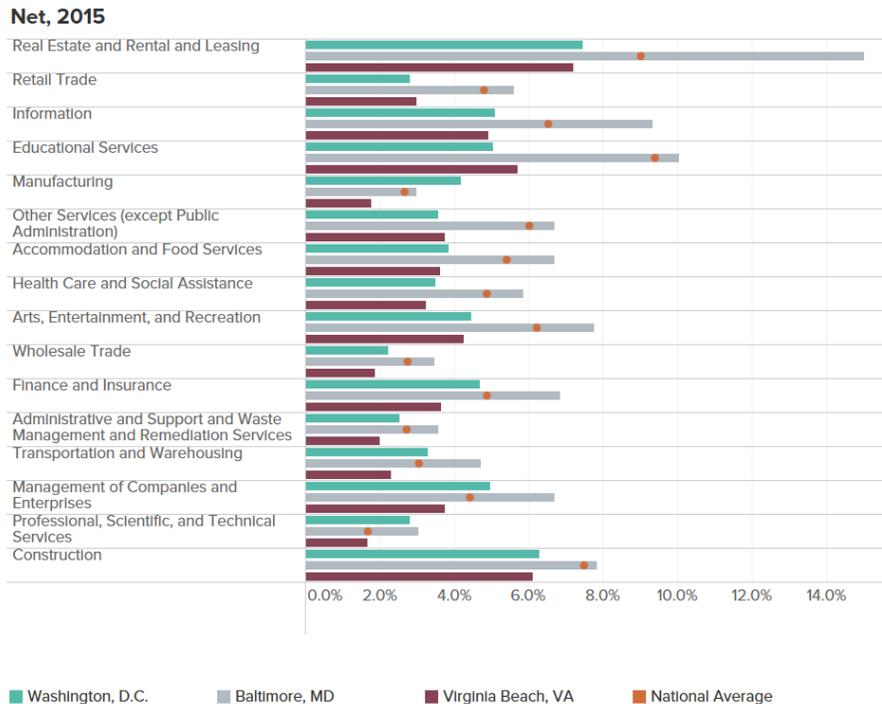
Panel C: Total Incentives, 2015



Source: Panel Database of Incentives and Taxes (2017)
 Note: The national average is computed as an unweighted average of 16 aggregated industries in 33 states for 2015.
 The Figure is ranked by the District's highest to lowest.



Panel D: Net, 2015



Source: Panel Database of Incentives and Taxes (2017)
 Note: The national average is computed as an unweighted average of 16 aggregated industries in 33 states for 2015.
 The Figure is ranked by the District's highest to lowest.



The District's tax incentives are exceptionally high compared to the national average, while its tax rates are just around the national average. The District has higher tax incentives than the national average in 12 of 16 industries; by contrast, incentives in Baltimore and Virginia Beach are low compared to the national averages (See Panel A and C). The District's tax rates are just around the national average, with the exception of "Real Estate and Rental and Leasing" (See Panel B). As a result, the difference in tax obligation for the District's tax incentive recipients and non-recipients is large. In theory, if these tax incentives are effective in targeting productive firms and promoting productive behavior, policy impact will be large. However, if they are ineffective in targeting and incentivizing productive behavior, the policy can generate adverse effects.

According to the aforementioned 2012 study conducted by [Pew Center on the States](#), the District, along with 25 other states, did little to nothing to evaluate the effectiveness of tax incentives. In fact, a 2011 study, conducted by [Good Jobs First](#), investigated how well state subsidy programs delivered on jobs and ranked the District last, behind 50 states. Unlike other states, the District did not have requirements on how long new jobs should last, what benefits should be provided, or how close wages should be to market-rate. [WAMU's five-part special investigation](#) in 2013 found evidence of political favoritism in the District's tax incentive granting. Elected officials received more than \$2.5 million in campaign cash from groups receiving the subsidies; in return, those officials approved \$1.7 billion in tax breaks and discounted land deals between 2000 and 2010.

Since then, the District has made significant progress. The Pew Charitable Trusts' 2017 [national assessment of evaluation practices](#), the most recent study of its kind, finds an overall improvement in states' evaluation of incentives. The District also enacted tax incentive evaluation law in 2014, authorizing Office of the Chief Financial Officer to periodically review incentives every five years.

Upcoming analyses

This study's aim was to conduct a rigorous analysis of the District's incentives and propose actionable policy recommendations. This study finds that when compared to Baltimore, Maryland and Virginia Beach, Virginia, the District's tax incentive strategy could be more targeted. The most immediate way to improve the District's tax incentive strategy is to target export-based industries.

[The Washington DC Economic Partnership](#) has laid out the District's six key industries (hospitality, professional services, data science & analytics, tech, retail, and security technology). In the light of the findings of this study, do all six industries merit targeting, or should some industries be given greater priority? Retail, for example, is a non-export industry that poses risks of job displacement. My research suggests that targeting export-based industries is as important as recognizing one's *local comparative advantage*, and as such, is an important factor to the District's competitiveness. A well-targeted incentive strategy aligns the incentives to local comparative advantages. Professional services and technology industries are some of the most prominent export-based industries, but is the District's economy able to produce certain goods and services in that particular industry at a lower opportunity cost to those of other localities? Future analysis will examine the District and surrounding jurisdictions to determine if they are giving incentives and resources to industries in which they have a comparative advantage. Additionally, future analyses will explain what the District's local comparative advantage is and whether tax incentives are well-aligned with its local comparative advantage.

Appendix A. The Industrial Composition of the Local Economies, 2015

Panel A: Washington, D.C.

Industry	Export-based	Establishment Birth	Establishment Death	Establishment Expansion	Establishment Contraction
Professional, Scientific, and Technical Services	x	26.2%	27.2%	23.4%	21.3%
Other Services (except Public Administration)		9.9%	12.3%	19.9%	19.6%
Accommodation and Food Services		11.4%	12.7%	13.3%	15.6%
Health Care and Social Assistance		8.0%	7.2%	10.2%	9.2%
Retail Trade		7.9%	7.0%	6.5%	8.1%
Administrative and Support and Waste Management and Remediation Services		7.3%	7.1%	4.9%	5.1%
Finance and Insurance	x	3.7%	6.3%	3.9%	4.3%
Real Estate and Rental and Leasing		8.2%	5.3%	3.7%	4.1%
Educational Services		2.8%	1.6%	3.4%	2.7%
Information	x	2.9%	3.1%	3.2%	3.0%
Construction		3.4%	2.1%	2.3%	2.2%
Arts, Entertainment, and Recreation		2.2%	1.6%	1.5%	1.2%
Wholesale Trade		2.2%	3.6%	1.4%	1.6%
Management of Companies and Enterprises	x	1.0%	0.5%	1.0%	0.8%
Transportation and Warehousing	x	0.8%	0.4%	0.7%	0.6%
Manufacturing	x	0.4%	0.2%	0.5%	0.3%

Panel B: Baltimore, Maryland

Construction		10.9%	11.5%	14.6%	15.5%
Information	x	19.1%	17.2%	12.8%	11.6%
Retail Trade		10.0%	8.9%	12.7%	11.6%
Accommodation and Food Services		8.7%	8.5%	10.3%	12.6%
Other Services (except Public Administration)		11.7%	11.5%	10.0%	9.2%
Health Care and Social Assistance		8.1%	7.9%	9.2%	9.6%
Wholesale Trade		6.7%	7.3%	6.0%	5.9%
Finance and Insurance	x	5.7%	7.0%	5.2%	5.1%
Administrative and Support and Waste Management and Remediation Services		3.2%	5.0%	4.7%	4.1%
Real Estate and Rental and Leasing		4.8%	4.4%	3.4%	3.0%
Manufacturing	x	1.7%	2.1%	2.8%	2.9%
Transportation and Warehousing	x	3.5%	3.0%	2.7%	2.6%
Educational Services		1.3%	1.1%	1.8%	1.6%
Arts, Entertainment, and Recreation		1.5%	1.5%	1.5%	1.8%
Professional, Scientific, and Technical Services	x	1.5%	1.9%	1.3%	1.9%
Management of Companies and Enterprises	x	0.4%	0.6%	0.9%	0.8%

Panel C: Virginia Beach, Virginia

Construction		11.8%	13.0%	16.6%	16.7%
Accommodation and Food Services		12.8%	12.4%	13.0%	14.5%
Educational Services		8.6%	7.0%	11.8%	9.7%
Retail Trade		12.2%	11.1%	10.7%	10.0%
Other Services (except Public Administration)		9.5%	9.4%	9.9%	10.6%
Management of Companies and Enterprises	x	14.2%	14.8%	9.7%	8.8%
Real Estate and Rental and Leasing		6.3%	7.3%	5.5%	6.1%
Information	x	6.0%	5.5%	4.7%	5.1%
Wholesale Trade		6.0%	5.2%	4.3%	3.9%
Administrative and Support and Waste Management and Remediation Services		1.8%	3.6%	3.4%	3.3%
Manufacturing	x	1.5%	1.7%	2.8%	2.7%
Transportation and Warehousing	x	3.0%	2.9%	2.8%	2.3%
Health Care and Social Assistance		1.6%	1.9%	1.7%	1.6%
Arts, Entertainment, and Recreation		2.1%	1.5%	1.4%	1.6%
Finance and Insurance	x	1.0%	1.8%	0.9%	2.1%
Professional, Scientific, and Technical Services	x	0.6%	0.4%	0.5%	0.7%

Source: The Statistics of U.S. Businesses, 2015.

Note: A total of 16 industries are presented at the two-digit NAICS code classification. Each Table is ranked based on Establishment expansion (column 3) since the primary objective of state business incentives is in influencing firm expansion and relocation decisions. The first four columns indicate the percentage of the industry's establishment birth, death, expansion, and contraction from the city's total establishment birth, death, expansion, and contraction. Export column indicates whether the industry is an export-base industry.



Appendix B. Major Cities included

City	State	City	State
Albuquerque	NM	Memphis	TN
Atlanta	GA	Miami	FL
Baltimore	MD	Milwaukee	WI
Birmingham	AL	Minneapolis	MN
Boston	MA	New Orleans	LA
Bridgeport	CT	New York City	NY
Buffalo	NY	Omaha	NE
Charlotte	NC	Orlando	FL
Chicago	IL	Philadelphia	PA
Cincinnati	OH	Phoenix	AZ
Cleveland	OH	Pittsburgh	PA
Columbia	SC	Portland	OR
Dallas	TX	Riverside	CA
Denver	CO	Sacramento	CA
Des Moines	IA	San Antonio	TX
Detroit	MI	San Diego	CA
Houston	TX	San Francisco	CA
Indianapolis	IN	Seattle	WA
Kalamazoo	MI	St. Louis	MO
Kansas City	MO	Tampa	FL
Las Vegas	NV	Virginia Beach	VA
Los Angeles	CA	Washington	DC
Louisville	KY		

Source: [Panel Database of Taxes and Incentives](#) (2017).

Note: A total of 45, instead of 47, cities are examined in this analysis.

Aurora, Illinois is excluded because it is part of the Chicago metropolitan

area. Newark, New Jersey is excluded because in the Statistics of U.S.

Businesses, it is part of the New York-Newark, NY-NJ-CT-PA Combined

Statistical Area from 2003 onward.



Appendix C. Major Property Tax Abatements of Washington, District of Columbia

Company	Description	Subsidy (\$)	Year
Gallery Place	mixed-use development	84,000,000	1999
The Advisory Board Co.	corporate headquarters relocation	60,000,000	2015
National Public Radio, Inc.	-	904,812	2014
National Public Radio, Inc.	-	4,040,077	2015
CoStar	High Tech. Comm. Real Este. Database Providers	700,000	2012
CoStar	High Tech. Comm. Real Este. Database Providers	700,000	2013
CoStar	High Tech. Comm. Real Este. Database Providers	700,000	2014
CoStar	High Tech. Comm. Real Este. Database Providers	700,000	2015
Pew Charitable Trusts	Pew Charitable Trusts	840,488	2013
Pew Charitable Trusts	Pew Charitable Trusts	907,490	2014
Pew Charitable Trusts	Pew Charitable Trusts	1,004,667	2015
Steuart Development	Third & H Streets, N.E. Development Project	1,250,000	2013
Steuart Development	Third and H Streets, N.E. Development Project	1,250,000	2012
N.P.R./Boston Properties	National Public Radio, Inc.	2,400,000	2013
Archstone	NOMA Area Residential Tax Abatement	1,496,789	2015
NoMA West Residential I LLC	Eckington One	1,217,929	2015
CS Residential	NOMA Area Residential Tax Abatement	903,667	2015
Perseus Realty LLC	14W and the YMCA Anthony Bowen Project	578,547	2015
CK MRP Washington	NOMA Area Residential Tax Abatement	515,327	2015

Source: [Good Jobs First, Subsidy Tracker](#). Updated 2017.
 Note: A sample of firm-specific subsidies exceeding \$500,000.



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