

POLICY BRIEF JULY 2008

Going for Growth Promoting Business Investi

Promoting Business Investment in Massachusetts Gateway Cities

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ities play a critical role in state and regional economies across America. Because of two emerging trends, their significance will increase markedly in the future. One is innovation as a key driver of economic growth in the global knowledge economy. Value is now created by designing new products and processes as opposed to merely replicating them. The dense urban fabric and infrastructure of cities allow diverse groups of people to live and work in close proximity, efficiently exchanging ideas and services. For decades, scholars have noted how this urban spatial structure gives cities a unique capacity to spawn creative new approaches.¹

The combined challenge of energy scarcity and global climate change is the other major trend that will make cities central to our social and economic futures. These two inter-related problems are now acknowledged as defining issues of our age. While experts are divided on the most promising solutions, most agree that people will adjust by living at higher densities in order to achieve the necessary efficiencies.

Given the important role cities are certain to have in the future, the time is right for Massachusetts to examine how urban areas throughout the state fit into the Commonwealth's overall growth strategy. A report MassINC released last year, entitled *Reconnecting Massachusetts Gateway Cities*, provides important context.² The study described how these communities are still losing ground in a Bay State economy built around knowledge-based sectors. While the report revealed a number of assets that the 11 Gateway Cities can leverage to move closer to the knowledge economy, the legacy of their manufacturing past has left them with complex challenges they must first overcome. These barriers—addressing disinvestment, adapting older buildings, remediating environmental contamination, and retooling workforces—clearly require a significant state partnership.

In the coming months, MassINC will release a series of briefs that describe how the state can forge a partnership that helps reinvent and reinvigorate Gateway Cities. Each paper will examine existing state policies and their impact on these communities, and, where appropriate, recommend reforms and new directions.

This first brief looks at how the incentives state and local governments offer to attract and retain businesses shape the geography of economic activity throughout the Commonwealth. Massachusetts currently spends significant sums on these tax incentives. State business incentives described in this report, mostly credits against the corporate excise tax, total to more than half a billion dollars annually. By including additional tax code changes, other estimates of annual state business incentive spending reach as high as \$1.5 billion.³ To draw business activity, cities and towns also grant property tax reductions and allocate property taxes to finance infrastructure; although it is more difficult to estimate the value of these



incentives, this local spending is also quite significant.

While limited availability of business incentive data makes it hard to describe precisely how this investment affects development patterns, there is ample evidence that the state's largest business incentives, which mainly target hightech industries, mostly overlook Gateway Cities. Moreover, national research suggests that these costly incentives may be inefficient from a purely fiscal standpoint. Unlike most other states, Massachusetts does not require disclosure, which would help facilitate thorough evaluation of these major tax incentives to quantify return on taxpayer investment.

In contrast to these large targeted

industry incentives, available to companies without regard to where they locate within the state, Massachusetts offers very limited incentives to help firms overcome upfront costs often associated with sites in older urban areas. Tax incentives with this type of narrow geographic focus can generate job growth four times more efficiently than incentives aimed at businesses making location decisions among larger regions. Unfortunately, the state's minimal spending on these geographically targeted incentives has been so distorted that they may actually do Gateway Cities more harm than good.

New financing tools that give cities and towns authority to offer infrastructure incentives to attract businesses will also shape the Commonwealth's economic geography in future years. While these tools open up important new economic development opportunities, without proper coordination, they could also become detrimental to the economic development efforts of older urban areas.

This review of state business incentives is meant to foster dialogue. Public discourse around state economic development spending has generally been narrow and without much focus on how returns to investment are distributed geographically. The evidence presented in this brief suggests the Commonwealth's current economic development incentives merit a thorough review. Efforts to prioritize and pursue economic development more strategically could ensure taxpayer dollars are utilized effectively, particularly in Gateway Cities, where public support can help eliminate barriers, catalyzing new waves of private development.

KEY FINDINGS

- Massachusetts spends a significant amount—at least \$550 million annually
 on tax incentives to attract and retain corporations. The vast majority
 of this money is directed toward specific industries. While limited reporting
 makes it difficult to determine which companies receive these incentives,
 the data suggest this spending largely bypasses the state's Gateway Cities.
- In addition, Massachusetts does not require reporting or analysis of these large business incentives. As a result, there is no evidence to demonstrate the effectiveness of the state's investment. National research, however, suggests this large spending is often fiscally inefficient.
- A small fraction of business tax incentive spending about \$30 million annually — is directed to specific geographic locations. Research shows that when structured properly, tax credits with strategic geographic focus can be up to four times more efficient as catalysts for job growth than incentives targeting specific industries.
- Over time, the number of communities eligible for geographically targeted incentives has expanded drastically—at last count, 138 cities and towns in Massachusetts qualified. With so many communities eligible for these benefits, the impact of this spending has been seriously undermined.
- In recent years, the Legislature has given cities and towns a number of tools to attract companies with local property tax incentives—either by abating tax obligations or redirecting them to finance infrastructure to accommodate private development. The result of the widespread use of these tools is tax competition between towns hungry for revenue from businesses, eroding property tax bases generally, and placing older cities with significant barriers at a disadvantage in negotiations with potential employers.

I. The State's Largest Business Incentives

A. Massachusetts invests heavily in tax credits to attract jobs in targeted industries. While limited reporting makes it difficult to determine which companies receive these incentives, the data suggest this spending largely overlooks the state's Gateway Cities.

In FY09, Massachusetts taxpayers will invest at least half a billion dollars in business incentives that target specific industries. To put this commitment into context, business incentive spending is significantly more than the \$498 million allocated to the UMass system, and more than double the \$239 million budgeted to housing and economic development

agencies; alone, the \$63 million in projected FY09 payments to attract movie-makers to Massachusetts will dwarf the Department of Workforce Development's annual \$46 million budget.

These large investments in mostly knowledge sector industries represent a cluster-based strategy. Clusters are geographic concentrations of related companies and institutions. The Massachusetts economy is notable for the presence of strong clusters in industries like defense, finance, and the life sciences—knowledge sectors supported by a large network of university and medical research institutions.

The Commonwealth has pursued a cluster approach to economic development since the early 1990s, when Michael Porter of the Harvard Business School advocated for government economic development policies that strategically support and sustain key industries.4 Over the last two decades, volumes of research in this area bolster Porter's argument for public investment in clusters over public investment in individual firms. These studies make the case for a government role working with groups of firms in clusters to help address widely shared competitive problems. Taxpayer-supported job training, for example, can help efficiently address industry-wide skill needs. While the cluster-based economic development that Porter advanced called for a departure from the use of subsidies and tax incentives to attract individual firms, Massachusetts and other states have continued to provide businesses with tax incentives, only now in their preferred clusters.5

Unfortunately, Massachusetts does not collect information on the location

RECONNECTING MASSACHUSETTS GATEWAY CITIES

The 2007 MassINC-Brookings Institution report selected the 'Gateway' cities of Brockton, Fall River, Fitchburg, Haverhill, Holyoke, Lawrence, Lowell, New Bedford, Pittsfield, Springfield, and Worcester based on their having populations of at least 35,000, high poverty rates, low educational attainment levels, and a strong manufacturing heritage. To paraphrase the reports findings and conclusions:

Gateway Cities clearly face challenges...

- The 11 Gateway Cities' combined loss of 134,000 manufacturing jobs since 1960 accounted for more than one-third of the state's total decline:
- Just 16.5 percent of Gateway City residents and 24.6 percent of Gateway region residents possessed a four-year college degree, compared with 42 percent Greater Boston residents;
- Between 1980 and 2000, the gap in per-capita income between communities in Greater Boston and the Gateway Cities increased from 29 percent to 43 percent.

But these cities also have valuable assets they can leverage for renewal...

- As historic communities with dense urban fabric, they can offer attractive and moderately priced city living;
- Existing and often underutilized infrastructure give Gateways Cities a platform to accommodate new growth;
- Future employers can draw from a youthful immigrant workforce eager to gain new skills.

From a competitive perspective, Massachusetts can benefit from the restoration of Gateway City markets...

- Stronger regional cities would reduce sprawling and inefficient development patterns, decreasing a variety of costs from increased infrastructure demands to higher levels of carbon dioxide pollution, and protecting the state's landscape, a precious quality of life asset;
- Creating stronger Gateways would foster greater levels of entrepreneurial and high productivity business activity unique to urban centers;
- Reducing concentrated poverty would decrease the costs of public health and public safety challenges, and increase educational attainment, so that the next generation of workers the Commonwealth desperately needs can gain the skills required to participate fully in the knowledge economy.

of firms receiving state business incentives. Even without these data, however, it is clear that the state's largest business incentives (detailed in Figure 1 and described in Appendix A) are targeted primarily toward knowledge sector clusters. As MassINC has demonstrated, Gateway Cities are home to a small and declining share of these firms. In 1991, Gateways had just 8 percent of knowledge sector firms, and that per-

centage fell to just 6 percent by 2004. Over this period, Greater Boston increased its share from 53 to 60 percent.⁶ Only 5 percent of biotechnology firms were located in Gateway Cities in 2004, nearly all of them in Worcester. In contrast, the 75 towns that make up Greater Boston are home to 80 percent of the biotech firms that will benefit from an increasingly large percentage of state business incentives.

B. Massachusetts does not require reporting or analysis of these large business incentives to demonstrate return on public investment. Evidence from national research, however, suggests that this spending is often fiscally inefficient.

Rigorous economic studies critical of tax incentive programs designed to lure businesses have been circulating for decades. These studies find that business incentives tend to be ineffective because, for most firms, state and local taxes represent less than 1 percent of business costs.7 This means tax variations between states have limited significance to location decisions. Companies searching for a new home are more interested in varying industry concentrations, labor pools, and proximity to markets—factors that can have very significant bottom line implications.

In a highly competitive global economy characterized by increasingly footloose firms, state legislatures-reluc-

Figure 1

The State's 5 Largest Business Incentives

FY09 ESTIMATE (\$M)

1.	Single Sales Factor Apportionment	\$307
2.	Research Credit	\$105
3.	Film Tax Credit	\$63
4.	Investment Tax Credit	\$50
5.	Economic Opportunity Area Credit	\$28
	Total	\$553

Source: MassINC's analysis of data from the Executive Office of Administration & Finance

On average, each new job costs states approximately \$7,000 per year in lower business tax collections.8 The proliferation of business tax incentives has clearly been costly to states. In 1981, corporate taxes represented 9.4 percent of all state revenues; by 2002, this figure had fallen to only 5 percent. While incentives do not explain this entire decline, studies conclude that tax credits account for a large share.9

Of course, these lost revenues could generate important social and ecoterm economic development.

Massachusetts has actively engaged in the contest to attract jobs in targeted industries by offering a number of valuable tax incentives. Unfortunately, it is very difficult to provide an objective assessment of the benefits of the state's economic development incentives. The detailed data required to evaluate the returns incentive programs provide on taxpayer investment are currently unavailable. Despite the state's extensive business incentive commitments, no independent evaluation has been conducted to measure the achievement of these investments over time, either individually or as a group.

The current roster of EOAs lists 138 cities and towns, including some of the state's more affluent communities.

tant to heed warnings from economists —have enacted even more lucrative tax incentives to win new business activity. While these increasingly valuable credits are undoubtedly more effective, whether this is an efficient use of taxpayer resources is less certain. The best available estimates nationally suggest that even when tax incentives create jobs, they do not raise the tax base enough to compensate for lost dollars.

nomic benefits, depending on where jobs are created, who receives them, the salaries they pay, and the value of the industry providing them to a state's long-term economic strategy. On the other hand, if state spending on infrastructure, education, workforce development, and other basic government functions that businesses value falls as a result of lower revenues, incentive spending could prove harmful to long-

C. A thorough review and evaluation of the Commonwealth's large business incentives is clearly justified. As state lawmakers consider approaches to increasing return on taxpayer investment, these key points will be important to keep in mind:

· Business incentives offered "as a right" are an extremely blunt tool. When any business in an industry can claim an incentive by just filing taxes, regardless of whether they have created new jobs, the state is in essence subsidizing a large number of firms who would have operated without the incentive. States like Michigan have

increased the efficiency of economic development spending by directly tying state assistance to new jobs, with varying performance targets based on whether a company is relocating, expanding, or locating in a state enterprise zone.

• Transparency is essential to protecting return on taxpayer investment. With Rhode Island's recently enacted strong disclosure law, 24 states now recognize the need for more transparency in economic development spending. Model laws include Maine's Economic Development Accountability and Return on Investment Act and

Minnesota's Subsidy Reform Law.¹⁰

• Independent evaluation is critical to good decision making. With states investing heavily in economic development incentives, the more effective and efficiently states structure their incentives the more competitive they will be. Formulation of incentive policy in Massachusetts has often been driven by stakeholder groups. Clearly there is need for quality and independent analysis. Many states rely on independent agencies to provide rigorous evaluation of budgetary policy. These agencies can access internal revenue department data to provide credible

and objective assessments of public economic development spending.

II. Limited Business Incentives for Older Urban Areas

A. When structured properly, business incentives with strategic geographic focus can catalyze job growth in communities that face economic barriers.

Incentives designed to channel development to localized areas exist in more than 40 states. These geographically based subsidies are provided only to businesses that locate within defined economically distressed areas, often termed "enterprise zones." Because utility and labor costs are relatively uniform within states, this type of incentive can have more influence on firm location decisions than the credits discussed in the previous section, which mostly seek to draw new business activity from outof-state. Empirical estimates suggest these credits may be four times more effective than inter-state incentives.11 A frequently quoted study of Fortune 500 firms further illustrates the potential of geographically focused incentives only 1 percent of executives listed taxes as a "significant" factor in inter-regional location decisions, but 35 percent included taxes as a "desirable" factor in choosing sites within a region.¹²

To be successful, geographically focused credits must provide significantly more value than those available to firms that locate outside of the zone. The differential between the in-zone and out-of-zone tax rates is the company's incentive to choose an urban area where older infrastructure, environmental remediation, crime and other factors often deter investment.

ENSURING TRANSPARENCY AND ACCOUNTABILITY ON PUBLIC INVESTMENT

A number of states, some more than a decade ago, passed legislation to maximize return on public economic development investment. These laws protect taxpayer resources by requiring the disclosure of public subsidies provided to private companies. In some states, legislation stipulates that cost benefit and fiscal impact analyses be performed before rewarding incentives above a specified threshold. Another category of laws attach contractual obligations that establish performance standards and penalties for breach. These include *clawbacks* that attempt to recover subsidies, rescissions that cancel subsidies, *recalibrations* that adjust commitments in changing business environments, and straightforward *penalties*.

Minnesota's Subsidy Reform Law

- Communities and public agencies that provide economic development subsidies must develop uniform criteria for subsidy deals, including a specific wage floor for new jobs.
- Public hearings must be held before business subsidies worth more than \$100,000 are awarded.
- Subsidy agreements, including the type, public purpose, and amount of assistance, as well as specific job and wage goals and the date they need to be reached, must be reported annually to the public; progress in achieving these goals, as well as information on businesses that do not meet their targets, must also be disclosed.

Maine's Economic Development Accountability and Return on Investment Act

- Corporations receiving \$10,000 or more in state assistance must provide annual reports on total employment, job creation and wages and benefits of existing jobs and jobs created.
- The State Tax Assessor, Commissioner of Labor, and the community college system are required to issue annual reports on funds spent to promote economic development.



B. Serious flaws undermine the state's limited business incentives designed to spur growth in older urban areas.

In Massachusetts, geographically targeted investment is encouraged through the Economic Development Incentive Program (EDIP). The main tool associated with this initiative is the Economic Opportunity Area Credit (EOAC), the state's fifth largest business incentive program, with projected spending of \$28 million in FY09. Unfortunately, several factors hamper the EOAC's ability to catalyze redevelopment in the Commonwealth's urban areas.

To begin with, the exclusive benefit the EOAC provides to targeted Economic Opportunity Areas (EOA) does not create a differential large enough to attract firms. The EOAC offers a 5 percent credit for "qualified tangible property" (i.e. buildings and manufacturing equipment); the state's investment credit already gives eligible companies a 3 percent deduction for these costs. MassINC's analysis shows that when businesses weigh the benefits of the 5 percent EOAC against the 3 percent ITC, greenfield development is often a more attractive option (see Appendix B).

The proliferation of Economic Opportunity Areas is especially problematic for urban areas competing for new employers. While in principle this program was designed to target economically distressed areas, in practice, many other municipalities are able to participate. The current roster of EOAs lists 138 cities and towns, including some of the state's more affluent communities. ¹⁴ The Inspector General called attention to this problem in 2004. In his words, EOA definitions have been stretched to the point where "they are rendered vir-

tually meaningless."¹⁵ Companies can now get the same tax advantages from a prime location, which means they have no reason to take a chance on a redeveloping area. Essentially, Massachusetts taxpayers give businesses incentives to do what they would have done anyway.

part, the older buildings and smaller parcels found throughout these cities are difficult to adapt to the needs of today's manufacturing industries.

For Gateway Cities looking to attract knowledge sector industries, the EOAC does not provide a flexible mechanism.

The program in its current form provides incentives that are of limited use to Gateway Cities.

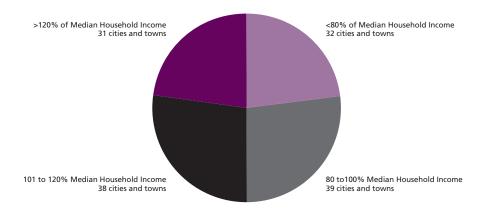
Even if Massachusetts were to tightly restrict EOA designation to strategically targeted cities with higher levels of economic distress, the program in its current form provides incentives that are of limited use to Gateway Cities. The EOA Credit subsidizes investment in property and equipment, which makes the incentive most valuable to large manufacturers. While Massachusetts mill cities are certainly notable for their historic industrial plants, for the most

Companies seeking leased property cannot access the EOAC, which leaves economic development officials with very few alternatives to draw the types of professional services firms (i.e. architects, engineers, consultants, small IT startups) that represent growing segments in a healthy urban economy.

C. The increasing use of tax abatement, a second form of geographically targeted business incentive, places Gateway Cities

Figure 2

Number of Communities Offering Tax Abatement Incentives Grouped by Income



Source: MassINC's analysis of MA Office of Business Development data

at a competitive disadvantage and erodes the property tax base for municipalities generally.

In order to provide businesses with the state-funded Economic Opportunity Area Credit, communities must take a stake in the project in the form of a property tax abatement, either by forgiving taxes generally with a "special tax assessment", or by using Tax Increment Financing (TIF), the much more common method which forgives a portion of the *increment* (i.e. the added property value that would not exist but for new development).

Massachusetts enacted TIF in 1993 as part of the legislation creating the Economic Development Incentive Program. While the bill was passed to provide a mechanism to aid cities with some level of blight, to date, 140 cities and towns have used TIF to finance projects. Measured by income, affluent communities are just as well represented among the cities and towns offering property tax abatement as are the relatively less well off; 31 have median household income above 120 percent of the statewide median, versus 32 cities and towns with income below 80 percent.16

In addition to reducing the relative tax advantage for urban areas, the sprawling use of property tax abatement also fuels competition between communities hungry for new commercial development. Public finance experts have shown that tax abatement contests have a corrosive effect on municipal property tax bases. Devaluing the ability of the property tax to generate revenue is particularly concerning because the property tax is widely regarded as one of the more efficient

and stable tax vehicles; property taxes are also a disproportionately large component of revenue for cities and towns in Massachusetts.

This competition may also place the state's poorer communities that need development most at a disadvantage. The 11 Gateways account for fully 35 percent of all TIF projects, yet they drew less than 15 percent of the private investment captured. A review of the data show that the least affluent group

of communities offers far more TIF abatements to attract firms (628 deals versus 108) than the wealthiest group. The affluent communities seem to restrict their TIF usage to leverage only the most valuable projects (\$36 million on average versus only \$6 million for the less wealthy group of communities). The maps on page 8 depict these dynamics and effectively illustrate the extent to which Gateway Cities are surrounded by communities using to TIF to attract

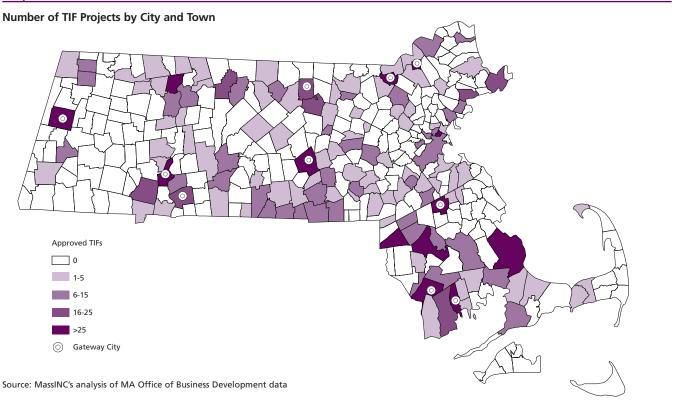
OVERCOMING THE CHALLENGES OF GEOGRAPHICALLY TARGETING INCENTIVES

California is an excellent example of both the promise of a well-conceived enterprise zone, and the political challenges that often imperil incentive structures designed to provide favorable treatment to a limited number of jurisdictions. Companies that locate within the boundaries of the state's 42 Enterprise Zones receive tax credits for machinery purchase and for the hire of qualified employees; zone businesses are also eligible for other incentives including reduced rate loans, preference points on state contracts, and operating loss carry-forwards. The total incentive package California provides to in-zone versus out-of-zone businesses is significantly more than the average national enterprise zone differential.

An evaluation of the program's impact in the 1990s found that these incentives had substantial impact, raising the mean California enterprise zone employment growth by approximately 3 percent annually over the first 6 years of designation.²¹ Additional research also suggested California enterprise zones increased both the wages and adjusted gross income of the least well off workers; and those hired through enterprise zones were significantly more likely to file an individual tax return.²² This is a particularly compelling finding because presumably these taxpayers qualify for the federal Earned Income Tax Credit, which would give a sizeable boost to their income and draw new wealth into the local economy.

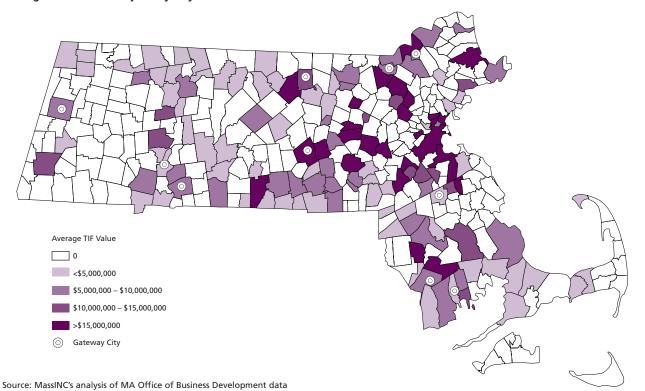
But California is also confronting the darker side of enterprise zones. As has been the experience in many states, considerable value in enterprise incentives subjects them to interest from beyond their original borders. State law and regulations technically allow the zones to expand into areas that do not meet the program's own definition of economic distress. Companies have also exploited loopholes to qualify workers who do not face employment barriers or meet the residency requirement for tax credits. This has led to exponential growth in the program from \$15 million in 1993 to nearly \$300 million by 2003. For the last several years, advocates have argued for a radical overhaul, a move supported by analysis from the Legislative Analyst's Office, the state's independent budget agency.²³ Despite these calls for reform, which come at a time of challenging state deficits, entrenched interests have managed to keep the now \$400 million program intact.

Map 1



Map 2





more valuable investment.18

Tax competition among cities and towns places the Gateways in a particularly difficult position with regard to their neighbors, who often ask to 'borrow' their Economic Opportunity Area designation. Generally these suburbs make the valid argument that residents of the city will benefit by jobs created just next door. But the tradeoff is the city loses its relative advantage. Perhaps the most visible evidence that this practice has led to problems is the increasing number of suburbs that have aggressively used tax abatement to attract big box retail stores. At least 13 national retail chains have benefited from TIF abatements to date. This incentive was never intended to benefit retailers, which generally compete for fixed shares of regional wealth rather than contributing to it.

Some economists argue that this property tax competition simply leads to efficiency with each municipality charging firms the optimal rate for the bundle of business services provided. However, this conclusion assumes that local leaders always have perfect information and act in the community's long term self-interest. Evidence suggests that this is not always the case when it comes to economic development decision making. More importantly, it ignores the fact that TIF expansion curbs the state's power to use tax incentives to plan and manage growth.

D. Massachusetts is not alone in relinquishing these tools, both property tax abatement and geographically focused tax credits, to an increasingly large set of communities. Like other states in this challenging situation, the Commonwealth must find creative strategies to rein in

incentives designed to spur economic development in distressed areas.

Throughout the country, enterprise zones and tax abatement districts sprawl beyond the blighted high poverty areas that they were originally designed to benefit.24 It should come as no surprise that results from the most recent study of geographically targeted incentives nationally found that they are, on balance, unsuccessful.25 These incentives are only effective to the extent that they create a differential between areas that can offer their benefits and areas that cannot. As they multiply, this differential becomes nearly universal and acts more like an across-the-board tax cut. Massachusetts lawmakers should look to remedy problems with geographically targeted incentives. Solutions are clearly needed to ensure taxpayer resources are productively invested to strategically stimulate slower growth markets. As they approach these problems, these lessons will be important to keep in mind:

- Massachusetts has had some practice with place-based business attraction. The Devens Regional Enterprise Zone demonstrates that geographically targeted economic development can be successful. The state expects to create nearly 5,000 jobs at Devens along with new housing and schools to accommodate these workers. Taxpayers provided deep subsidies to accomplish these feats. With equal commitment, the state could seed similar growth in Gateway Cities.
- To be effective, economic development investment must be concentrated. Historic mill cities dot the Massachusetts landscape, and each could benefit from significant state investment.

But to be effective, the Commonwealth will need to establish priorities. Research shows that the standard pattern of spreading investment to all areas with need generates no long-term returns. On the other hand, targeting investment can have sustained impact.²⁶ In the interests of the entire Commonwealth, state leaders need to come together and prioritize limited investment in regional cities where public investment has the greatest potential to catalyze private markets.

• Success requires healthy partnerships. In this economy, state and local officials are under constant pressure to create jobs. The Commonwealth certainly needs checks and balances to ensure the tax incentives offered to attract businesses are wise investments. However, the local tax abatement match currently required under EDIP gives businesses an opening to negotiate for local tax abatements, placing additional burden on cities with limited fiscal capacity. Moreover, communities with greater bargaining power have often provided only modest tax abatements to attract large state EOAC matches. This practice suggests the required local contribution is not always an effective method of ensuring tax incentive packages represent efficient state investment.

III. Financing Infrastructure as an Incentive

A. Tax-backed infrastructure financing offers a powerful tool for redevelopment and business attraction in older urban areas.

By making large public investments in infrastructure (roads, bridges, parking, public space, etc.) associated with development, governments draw new firms to a community. Over time, state and local infrastructure incentives can have broad influence over patterns of development.

Infrastructure incentives come in the form of debt issuances serviced with tax proceeds generated by new development. Cities use these tax increments to finance infrastructure bonds and create buildablity on sites where the private market will not operate on its own. In an age where redevelopcontinue to support local services. Property tax receipts over this base can be leveraged to finance environmental remediation, infrastructure improvements, and enhancements to the public realm. The tax-exempt bonds funding these projects come with a lower interest rate than a private developer could obtain on their own, and these issuances fall outside of the city's municipal borrowing cap. When a district expires, usually within 25 years, the city receives the full benefit of tax revenues from

in any case, provide little contribution to the public interest.²⁹

B. Massachusetts recently adopted taxbacked infrastructure financing laws. These new tools represent important opportunities for Gateway Cities, but at the same time, they also have the potential to tilt the playing field further toward greenfield development.

Communities in Massachusetts gained access to tax-backed financing powers in 2003 when the legislature created District Improvement Financing (DIF). In 2006, the state enacted I-Cubed, a more sophisticated mechanism to leverage tax increments associated with redevelopment projects for financing. A bill to enable Special Assessment Districts, a third tool to finance infrastructure, has considerable support. To date, only DIF has been used to facilitate actual development, and even this most straightforward method has seen very few applications. While each of these financing structures presents opportunities for Gateways Cities, they also raise concerns.

When communities with greenfield sites are able to offer these same incentives, these tools can work against older urban areas.

ment funds are limited, this "self-financing" approach has been critical to the regeneration of older areas throughout the country. For Gateway City economic developers, the potential of tax-backed financing as a business attraction tool is on par with tax incentives and tax abatement.²⁷ However, when communities with greenfield sites are able to offer these same incentives to facilitate the preparation of undeveloped land, these tools can work against older urban areas.

Similar to the TIF abatements discussed in the previous section, when a tax-backed financing district is formed, assessors calculate a "base" amount of property tax revenue according to preimprovement conditions; these funds higher property values created by both public and private investment in the district.

Most states restrict the use of taxbacked financing to areas of economic or physical distress. Some use limits on the amount of vacant land included in a project to promote redevelopment in urban areas. In California, for instance, the district must be at least 80 percent developed.28 While restrictions exist, projects often escape these provisions if they can show the proposed development would not occur without taxbacked financing. Critics argue that these "but if not for" exceptions result in taxpayers subsidizing big box stores, golf courses, and other developments that may have occurred otherwise, and

District Improvement Financing (DIF)

District Improvement Financing in Massachusetts is the standard structure by which tax-exempt bonds fund infrastructure improvements and debt is serviced using the increase in tax collections attributed to the development. So far this strategy has been less successful in Massachusetts because cities are generally only able to draw from property tax increments (in some states, projects can also siphon a local portion of county, sales, and other taxes).

Proposition 2¹/₂ also constrains DIF projects in Massachusetts. New value

generated by redevelopment is added to the levy limit in the first year, but after that initial increase the levy can only grow by a certain amount regardless of additional appreciation in the project district. The original legislation creating DIFs in 2003 exempted these developments from Proposition 2¹/₂, but that provision was removed by Governor Romney's veto.

It is still too soon to say how DIF will influence the geography of growth. The few projects underway seem to be well-conceived urban and transit-oriented developments. However, unlike other states, Massachusetts does not require designation of blight or economic distress. On its own, development would tend to gravitate toward locations where development quickly generates substantial appreciation in property values, which could favor undeveloped sites in strong markets over Gateway Cities.

Infrastructure Investment Incentive (I-Cubed)

In 2006, the Legislature created I-Cubed, a second financing vehicle for infrastructure improvements associated with large scale redevelopment projects. Under this program, the city assumes the risks, but the state makes debt service payments as long as tax increments from hotel, meal, and sales taxes are sufficient to cover the obligation. By tapping these additional revenue sources, I-Cubed makes tax-backed financing for large retail-oriented developments significantly more valuable.

Like DIF, I-Cubed is not restricted to blighted areas. While the law was passed largely at the urging of the City of Boston, and the current legislation authorizes just five projects through 2012, this powerful tool should be watched cautiously. Communities with greenfield sites could have significant advantage assembling parcels to accommodate large developments with stores and restaurants that could benefit immensely from I-Cubed financing.

Special Assessment Districts (Chapter 40T)

Special Assessment Districts are another arrangement in which a private developer takes on the responsibility for repaying bonds. Within the defined development district, owners pay an added assessment. While the developer and often the eventual owners assume the risk, the method relies on these special tax assessments as the funding stream. Chapter 40T, pending legislation named for the section in the General Laws it would create, gives cities and towns authority to form these districts.

While Gateway Cities could potentially utilize Chapter 40T districts to fund redevelopment, experience nationally suggests that these special districts are most frequently created to finance new road, sewer, and water infrastructure required for sprawling greenfield development. Clearly, unrestricted use could present a challenge to smart growth efforts.

C. Thoughtful enhancements to the Commonwealth's tax-backed infrastructure financing tools are critical to state efforts to grow strategically. The location of future infrastructure investments will largely decide the fate of Gateway Cities and their regions. These issues in particular deserve consideration:

- Tax-backed financing projects almost always require a mix of funds. Particularly in cities, where projects tend to be smaller in scale and the added tax value created is often less substantial, additional funds are required to cover infrastructure costs.
- Off-street parking is the number one infrastructure priority for Gateway Cities. The density of these urban downtowns, which gives them their efficiency and walkable human scale, requires that they have sufficient structured parking. The limited availability of structured parking is often a deal breaker for businesses considering Gateway Cities. Downtown Springfield, for example, has only 0.5 parking spaces per 1,000 feet of office space, far less than the 4 spots per 1,000 square feet that most tenants require. Financing costs for structured parking are much higher than tax increments from new development will support on their own. While Gateways Cities have an important new tool in taxbacked financing, the state has not increased the bond cap allocation for the Off-Street Parking Program in a number of years. Without the essential match provided by these funds, Gateway Cities cannot finance the parking garages critical to their growth.
- Commonwealth Capital represents an important opportunity to align matching infrastructure funds with efforts to concentrate growth and development. The Patrick Administration's recent enhancements to Commonwealth Capital represent important improvements. Tying funds distributed through the Massachusetts Opportunity Relocation and Expansion (MORE) program to Commonwealth

Capital is a particularly important reform. While MORE grants have provided assistance to older cities across the state, some of the largest awards have gone to retail and office projects on undeveloped land that will inevitably continue to draw activity away from downtowns. To date, Gateway Cities have received only \$3.5 million of the \$61 million in MORE grants awarded so far. The state should continue to look for opportunities to strengthen Commonwealth Capital to ensure future infrastructure investments adhere to smart growth principles.

IV. Recommendations

In the years to come, Massachusetts taxpayers will make huge investments to maintain the Commonwealth's economic competitiveness. As these resources are committed, the state must work to ensure that incentive structures make good use of taxpayer dollars. State leaders can do this by seeing that public investment in business incentives represents a balanced approach to economic policy—a course that generates growth that is both strong and as equitably distributed as possible.

While a number of recommendations are offered below, MassINC does not advocate for a piecemeal strategy. Such an approach would likely result in the usual small intervention followed by wholesale dilution. This all too familiar reality inevitably results in an inefficient use of taxpayer resources.

Addressing these issues will be challenging. The joint commission model, which last year successfully tackled the state's thorny corporate tax loophole issue, might be the best method to

arrive at the necessary reforms. The state clearly needs to rethink how we plan for economic growth and evaluate our progress. This will require transparency and accountability, as well as the right tools to accomplish welldefined strategic objectives. In terms of specific suggestions on these subjects, MassINC offers the following:

Planning and Evaluation

- Task economic development agencies with drafting a formal state economic strategy. The Commonwealth needs a long-term growth strategy. New legislation should require the state's economic development agencies to jointly draft economic development plans at regular intervals. These plans would help provide a framework to organize and direct resources. Strong planning could also help balance the interests of various industry and community stakeholders, while at the same time setting clear priorities. Plans should establish targeted industries based on sound economic analysis. Similarly, these plans should also identify geographic areas where concerted public investment will promote reinvestment and catalyze high value urban economic activity.
- Require an annual independent review of state economic incentive spending. New legislation should call for and fund an annual report co-authored by the state Department of Revenue and the state auditor. Such an arrangement would draw on the analytic ability of DOR while providing the independent scrutiny and political shelter of the state auditor. This report would contribute to efforts to ensure taxpayer investments are fiscally effi-

cient, while helping to sustain the structures of sound economic policy once established.

Transparency and Accountability

- · Perform a thorough cost-benefit analysis of each potential incentive package prior to approval. Simple spreadsheets can help determine whether employers require subsidies and how much return taxpayers can expect to benefit from jobs created. The state should structure and staff a process so that a thorough review of each incentive package is conducted prior to approval.
- Use database technologies to facilitate reporting. Online databases can ease the burden of reporting requirements and protect business privacy where necessary while still providing meaningful data for thorough evaluation.
- · Establish benchmarks for local government performance. Instead of requiring tax abatement as the local match, state government should set milestones for local action that strengthen the objectives of geographically defined zones. These benchmarks may range from planning and staffing requirements to strong fiscal practices that ensure quality local bond ratings. If a community is not operating responsibly with taxpayer resources, the state should target its limited investment elsewhere.
- · Set objective goals that sunset geographically targeted benefits. Investment in geographic zones is intended to accomplish certain goals and should continue to the extent that progress is being made. Stakeholders should have a clear understanding of what the goals are and how benefits will be phased out as they are achieved.

Economic Development Tools

- Create a flexible business attraction tool for geographically targeted areas. Economic developers clearly require upgraded tools to draw the commercial and retail businesses that make a vibrant downtown. These tools must create a significant differential between targeted areas and other potential locations. Flexibility to provide incentives to businesses adding new jobs in leased office space would be an essential feature of a tool better suited to Gateway City needs.
- Provide bonus incentives to firms in targeted industries that choose to locate in strategic geographic areas. Massachusetts should follow the practice common in many other states and provide additional value to firms that choose sites in targeted areas.
- Restrict retail tax abatement to urban areas. Tax competition over retail activity is unquestionably detrimental to municipal property tax bases. At a minimum, the state should restrict this power to urban areas that have suffered from the loss of retail activity.
- Strengthen tax-backed financing tools and review them for consistency with regional land use plans. DIF, I-Cubed, and if enacted, Chapter 40T, offer important vehicles to draw significant private investment into priority growth areas. The state can bolster these tools by drafting sensitive Proposition 2¹/₂ exemptions that direct more of the value generated by new development toward debt service. At the same time, it is imperative that state lawmakers add language to the legislation enabling these powerful tools to require consistency with regional plans.

Appendix A

Four large tax incentives, which provide advantages to specific industries, represent a major component of the state's economic development strategy. A basic understanding of these business incentives provides important context with regard to the Gateway City economic development environment.

1. Single-Sales Factor Apportionment Formula (\$307 million)

'Single-sales factor' refers to unequal weighting in the apportionment formula that determines the share of a multistate corporation's profit that a state will tax.30 Traditional '3-factor' formulas equally weigh the corporation's total property, payroll, and sales located in the state. Single-sales factor places all of the emphasis on sales. Since the mid-1990s, defense contractors, manufacturers, and mutual fund companies have benefited from a single-sales factor formula in Massachusetts. As economic development policy, single-sales may well have produced some benefits. Increasing the sales weight reduces the cost of property and labor, encouraging firms to hire and invest more.31 While from a fiscal perspective, it is unlikely that these benefits outweigh lost revenue, adopting these policies to protect vital industries may have merit as a strategic decision.32

2. Research & Development Tax Credit (\$105 million)

R&D tax credits provide companies engaged in technological research with a tax credit for wages, materials expenses, and certain other rental costs. The federal credit, which allows for a 20 percent deduction, was designed to increase

basic research that provides benefit to the public above private market levels. Studies show the federal credit is efficient, since each dollar invested generates approximately a dollar in new research activity.33 In contrast to the federal version, state R&D credits are primarily intended to spur economic activity associated with research. There has been very little independent analysis of these state R&D credits. By comparing the Massachusetts credit to its California counterpart, one peer-reviewed publication found that the credit's effectiveness varies by industry. This study also suggests that while in-house credits can increase R&D spending, contract credits tend to have less of an impact.³⁴ Another recent multi-state study of R&D tax credits shows that state credits increase R&D expenditure, although most of this increase comes from research shifted from other states.35

3. Film Tax Credit (\$63 million)

Film Tax Credits (FTC) are a relatively recent innovation. They provide moviemakers with a deduction against in-state production expenses including wages paid to actors and employees. While there has never been a rigorous independent analysis of these incentives, states are encouraged to provide them in the belief that movie producers can easily locate production to whatever location offers the best deal. Unlike the other Massachusetts incentives discussed here, film tax credits are transferable. This means if the value of the credit exceeds the producer's tax liability, they can sell the unused credit to another party. Transferability makes the FTC a very strong inducement—there is no doubt more films come to Massachu-



setts as a result—but in terms of fiscal efficiency, the FTC is potentially very wasteful.

The Commonwealth has already forgone nearly \$140 million dollars in tax revenue since the credit's enactment in 2006. New taxes on film industry activity generated less than \$19 million, which makes the total loss approximately \$120 million.³⁶ A more recent Department of Revenue report that considers the secondary activity (e.g. a multiplier effect) created by film industry production in Massachusetts suggests that tax collection from new economic activity does not offset lost revenue; DOR estimates suggest the state recoups less than 20 percent of its investment.37 Multipliers for film production are extremely low because almost twothirds of spending goes to payroll and at least half of these wages are earned by actors and other production employees who live out of state. Given the particularly footloose nature of the film industry, in contrast to a manufacturing facility which is fixed in place, it is difficult to see how this investment could be reduced over time without losing all of the gains.

4. Investment Tax Credit (\$50 million)

Massachusetts offers an Investment Tax
Credits (ITC) to manufacturers, research
and development corporations, and
companies engaged primarily in agriculture or commercial fishing. The ITC
provides businesses purchasing property and equipment with a deduction
against their corporate income tax. States
favor these credits because they encourage firms to develop plants that tie them
to a location within their borders.
Limited evidence suggests these credits

may have an impact on investment decisions, particularly when neighboring competitor states offer less of an incentive.³⁸ While these credits may help attract or retain businesses, or at a minimum, encourage companies to make new capital investments, there are also downsides to consider. In contrast to singlesales apportionment, which creates an incentive to hire more, by lowering the cost of capital, ITCs encourage businesses to replace workers with equipment -a firm building a new plant, knowing that it can deduct capital costs, may well decide to purchase more expensive machinery that can be operated by fewer laborers.39

Appendix B

A hypothetical firm makes a \$20 million capital investment, and annual profits create \$1.5 million in state corporate tax liability. The table below shows that the present value of the ITC equals approximately 72 percent of the present value of the EOAC.

Interestingly, the EOAC does have more attractive carry-forward provisions (10-years vs. 3-years). However in this instance, these do not apply because of an unlimited carry-forward rule companies utilizing either credit can claim. Without the unlimited carry-forward, the ITC would only equal 38 percent of the EOAC.

Hypothetical Firm Example of EOAC Credit vs. ITC

	NO UNLIMITED CARRY-FORWARDS			UNLIMITED CARRY-FORWARDS	
	EOAC	ITC	EOAC	ITC	
Investment	20,000,000	20,000,000	20,000,000	20,000,000	
Annual Income	1,500,000	1,500,000	1,500,000	1,500,000	
Annual Tax Liability	142,500	142,500	142,500	142,500	
Credit Subsidy	1,000,000	600,000	1,000,000	600,000	
Draw - Year 1	71,250	71,250	71,250	71,250	
Draw - Year 2	71,250	71,250	71,250	71,250	
Draw - Year 3	71,250	71,250	71,250	71,250	
Draw - Year 4	71,250	-	71,250	71,250	
Draw - Year 5	71,250	-	71,250	71,250	
Draw - Year 6	71,250	-	71,250	71,250	
Draw - Year 7	71,250	-	71,250	71,250	
Draw - Year 8	71,250	-	71,250	71,250	
Draw - Year 9	71,250	-	71,250	30,000	
Draw - Year 10	71,250	-	71,250	-	
Draw - Year 11	-	-	71,250	-	
Draw - Year 12	-	-	71,250	-	
Draw - Year 13	-	-	71,250	-	
Draw - Year 14	-	-	71,250	-	
Draw - Year 15	-	-	2,500	-	
Present Value	\$478,093	\$183,618	\$588,190	\$424,455	

Key Assumptions: Both the EOAC and ITC claims can't surpass 50% of tax liability. Carry-forward provisions are 10 years for EOAC and 3 years for ITC; unlimited carry-over allows them to continue until total value of credit is claimed. Present value at 8%

ENDNOTES

- See Jane Jacobs, The Economy of Cities (London: Penguin Books, 1969); and Robert Lucas, "On the Mechanics of Economic Development," Journal of Monetary Economics 22 (1) (1988); and Richard Florida, The Rise of the Creative Class: And How It's Transforming Work, Leisure, Community and Everyday Life, (New York, NY: Basic Books, 2002).
- 2. Mark Muro and others, "Reconnecting Massachusetts Gateway Cities: Lessons Learned and an Agenda for Renewal," (Boston, MA: MassINC, 2007).
- 3. All of the credits discussed are "tax expenditures" made through provisions in the tax code that reduce state revenue. Therefore the fiscal effect is equivalent to direct government expenditure. Our definition is restricted to tax code changes that benefit specific industries. Estimates of tax expenditures for economic development spending by others include tax code changes that make Massachusetts more uniformly tax competitive. See "Tax Expenditures and Economic Development," (Boston, MA: Massachusetts Budget and Policy Center, 2004).
- 4. Michael Porter, *The Competitive Advantage of Massachusetts*, (Cambridge, MA: Harvard Business School, 1991).
- 5. Joseph Cortright, "Making Sense of Clusters: Regional Competitiveness and Economic Development," (Washington, DC: Brookings, March 2006).
- Mark Muro and others, "Reconnecting Massachusetts Gateway Cities: Lessons Learned and an Agenda for Renewal," (Boston, MA: MassINC, February 2007).
- 7. Michael Wasylenko, "Taxation and Economic Development: The State of the Economic Literature," New England Economic Review (March/April 1997).
- Timothy Bartik, "Solving the Problems of Economic Development Incentives," Growth and Change 36(2) 2005.
- 9. Between 1981 and 2002, the Massachusetts Corporate Excise Tax share declined from nearly 11 percent of revenues to just over 4 percent. However, many factors account for this decline and attributing the contribution of tax incentives can be quite challenging. See Robert Tannenwald, "Massachusetts Business Taxes: Unfair? Inadequate? Uncompetitive?" Public Policy Discussion Papers No. 04-4 (Boston, MA: Federal Reserve Bank of Boston, 2004); Gary Cornia, Kelly Edmiston, and others, "The Disappearing State Corporate Income Tax," Andrew Young School of Policy Studies Research Paper Series No. 06-27, December 2004; and Peter Fisher, "Tax Incentives and the Disappearing State Corporate Income Tax," State Tax Notes 23(9) (2002).
- 10. For summaries of state disclosure laws and website links see http://www.good-jobsfirst.org/news/article.cfm?id=361; also see Rachel Weber and David Santacroce, "The Ideal Deal: How Local Governments Can Get More for their Economic Development Dollar," (Washington, DC: Good Jobs First, 2007).
- Michael Wasylenko, "Taxation and Economic Development: The State of the Economic Literature," New England Economic Review (March/April 1997).
- Roger Schmenner. Making Business Location Decisions. (Englewood Cliffs, NJ: Prentice Hall, 1982).
- 13. The EDIP program also includes an "Abandoned Building Tax Credit" equal to 10 percent of the costs of renovating an underutilized structure. This tool is expected to generate approximately \$4.7 million in tax expenditures in FY09.
- 14. EOAs can be as small as a single tax parcel and by definition must fulfill one or more of the following criteria: "1.Decadent Area: buildings need major repair, negative business conditions, etc; 2.Substandard Area: overcrowding, dilapidation, faulty design, etc; 3.Blighted Open Area: high development costs, 21E issues, ledge presence, etc; 4. Plant closing or permanent layoff of 2,000 or more over previous four years; 5. Area contains a generation facility that was sold at less than 50% of book value."
- Letter from Inspector General Gregory Sullivan to Department of Revenue Commissioner Alan LeBovidge, January 23, 2004. Accessed at http://www.mass.gov/ig/publ/edipltr.pdf.

- 16. While the EOA definitions require some level of blight, communities can escape these requirements by obtaining designation as an "Exceptional Opportunity Area", which involves demonstrating that the project will create significant new business activity. This entitles the project to TIF power; EOA Credits and Abandoned Building Credits are not available to these special districts.
- Robert Wassmer, "The Increasing Use of Property Tax Abatement as a Means
 of Promoting Sub-National Economic Activity in the United States," (California
 State University, December 2007).
- 18. Additional data are required to describe the distribution of state and local investment more precisely. Cities could offer very modest TIF abatements in order to receive the state's matching EOA credit, while suburbs may make more substantial tax abatements. The opposite could also be true. The mean for both groups is significantly skewed by higher value projects. However, comparison of the medians reflects the same proportional disparity (\$5.7 million for the wealthiest vs. \$1.4 million for the least well-off).
- Edward Glaeser, "Comments on Tax Incentives in the City," In *Brookings-Wharton Papers on Urban Affairs*. William Gale and Janet Rothenberg Pack, eds. (Washington, DC: Brookings Institution, 2002).
- Harold Wolman and David Spitzley, "The Politics of Local economic Development," *Economic Development Quarterly* 10 (2) (1996).
- Suzanne O'Keefe, "Job Creation in California's Enterprise Zones: A Comparison Using a Propensity Score Matching Model." *Journal of Urban Economics* 55 (1) (2004).
- 22. Raphael Bostic and Allen Prohofsky, "Enterprise Zones and Individual Welfare: A Case Study of California," Journal of Regional Science 46 (2) (2006).
- "California's Enterprise Zones Miss the Mark," (California Budget Project, April 2006)
- 24. Alyssa Talanker, Kate Daivs, and Greg LeRoy, "Straying from Good Intentions: How States are Weakening Enterprise Zone and Tax Increment Financing Programs," (Washington, DC: Good Jobs First, August 2003).
- Alan Peters and Peter Fischer, "State Enterprise Zone Programs: Have they Worked?" (Kalamazoo, Ml: W.E. Upjohn Institute for Employment Research, 2002).
- George Galster and others, "Measuring the Impact of Community Development Block Grant Spending on Urban Neighborhoods," *Housing Policy Debate* 16 (4) (2004).
- 27. Outside of Massachusetts and in the literature the term "tax increment financing" is generally used to refer to what we call "tax-backed financing" (e.g. bonds serviced by dedicating proceeds from state and local tax collections) in this section. The Commonwealth used tax increment financing to describe its tax abatement program discussed previously. In 2003, when the legislature created what most other states call tax increment financing, they choose the term "District Improvement Financing" to distinguish it from the pre-existing tax abatement program.
- David Wilcox and David Versel. "Review of Best Practices for Tax-Increment Financing in the United States," (Los Angeles, CA: Economic Research Associates, 1999).
- Philip Mattera and Anna Purinton, "Shopping for Subsidies: How Wal-Mart Uses Taxpayer Money to Finance Its Never-Ending Growth," (Washington, DC: Good Jobs First, May 2004).
- 30. Governor Patrick's 2008 legislation to close corporate tax loopholes also relates to the apportionment of income. The new law limits tax planning by requiring companies to "check the box" (i.e. report their corporate status) consistently on their federal and Massachusetts returns. And the bill's 'combined reporting' provision requires corporations to report apportioned income consistently for all affiliated subsidiaries.

- 31. Austan Goolsbee and Edward Maydew, "Coveting Thy Neighbor's Manufacturing: The Dilemma of State Income Apportionment," *Econometrica* 54(6) (2000); Sanjay Gupta and Mary Ann Hofmann, "The Effect of State Income Tax Apportionment and Tax Incentives on New Capital Expenditures," *Journal of the American Tax association* 25 (2003).
- Kelly Edmiston and F. Javier Arze del Granado. "Economic Effects of Apportionment Formula Changes: Results from a Panel of Corporate Income Tax Returns." Public Finance Review 34(5) (2006).
- 33. Browyn Hall and John van Reenen, "How Effective are Fiscal Incentives for R&D? A New Review of the Evidence," *Research Policy* 29 (4-5) 2000.
- 34. Lolita Paff, "State-Level R&D Tax Credits: A Firm-Level Analysis," *Topics in Economic Analysis & Policy* 5(1) (2005).
- 35. Daniel Wilson. "Beggar thy Neighbor? The In-State, Out-of-Sate, and Aggregate Effects of R&D Tax Credits," *Review of Economics and Statistics* (Forthcoming).

- 36. "A Report on the Massachusetts Film Industry Tax Incentives." Massachusetts Department of Revenue. March 2008. Accessed at http://www.mass.gov/Ador/docs/dor/business/outstate/March_2008_Film%20_ Incentives.pdf
- 37. Letter to State Representative Steven D'Amico from Department of Revenue Commissioner Navjeet Bal. May 19, 2008.
- 38. Robert Chirinko and Daniel Wilson, "State Investment Tax Incentives: A Zero-Sum Game?" Federal Reserve Bank of San Francisco Working Paper 2006-47 (San Francisco, CA: December 2006).
- 39. Leslie Papke, "What Do We Know about Enterprise Zones?" Tax Policy and the Economy 7 (1993).

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