CITY OF PHILADELPHIA
PENNSYLVANIA

OFFICE OF THE CONTROLLER

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AN ANALYSIS OF THE

KEYSTONE OPPORTUNITY ZONE PROGRAM, 1999-2012

The Costs and Benefits to Philadelphia

City Controller
ALAN BUTKOVITZ

CITY OF PHILADELPHIA

12th Floor, Municipal Services Blvd.
1401 John F. Kennedy Boulevard
Philadelphia, PA 19102
(215) 686-6680
FAX (215) 686-3832
Email: alan.butkovitz@phila.gov

ALAN BUTKOVITZ
City Controller
www.philadelphiacontroller.org

March 19, 2014

Alan Greenberger, Deputy Mayor for Economic
Development and Director of Commerce
Commerce Department
1515 Arch Street – 13th Floor
Philadelphia, PA 19102

We have conducted an examination of the Keystone Opportunity Zone (KOZ) Program's costs and benefits to Philadelphia taxpayers. A synopsis of our work is provided in the executive summary in the attached report.

The KOZ Program was created in 1998 by Act 92 of the Pennsylvania General Assembly with the aim "to foster economic opportunities in this Commonwealth, to facilitate economic development, stimulate industrial, commercial and residential improvements and prevent physical and infrastructure deterioration of geographic areas within this Commonwealth." This study represents the first such effort to examine the cost-benefit analysis of the Program in the City of Philadelphia over the 15-year period. Our findings and recommendations are found in the report's introduction.

We would like to express our thanks to you and your staff at the Commerce and Revenue Departments for their courteous cooperation during the conduct of our work.

Sincerely,

ALAN BUTKOVITZ
City Controller

Cc: Honorable Michael A. Nutter, Mayor
Honorable Darrell L. Clarke, President
And Honorable Members of City Council
Revenue Commissioner Clarena Tolson
Finance Director Rob Dubow

EXECUTIVE SUMMARY

Why The Controller's Office Conducted This Analysis

The Controller instructed the Policy Division to examine the City's major tax incentive programs to determine their costs and benefits to Philadelphia taxpayers. The Keystone Opportunity Zone Program is widely touted as the "number one economic development strategy in the nation" and responsible for the creation of tens of thousands of jobs according to the PA Department of Community and Economic Development,[1] yet we discovered that there has never been a cost-benefit analysis of the KOZ Program in its 15-year history. This study represents the first such effort.

What The Controller's Office Found

1) During the period from 1999 through the end of 2012, the Revenue Department awarded $384.7 million in tax credits to 617 business entities in the KOZ Program.

2) Wage Tax receipts from KOZ participants during this period totaled $132.6 million. Of these receipts, $93.4 million represent revenues that preexisted KOZ participation.

3) The KOZ program can plausibly be credited with boosting tax revenue to the General Fund by just over $39.2 million and creating about 3,700 new jobs in this 14-year period.
    - Each additional job cost $103,971 in credits; if we assume that the average annual wage for a job among KOZ participating entities is $50,000 a year, at a Wage Tax rate of 3.924%, it would take roughly 52 years for each new job to pay itself off.
    - Assuming that 100% of the companies doing business as of the end of 2012 remain in the City after the KOZ's tax incentives expire, they represent potential future annual business tax revenues of $18.7 million. At 100% retention, it would take roughly 19 years to 'pay off' the $359 million in BIRT credits and foregone BIRT revenues.

4) The records necessary to provide adequate oversight of the KOZ Program largely do not exist. The Commerce Department shreds new and renewal applications after three years and does not convert them to electronic records. Neither Commerce nor the Revenue Department requires KOZ participants to track job creation or capital investment in any verifiable form. This means that reports like this one require an inordinate amount of time and economic modeling.

What The Controller's Office Recommends

To improve oversight of the KOZ Program in the City of Philadelphia, the Department of Commerce and the Department of Revenue need to implement a record-keeping system that communicates information between the two departments. The KOZ administrator needs to devise policies and procedures to verify claims of jobs created and retained as well as investments made by KOZ participants. In addition, City Council should require an annual report from the KOZ administrator, which could then be subject to regular audit by the Controller's Office.

[1] http://www.newpa.com/business/expansion-relocation/keystone-opportunity-zones (last accessed 3/7/2014)

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Introduction

Background

The Keystone Opportunity Zone (KOZ) Program was created in 1998 by Act 92 of the Pennsylvania General Assembly. Patterned after similar programs in Michigan and other so-called "rustbelt" states that had experienced decades of economic decline, the program's stated aim was "to foster economic opportunities in this Commonwealth, to facilitate economic development, stimulate industrial, commercial and residential improvements and prevent physical and infrastructure deterioration of geographic areas within this Commonwealth." The KOZ Program aimed to do so by creating 12 virtually tax-free zones across the state; local governments were empowered to designate specific parcels, located in 'distressed' areas, as KOZs. The program had two general aspects: owners of properties that were designated as KOZs received a lengthy real estate tax abatement, while any "qualified" business that located in a designated site received a full credit against state corporate income taxes as well as local income and business taxes. The law created a series of guidelines that local KOZ administrators would use to determine whether an applicant was qualified. The City of Philadelphia was an early and enthusiastic adopter of the KOZ model and by 2012, had over 2,600 acres in the program, much but not all of it located in distressed industrial areas of the City.

In Philadelphia, where the City's General Fund is heavily reliant on local business and wage tax revenues, there was an implicit bargain embedded in the KOZ Program: in exchange for eliminating business taxes, a widely-touted barrier to business attraction and retention, the City would recoup its losses over time in the form of greatly increased wage tax revenues that would flow from heightened business activity and the attendant increased employment. Thus we have a set of ostensibly testable propositions: After nearly a decade and a half of the KOZ Program in Philadelphia, has this 'deal' worked as promised? Has the KOZ Program led to increased employment in the City of Philadelphia and thus, to increased wage tax revenues? At what cost in foregone business and property tax revenue?

Answering these questions proved to be more difficult than anticipated, for several reasons. First, Act 92 established very loose standards for qualifying a business and required very little in the way of verifiable reporting of outcomes; virtually all results are self-reported and there are no audit or oversight requirements. Second, and related, at the City level, the Department of Commerce controls enrollment in the program, but the Department of Revenue is responsible for awarding the tax credits; in practice, this meant that the Commerce Department's list of qualified businesses was not coterminous with the Revenue Department's list of businesses that received tax credits. And finally, since there was no requirement for any sort of audit or verification, neither at the state nor local level had anyone compiled data necessary to truly 'do the math,' so to speak. This report, based on tax returns, KOZ applications, and other data from the Departments of Revenue and Commerce, represents the first such attempt to do so in Philadelphia.

Findings

1) During the period from 1999 through the end of 2012, the Revenue Department awarded $384.7 million in tax credits to 617 business entities in the KOZ Program. These included:
    - $243 million in Business Income and Receipts Taxes (BIRT)
    - $15.9 million in Net Profits Taxes (NPT)
    - $97.5 million in Real Estate Taxes (RET)
    - $28.2 million in Use & Occupancy Taxes (UOT).
2) Wage Tax receipts from KOZ participants during this period totaled $132.6 million. Of these receipts, $93.4 million represent revenues that preexisted KOZ participation.
3) Of the 617 businesses that participated in the KOZ Program from 1999 through 2012:
    a. 209 (33.9%) were on the City's tax rolls at least one year prior to their entry in the KOZ Program, representing at least $116 million in foregone business tax revenue.
    b. 408 (66.1%) were new to the City; these were awarded $147 million in BIRT credits between 1999 and 2012.
    c. 77 businesses participated in the KOZ Program for only for one year, and were awarded $1.9 million in BIRT credits; according to the program guidelines, these companies should have repaid these BIRT credits.
4) The KOZ program can plausibly be credited with boosting tax revenue to the General Fund by just over $39.2 million and creating about 3,700 new jobs in this 14-year period.
    a. Each additional job cost $103,971 in credits; if we assume that the average annual wage for a job among KOZ participating entities is $50,000 a year, at a Wage Tax rate of 3.924%, it would take roughly 52 years for each job to pay itself off.
    b. This report offers no opinion on the KOZ Program's impact on job or business retention, since there is no way to test or verify any retention claims with available data.
    c. Assuming that 100% of the companies doing business as of the end of 2012 remain in the City after the KOZ's tax incentives expire, they represent potential future annual business tax revenues of $18.7 million; 67% retention would translate to $12.5 million annually. At 100% retention, it will take roughly 19 years to 'pay off' the $359 million in BIRT credits and foregone BIRT revenues; at 67% retention, it will take roughly 29 years.
5) 47.6% of the KOZ-designated acreage is currently occupied, while 52.4% is vacant.
6) The distribution of jobs created by sector is as follows:

Sector	Percentage of Total Jobs Created
Retail Trade	37.1%
Information, Finance & Insurance	21.1%
Transportation and Warehousing	17.3%
Utilities	14.7%
Professional, Scientific, and Technical Services	5.1%
Wholesale Trade	4.7%
Educational Services, Health Care and Social Assistance	2.4%
Real Estate	1.4%
Construction	1.3%
Administrative & Support, Waste Management & Remediation Services	-1.8%
Manufacturing	-3.3%

7) The benefits and the costs of the program were unevenly distributed by industry, as illustrated below:

Sector	BIRT & NPT Credits Awarded (% of total)	Wage Tax Receipts (% of Total)
Information, Finance & Insurance	57.3%	5.4%
Professional, Scientific and Technical Services	16.2%	20.6%
Real Estate and Rental & Leasing	10.8%	1.1%
Wholesale Trade	5.6%	7.7%
Transportation and Warehousing	2.6%	9.2%
Manufacturing	1.8%	23.0%
Management of Companies and Enterprises	1.3%	0.0%
Construction	1.2%	6.8%
Retail	0.8%	15.4%

8) Our analysis of the credit and revenue data disaggregated by industrial sector suggests that the KOZ Program provided a reasonable Return On Investment (ROI) in sectors such as Retail, Utilities, Transportation & Warehousing, and Manufacturing, but for sectors such as Finance and Real Estate, it amounted to a major subsidy program with very low ROI.

9) These findings are consistent with the literature in urban economics, which holds that diffuse tax incentive programs such as the KOZ are an ineffective tool for enhancing economic growth. Programs like the KOZ tend to subsidize firms in sectors that are already doing well under local economic conditions. Such programs do little to address the needs of start-ups or small business, as they do not pay enough in local taxes for the credits to offset the cost of doing business in these distressed areas.

10) On the administrative side, the records necessary to provide adequate oversight of the KOZ Program largely do not exist. The Commerce Department shreds new and renewal applications after 3 years and does not convert them to electronic records. Neither Commerce nor the Revenue Department requires KOZ participants to track job creation or capital investment in any verifiable form. This means that reports like this one require an inordinate amount of time and economic modeling.

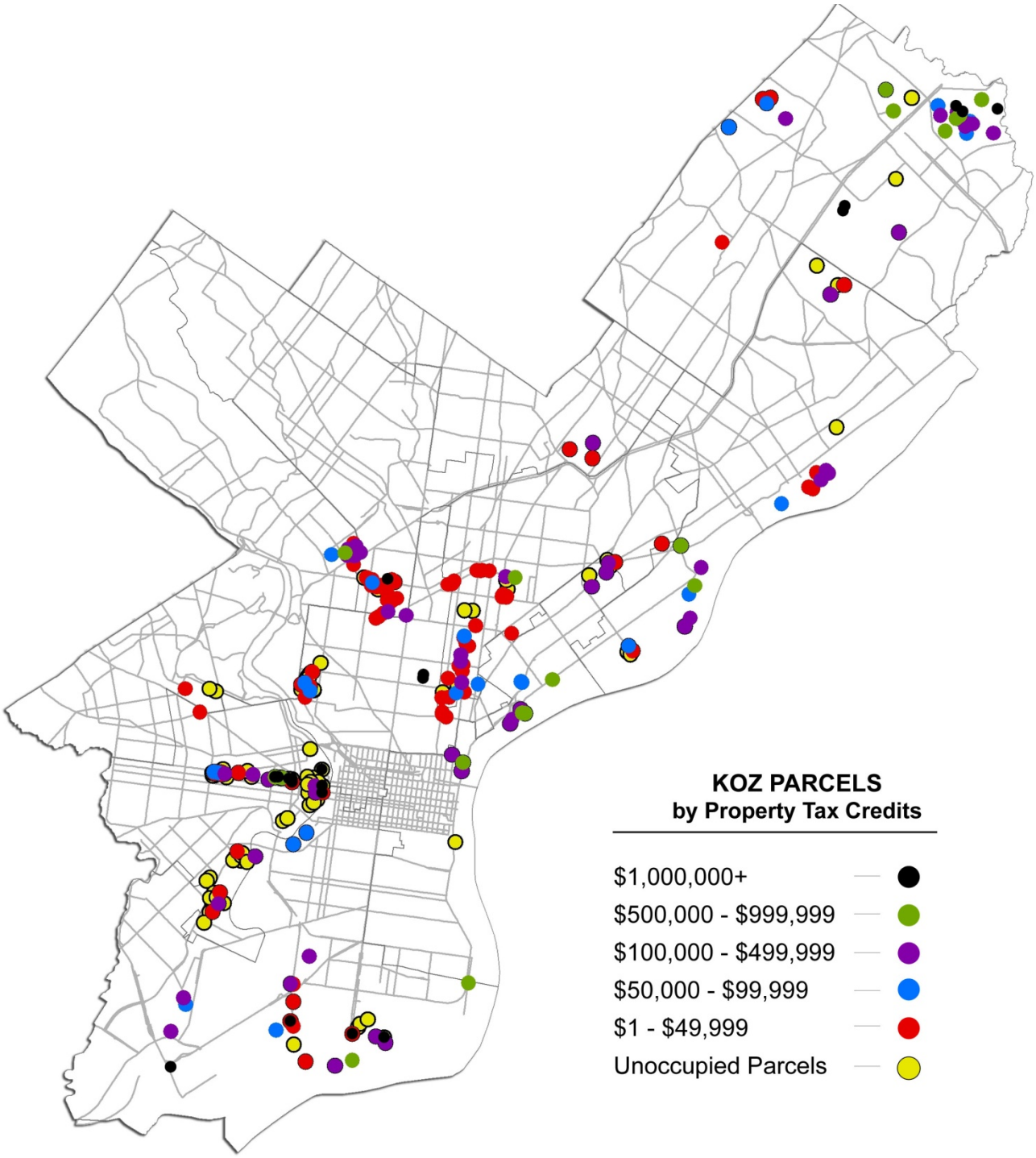
Recommendations

1) The Department of Commerce and the Department of Revenue need to implement a record-keeping system that communicates information between the two departments.

2) The KOZ administrator needs to devise policies and procedures to verify claims of jobs created and retained as well as investments made by KOZ participants.

3) City Council should require an annual report from the KOZ administrator, which could then be subject to audits by the Controller's Office.

Figure 1: Geographic Distribution of KOZ Parcels



Economic Analysis of the KOZ Program

Overview

The Keystone Opportunity Zone (KOZ) Program was created to spur economic investment and development and to fundamentally change the city's business climate by creating a virtually tax-free environment in specified areas throughout the Commonwealth. Over the course of the 14 years examined in this report, the City of Philadelphia, primarily through the Commerce Department, achieved KOZ designation for over 2,600 acres, including more than 100 buildings. Most of the KOZ sites are located in economically marginal or distressed areas. In theory, by decreasing the cost of doing business by reducing the tax burden close to zero, firms would flock to KOZs and bring with them jobs and growth. Like other tax credit programs, the implicit assumption is that any money a firm does not spend on taxes will instead be directed and spent growing the firm's employment, capacity, or both.

In the case of Philadelphia, where the City levies both a Wage Tax and a Business Income and Receipts Tax (BIRT), the KOZ Program promised an implicit (and occasionally explicit) trade-off: the City would forego BIRT, NPT, Property and Use & Occupancy Tax revenue for a lengthy but delimited period in return for additional revenue from Wage Taxes generated as a result of jobs that, but-not-for-the-KOZ-Program, would not otherwise be located in the City.[2] Since more than half of Philadelphia's General Fund revenues derive from business and wage taxes, this implicit bargain is highly significant, and to our knowledge, has never been explicitly analyzed with actual tax data. What follows is an analysis of the impact of 14 years of the KOZ Program on the City's treasury and economy.[3]

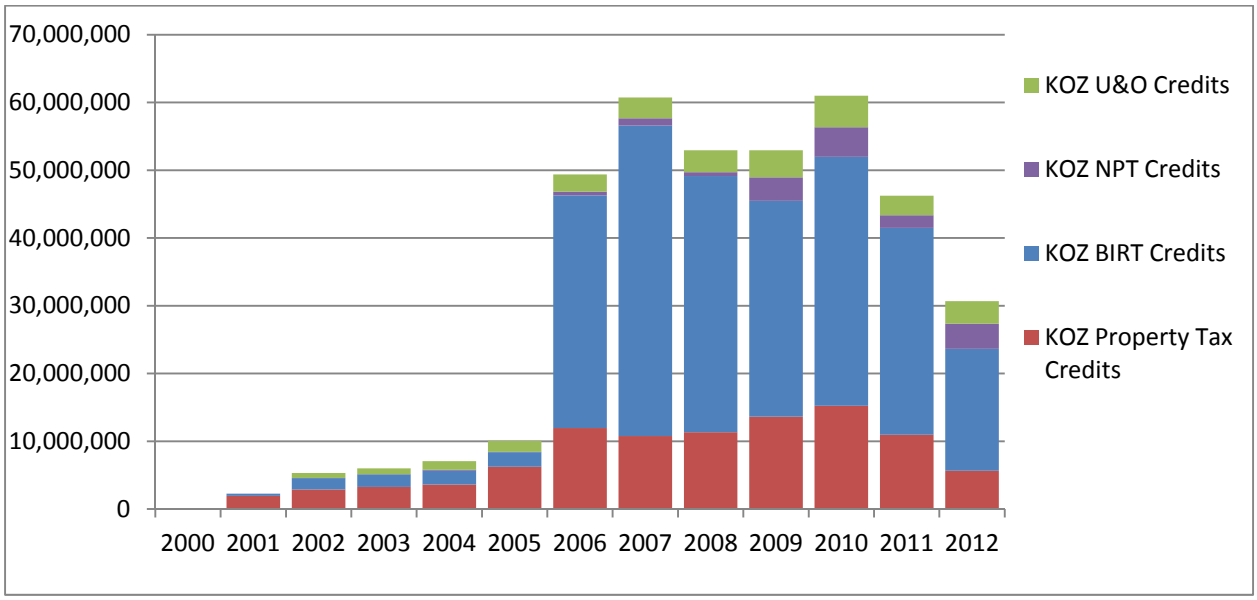
[2] The Wage Tax currently stands at 3.924% for Philadelphia residents and 3.495% for non-residents; the Business Income and Receipts Tax has two components: Net Income at 6.45% and Gross Receipts at 0.1415%. In our conversations with staff in the Commerce Department who are intimately involved with the KOZ Program's implementation, the 'but-not-for' argument was constantly raised. Commerce staff also expressed a belief that the foregone business tax revenues and the additional wage tax revenues attributable to the KOZ Program are "a wash."

[3] See Appendix A for the theoretical and methodological underpinnings of this analysis. Thanks to Professor Mike Bognanno of Temple University for reviewing the analytical work herein, as well as another academic reviewer with expertise in the economics of tax credits who prefers to remain anonymous.

Credits awarded by tax type

With data obtained from the Philadelphia Departments of Revenue and Commerce and the Office of Property Assessment (OPA), along with supplemental materials from Federal agencies, the Controller's office was able to determine that from the inception of the program in 1999 through the end of 2012, the City awarded credits against more than $243 million in Business Income and Receipts Taxes (BIRT), nearly $16 million in Net Profits Taxes (NPT), more than $97.5 million in Real Estate Taxes (RET), and more than $28 million in Use & Occupancy Taxes (UOT), for a total of $384.7 million in credits. The vast majority of the entities receiving credits paid no Wage Taxes, presumably because they were partnerships or Single-Member LLCs with no statutory employees. Those entities-with-employees paid nearly $133 million in Wage Taxes; our analysis suggests that the KOZ program can plausibly be credited with boosting wage tax revenue by just under $39.2 million and creating between 3,669 and 3,744 new jobs.[4] These findings are illustrated in Figure 2 below. [5]

Figure 2: Total Tax Credits Awarded During the KOZ by Year (Total $384.7 Million)



[4] See Appendix A for an explanation of the difference between the boost in $39.2 million ($39,219,543) of additional wage tax revenue and the $7,702,108 in change in wage tax collected, as well as an explanation of the job creation range.
[5] See Appendix B for Table B-1: Credits Awarded Vs. Revenue Collected

Challenges Gathering the Data

Of the many challenges that arose while trying to gather the data for this report, the two most significant were the lack of a continuous timeline of jobs created and a lack of information surrounding private investment. Until 2010, in the wake of a report prepared by the Legislative Budget and Finance Committee of the Pennsylvania General Assembly, there was no requirement that regional KOZ Program administrators collect or track this data.[6] After 2010, both the initial submission and the renewal application for the KOZ Program included lines for reporting job numbers at the time a firm entered the program and annually at renewal, as well as the estimated amount of private investment. Thus, there is no straightforward way to track the progress of the program in terms of job creation or investment continuously over time; instead only snapshots exist, these occur well after the fact, and they are self-reported. Additionally, due at least in part to the structure of the program – the Commerce Department utilizes the KOZ Program as a business recruitment and retention tool and essentially acts as gatekeeper for the program while the Revenue Department awards the credits based on annual tax returns – the figures given in Commerce Department reports diverge significantly from data generated by the Revenue Department. Further, due to a records disposition policy adopted by the Commerce Department around 2008 or 2009, applications are only retained for three years before they are shredded, and thus key primary sources of information have disappeared.[7]

This paucity of data meant that we were left with the alternative of attempting to approximate job creation over time by using Wage Tax Reconciliation returns from the Revenue Department. Unfortunately, the Revenue Department's job numbers were also problematic, albeit for different reasons; while the Commerce Department's figures simply did not exist in real time, the Revenue Department's figures were sparse and inaccurate, since companies only occasionally enumerated numbers of employees on tax returns, only total wage taxes due and paid. Thus we had to attempt to

[6] Legislative Budget and Finance Committee; A Joint Committee of the Pennsylvania General Assembly, "An Evaluation of the Keystone Opportunity Zone (KOZ) Program," as required by House Resolution 115 of 2007, June 2009.
[7] Astonishingly, none of the records have been digitized.

address some key questions about the promises of the KOZ Program's effect on employment through statistical analysis and imputation.

Yet another challenge entailed matching property parcel numbers from the OPA to the Entity ID or Account ID numbers that are used by the Revenue Department and the Commerce Department. Matching Entity ID numbers across different data bases should be relatively simple; however OPA's files contain only parcel ID, address of the parcel, and name of the ownership entity. There is no way to determine how many parcels a certain entity owns by looking up a specific number; this requires matching addresses and names across databases. Minor discrepancies in spacing, spelling, name changes or owners, along with the fact that many corporations establish a property holding company with a distinct name for the sole purpose of owning or managing real estate produced much ambiguity. Thus, determining the precise amount of property tax credits awarded to a particular firm was virtually impossible. This meant that for the purposes of determining a relationship between business tax credits awarded and jobs created or Wage Tax revenues paid, we could really only rely on data related to BIRT and NPT credits. In other words, except for the aggregate figure of $384.7 million in total credits awarded, the more nuanced cost analyses herein are almost certainly underestimates.

Findings by Tax Type

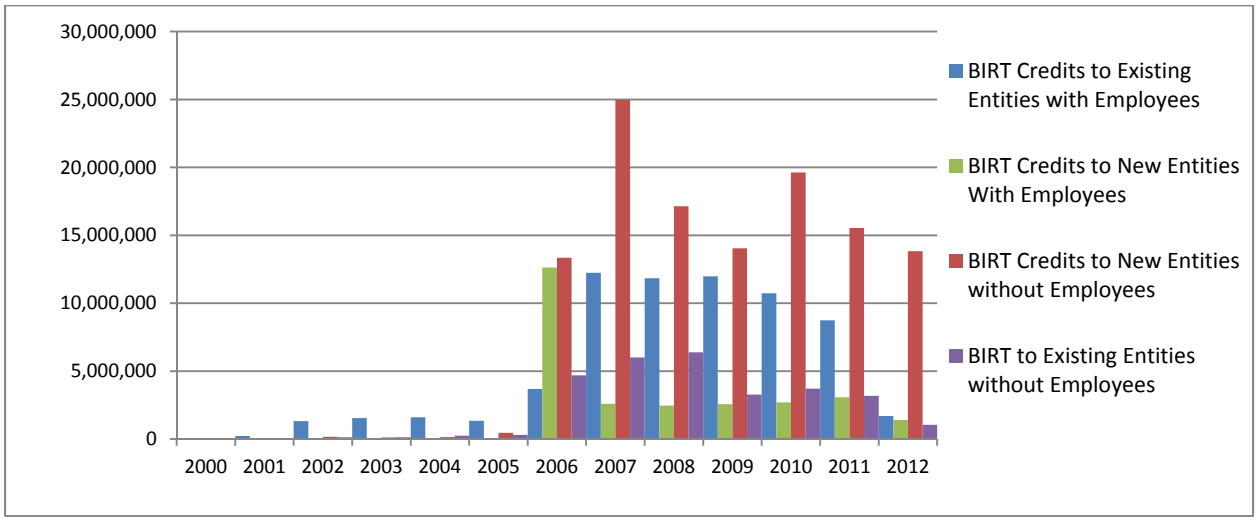
The available tax information shows that 617 distinct entities received either BIRT or NPT credits or both for at least one year during the period of this study, 1999-2012. Of those 617 entities, 424 remitted no Wage Taxes during their time in the KOZ Program, presumably because they are partnerships or Single-Member Limited Liability Corporations that lack statutory employees. These 424 'entities without employees' received $161.1 million in NPT and BIRT credits, the remaining 193 'entities with employees' received $97.8 million in BIRT and NPT credits and remitted $132.6 million in Wage Taxes, of which about $39.2 million was new revenue to the city. Table 1 below summarizes this data. It should be noted that until the opening of the Cira Centre in 2006, the magnitude of the entire program

was quite small, and the proportion of credits going to entities with employees was far higher than those without employees. As Figure 3 below illustrates, this reverses dramatically in 2006.

Table 1: Wage Tax Receipts Compared to BIRT and NPT Credits, 1999-2012

	Entities	Total Wage Tax Collected	Additional Wage Tax Revenue	KOZ BIRT Credits	KOZ NPT Credits
With Employees	193	$132,623,735	$39,219,553	$94,583,100	$3,272,414
Without Employees	424	$0	$0	$148,547,838	$12,567,509
Grand Total	**617**	**$132,623,735**	**$39,219,553**	**$243,130,939**	**$15,839,923**

Figure 3: BIRT Credits for Entities without Employees vs. with Employees[8]



Estimating Wage Tax receipts and job creation, particularly receipts and jobs that can plausibly be attributed to the KOZ Program, turned out to be a reasonably complicated exercise. Our analysis began by breaking the receipts into three different components – Total Wage Tax Collected, Additional Wage Tax, and Change in Wage Tax. Total Wage Tax Collected represents the aggregated Wage Tax receipts from all of the participating entities in the KOZ program during the period of this study. Additional Wage Tax is the amount of incremental revenue the City has collected as a result of the KOZ Program; it is in turn, derived from analyzing receipts from two different groups of firms, entities that

[8] See Appendix B for Table B-2: BIRT Credits Awarded by Year; Entities With Employees vs. Without

pre-existed the KOZ and entities that were new to the city. To determine the additional wage tax from the existing entities we subtracted the wage tax from the year before entering the KOZ by the wage tax of each year in the KOZ. Through this process, we determined that these entities produced Additional Wage Tax revenue of just over $30.8 million. This number was then added to the $8.4 million in Wage Tax collected by new entities, since that was all entirely new revenue for the City, yielding a Grand Total of Additional Wage Tax Revenue of $39.2 million.

In order to determine the change in Wage Tax we ran a regression model using all available Wage Tax data for those entities back to 1999 whether in the KOZ Program or not. The change in Wage Tax was calculated by subtracting one year from the previous year and setting that as the dependent variable with the independent variables of IN_KOZ and dummy variables for each year. This provided changes in Wage Tax for a single entity in a single year. By then multiplying the number of entities in a particular year by the single entity change, we derived the Change in Wage Tax for each year.

In order to determine the number of jobs created as a result of the KOZ Program, changes in Wage Tax had to be determined for every entity. We started with the assumption that there is a direct relationship between Wage Tax remittances and numbers of jobs, and therefore changes in Wage Tax receipts would vary proportionately to changes in number of jobs. We ran regressions with all entities that paid Wage Tax, again using Change in Wage Tax as the dependent variable; we determined Change in Wage Tax for each year and aggregated these figures to derive a total Change in Wage Tax over the 14-year period. This process was used to try and remove the 'noise' of jobs being created or lost as a result of changes in the general local economy. Our analysis indicates that the overall Change in Wage Tax that can be plausibly attributed to the KOZ Program in this period was $7.7 million.[9] To derive a jobs-created number, we calculated annual increases in payroll by dividing the annual Change in Wage

[9] Change in wage tax for existing entities, $5,517,622, Additional wage tax from existing entities is 30,829,843; Change in wage tax from New entities, 2,184,486, Additional Wage tax from New Entities is $8,389,710; Additional Wage Tax from all entities is 39,219,553, Change in Wage Tax for all entities is $7,702,108

Tax figures by the then-current Wage Tax rate, and divided those figures by the then-current average wage and summed them over time. This process produced an estimate of 3,744 jobs created as a result of the KOZ Program's incentives.[10]

Determining the number of jobs created by sector was a more straightforward exercise. Again we used annual Change in Wage Tax, dividing by the Wage Tax rate for each year to calculate new payroll; we then divided by average income for that year to determine the amount of jobs each entity either gained or lost. We then summed these figures by sector and then aggregated; by this process, we estimated that 3,669 total jobs were created as a result of the KOZ Program's incentives. Since both methods, the aggregate and the sectoral, yielded results that are within 3% of each other, we have a reasonable degree of confidence in their accuracy.

The results of our analysis diverge significantly from the figures reported by the Commerce Department of 5,332 new jobs created by the KOZ Program. As we have noted, these figures were self-reported by KOZ participants with no mechanism or process for verification. Since our analysis is based on actual Wage Tax data, we believe our estimate is far more reliable than self-reported and unverified data. We have no opinion on the Commerce Department's figures for job retention, since there is no way to test or verify these figures with available data.

The KOZ and Property Taxes

In Philadelphia, owners of commercial properties are required to pay two distinct taxes. The first is the Real Estate Tax (RET), levied on the assessed value of a property, which in the commercial sector is a function of income generated by that property. The revenue from the RET is split between the School District of Philadelphia and City's General Fund; during the course of this study the ratio has

[10] See Appendix A for additional notes on the methodology regarding how Jobs Created were derived from Change in Wage Tax.

fluctuated between 55% -60% going to the School District.[11] The Use & Occupancy Tax (UOT) is levied on the "business, trade or other commercial use and occupancy of real estate located in Philadelphia," according to the Revenue Department. The UOT is imposed on both landlords and tenants of commercial buildings.

The amount of UOT credits awarded experienced steady growth as the KOZ program evolved. Over $28.2 million in UOT credits were awarded to 843 discrete entities during the period of 2002-2012, the years of available data.[12] While the amount of credits awarded progressively increases over time, the number of entities participating in any specific year remains relatively constant, fluctuating between 105 and 170.

The RET credit evolved in a similar manner, the number of properties participating in the program and the amount of credits awarded grew steadily beginning in 2001. In total, through 2012, 321 parcels received a total of $ 97.5 million in credits**,** of which $39.7 million was the City portion and $57.7 million was the School District portion. In 2001, there were 64 parcels that were exempt under the KOZ Program from the Real Estate Tax, totaling $1.9 million in credits. As Figure 4A below demonstrates, beginning in 2006, over $10 million in credits were awarded annually, with 2010 as the watermark year. After 2010 the magnitude of property tax credits awarded declined when the first round of credits expired. These findings are illustrated in Figure 4B below.[13]

[11] It should be noted that, unlike the tradeoff of Business for Wage Tax revenue that the City's General Fund hypothetically enjoys, there is no offset for the School District's portion of the KOZ's RET credits. This problem has been noted with respect to the City's Ten-Year RET abatement, but very little attention has been paid to the KOZ Program's role in depriving the SDP of revenue.

[12] For reasons that are unclear, the Department of Revenue was able to provide data only for this ten-year period.

[13] See Appendix B for Table B-3: Property Tax Credits Awarded by Tax District and Parcels Receiving Credits

Figure 4A: Real Estate Tax Credits by Year (Total = $97.5 million)

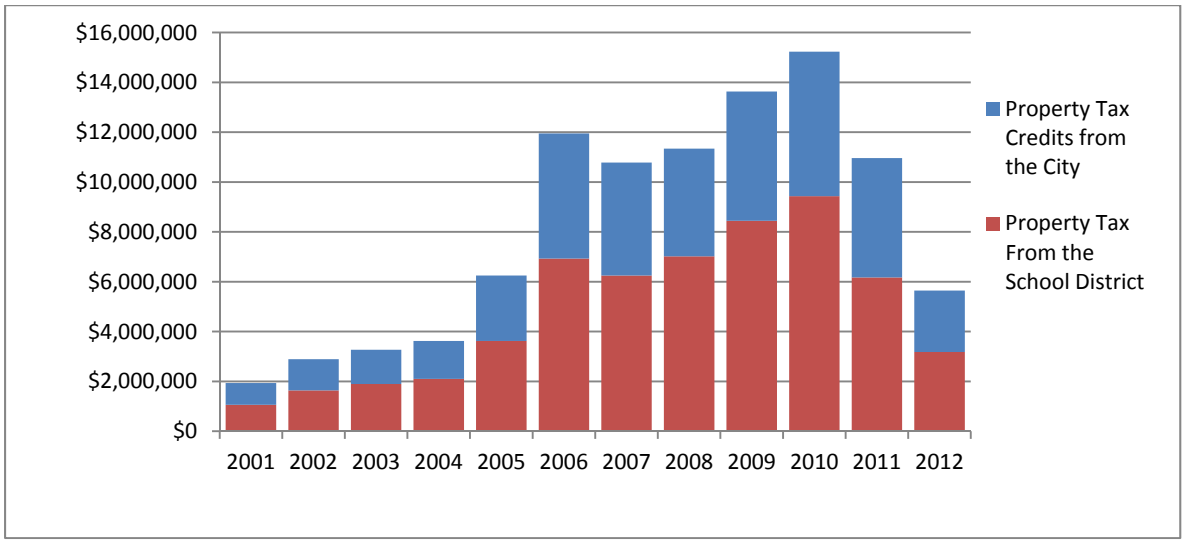
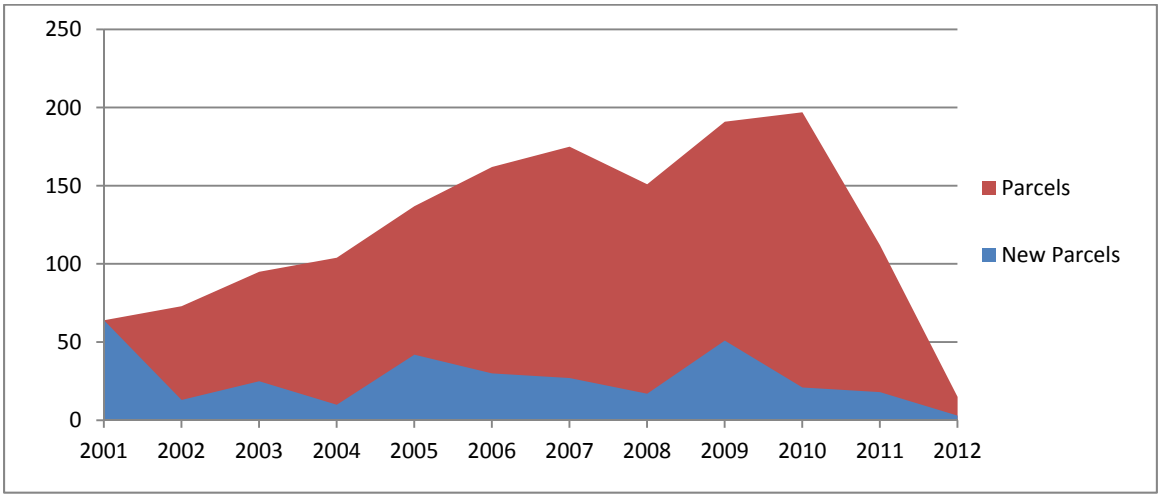


Figure 4B: Eligible Number and Additional Parcels Granted Tax Exemption by Year



The KOZ Program as a Development Strategy

A central if not always explicitly stated argument for subsidizing firms through the tax code is that the entities receiving subsidies will be sheltered from economic downturns and invest more in robust growth during economic expansions. In an attempt to determine the level of growth while controlling for new entities entering the program at different stages of the business cycle, we created a statistical model that controls for these events. Our model shows that once existing entities enter the KOZ Program, they pay $3,600 more in wage taxes each year, on average, after entering the Zone.

Because the KOZ Program is generally idiosyncratic and non-intentional in its enrollment, that is, there is no attempt to privilege one sector over another – for example, to target either "emerging" or "at-risk" industries – some of the entities in the KOZ Program are in sectors that are already robust under prevailing economic conditions in Philadelphia.[14] We used the Location Quotient (LQ),[15] an indicator compiled by the Bureau of Labor Statistics, to contrast the size of employment in different industry sectors across the City in proportion to the national economy. LQ's impact on Wage Tax receipts and Change of Wage Tax paid by the existing entities, together with the impact of the BIRT and NPT credits shows that the higher the LQ of the entity, the more it pays in Wage Tax. Conversely, the higher the LQ the less it contributes to the Change in Wage Tax. The entities with a higher LQ need the general economy to do well, as a certain percentage of the labor force will always be employed by these industries. Therefore, subsidizing entities in these industries effectively tilts the economic playing field in their direction while siphoning off revenue from the City. In other words, we found that large well-established industries that are not unique to the City and are thriving within its boundaries add little in the way of Wage Tax growth despite receiving enormous subsidies.

The Cira Effect

The opening of the Cira Centre at the end of 2005 fundamentally altered the mix of industries and entities involved in the program. Prior to 2006 the City's tax expenditures under the KOZ Program were a tiny fraction of total tax revenues collected; after 2006, the City's tax expenditures rose dramatically. Cira's construction was announced late in 2002 and it was quickly designated a KOZ,

[14] The KOZ Program is often described by Commerce Department and PIDC staff as an incredibly useful "tool in the toolkit" for attracting or retaining individual firms in Philadelphia. This analysis is not in any way meant to impugn the hard and smart work by the City's Commerce Department or PIDC. In the end, though, the evidence seems to strongly suggest that a more targeted and data-driven approach to business development would be more effective and beneficial to the City's General Fund.

[15] A location quotient is calculated by dividing the industry's share of employment in the region (Philadelphia) by the industry's share of employment in the nation. If the location quotient is higher than 1, that means the industry's share of employment in the region is greater than its share of employment in the nation. This was calculated by the Bureau of Labor Statistics

albeit not without controversy.[16] The 29-story, 437-foot building was developed by Brandywine Realty Trust and designed by Italian architect César Pelli. The modernist skyscraper was built on a platform over railroad tracks at Amtrak's 30th Street Station in West Philadelphia, at a cost of $180 million. It was 93% pre-leased by the time it opened in October 2005. In the words of its proponents, the Cira Centre was designed to show the region and those arriving into the city either by highway or rail that Philadelphia "was open for business."

Cira was the first Class A office building constructed in Philadelphia in the better part of a decade and the first major office tower on the western side of the Schuylkill River, serving as the leading edge of the planned westward expansion of the City's Central Business District. It became a magnet for legal and financial services firms, several of which were lured to cross the river by the combination of the KOZ's generous tax incentives and the fact that Cira is a transit-oriented development adjacent to Amtrak's 30th Street Station and SEPTA's transit and regional rail hub.[17] Brandywine earned accolades for developing a very difficult parcel and for creating an impressive new addition to the skyline that also served to connect Center City and the burgeoning University City.

According to a report done for Brandywine by Econsult in 2007, the construction of the building generated significant economic activity: over $340 million in direct, indirect, and induced spending, employing nearly 1,500 construction workers who earned $55 million, translating into an additional $2 million in Wage Tax revenue for the City. Once the building opened, it was projected that its ongoing operations would generate $11.9 million a year in the form of Wage and Earnings tax revenues through 2018, when KOZ designation is set to expire; after 2018, the building was projected to generate $18.5

[16] A coalition of Center City commercial property owners and the Center City District raised serious objections to KOZ designation for Cira, suggesting that KOZ status would undermine an already weak commercial real estate market, among other things. The objections are summarized in Econsult's January 2007 report, "Estimated Economic and Fiscal Impact of the Cira Centre," pp. 11-12.

[17] Until a change to the KOZ law in 2012, partners in legal and financial services firms would pay no local or state taxes on earned income.

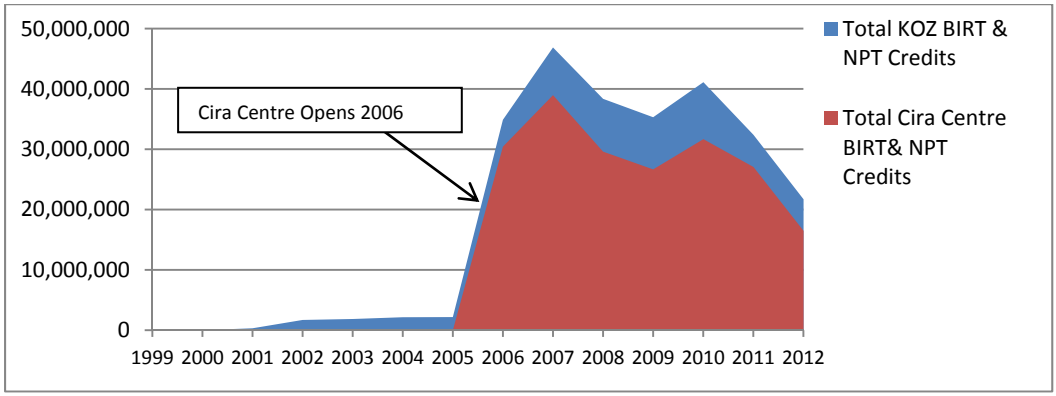
million per year, $13.5 million from Wage and Earnings taxes, $1.2 million in BIRT, $3.1 million in property taxes, and another $0.6 million in Sales Taxes.[18]

Using data from the Department of Revenue, we are in a position to test the revenue projections for the first 7 years of the building's operation. The City received $27.7 million in Wage Taxes from the entities listed at the Cira Centre during this period, about $4 million per year, about 30% of projections; however when Wage Tax revenue from entities that pre-existed entry in the KOZ is factored out, we can only plausibly attribute at most $6.7 million in Additional Wage Tax receipts.[19] In sum, the Wage Tax revenue projections during the period of the KOZ have proven rather optimistic.

On the credits side, the entities listed at the Cira Centre account for $186 million in BIRT credits and $14 million in NPT credits from the 2006 until the end of 2012.[20] The $200 million in total business tax credits for Cira entities represents 77% of all business tax credits distributed by the KOZ program over the 14-year period covered in this study. Figure 5 below illustrates all business tax credits awarded under the KOZ Program; the credits awarded to firms located in Cira Centre are denoted in red. The BIRT credits awarded to entities located in the Cira Centre between its opening and the end of 2012 were equivalent to more than 7% of the total BIRT revenues collected and 20% of the NPT, while Wage Tax receipts were only 0.3% of the citywide total.[21]

[18] Econsult Solutions, "Estimated Economic and Fiscal Impact of the Cira Centre," January 2007, see especially p. 18 and p. 33.
[19] Econsult, January 2007. In 2007, Econsult estimated that only 42.6% of the jobs in the Cira Centre were new to the city, the rest had been relocated from inside its limits.
[20] NPT is a tax paid almost exclusively by partnerships such as law firms or financial services firms, many of which have few or no employees
[21] See Table B-5 in Appendix B.

Figure 5: The Cira Effect on the KOZ Program[22]



It should also be noted that opponents of awarding KOZ status to the Cira Centre raised alarms about a zero-sum shift of commercial office tenants from Class A office space in Center City to the Cira's higher-quality A+ space, or even a depression of rents due to Cira's tax advantages. Despite the fears of contemporary critics, these fears do not seem to have materialized, for two reasons. On the one hand, there appears to have been latent demand for high-quality office space that Cira met; on the other, in response to a hot residential market, several major commercial buildings in the CBD underwent partial or complete conversions. In 2005 there were 26.5 million square feet (SF) of Class A commercial office space in Philadelphia and a vacancy rate of 9.8%, and 3 years later, prior to the Great Recession, there was 28.9 million SF and a vacancy rate of 9.2%.[23]

In general, the data suggest that the 2007 Econsult report seems to have overestimated current and potential future Wage Tax revenues and underestimated future business tax revenues. This is likely due to the fact that a substantial proportion of the activity in the Cira Centre is performed by professional services firms that have few statutory employees but substantial revenues. From the point of view of the City's finances, then, if 100% of Cira's tenants remain in the building after the expiration of KOZ benefits in 2018, new net BIRT revenues, that is, revenues from companies that were new to

[22] See Appendix B for Tables B-4 and B-5, Credits Awarded to the Cira Centre

[23] Thanks to Michael Compton, Regional Research Manager at CBRE's Philadelphia office, for providing historical data on Center City Class A office space; data also helpfully provided by JLL Research.

Philadelphia, could be as high as $15.3 million per year. We believe it is more prudent to assume a 33% attrition rate, which would translate into roughly $10.3 million in annual new net BIRT revenue.[24]

A delicate balance: job attraction/retention versus revenue loss

From the City's fiscal point of view, there is a delicate balance at the heart of the KOZ program: While the program is designed to lure businesses from other locations to designated parcels, the challenge inheres in not foregoing revenue that the City would otherwise have collected if a firm did not relocate to the KOZ. We identified 209 different entities that paid the BIRT the year before they entered the KOZ, for a total of $16.4 million; 49% of these entities (103) had employees while 51% (106) did not. The moment they entered the KOZ Program, this $16.4 million in annual BIRT revenue evaporated from the City's books.[25]

On the other hand, the KOZ program's tax incentives undoubtedly enticed some firms to move into the City that would not otherwise have done so. About two-thirds (408 of 617) of the entities in the program during this period paid no BIRT before their first year in the KOZ, meaning that most were new to the City's tax rolls; however only 69 of these had employees, generating a little over $8 million in additional Wage Tax revenue. It is quite difficult to predict what proportion of those entities will remain in the City once the credits expire and become revenue-producers for the City.[26]

Speculation about the post-KOZ future aside, the data shows that in 2005, the entities that would move into the Cira Centre in 2006 paid over $9 million in BIRT and NPT; from 1999 to 2005 these entities paid a combined $53 million in BIRT and NPT. Thus KOZ essentially transformed nearly $9 million a year in average business tax revenues into tax credits. More generally, as Figure 6 below

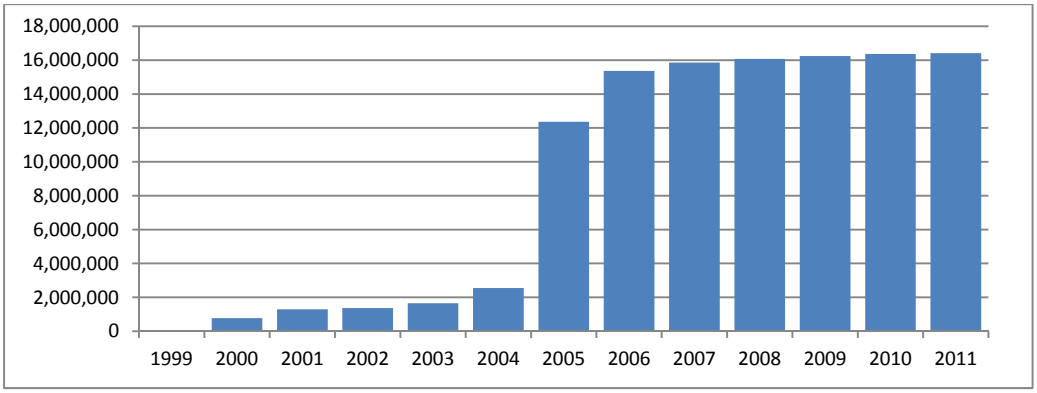
[24] It is, of course, an open question as to whether the numerous Single-Member LLCs and partnerships registered at Cira will remain there once their tax-sheltered status expires; according to one published report, Brandywine anticipates about a 50% attrition rate in the five years after the expiration of the KOZ program's benefits. See Legislative Budget and Finance Committee, "An Evaluation of the Keystone Opportunity Zone Program," Page 114.

[25] Of course some proportion of these already-existing firms might have fled the City 'but for' the KOZ. However, when pressed to identify concrete examples of such firms, senior officials in the Commerce Department could name only one. Available data are not conducive to an analysis of retention.

[26] As mentioned, Brandywine assumes that 50% of Cira tenants will vacate after the KOZ benefits expire. Legislative Budget and Finance Committee, "An Evaluation of the Keystone Opportunity Zone Program," Page 114.

shows, the City gave up about $116 million in BIRT revenues from 2000 through 2012 due to the relocation of taxpaying firms into KOZs.

Figure 6: Cumulative BIRT Revenue Collected the Year before Entities Enter the KOZ[27]



KOZ Participation by Sector

The types of entities that participated in the KOZ Program in this period reflect the diversity of the City's economy; however a few sectors are much more prominently represented than others, even more so after 2006. Table 2 below shows the volume of credits awarded, wage taxes and additional wage taxes received, along with jobs created by sector for 617 KOZ participants; it also calculates a rough Return on Investment (ROI) by dividing the Change in Wage Tax Receipts by the Total BIRT and NPT credits awarded.[28] It clearly shows that the Finance, Insurance, and Real Estate sectors have been far and away the chief beneficiaries of the KOZ Program in Philadelphia. However, the entities which comprise these industries share two characteristics: they tend to create few new jobs relative to their subsidy after locating in a KOZ, and this sector as a whole is not growing within the City. Information, Finance and Insurance created the second most jobs (21%) while accounting for more than 57% of the credits awarded, and generated ROI of roughly $0.04 for each $1 of credits awarded. The biggest 'success' sectors in the KOZ Program have been Utilities, Retail Trade, Transportation & Warehousing,

[27] See Appendix B for Table B-7: BIRT Revenue Collected the Year before entering the KOZ and the BIRT turns to Credits

[28] Throughout this section, we utilize the North American Industry Classification System or NAICS, to classify business establishments according to type of economic activity. Revenue Department's records are classified by 5-digit NAICS code. However, due to the confidentiality policies of the City of Philadelphia, the Commonwealth of Pennsylvania, and the US Government, where the number of firms in any 5-digit NAICS category falls below 3, we have combined firms into 4-digit NAICS categories.

"Eds-and-Meds," and Art, Entertainment & Services. These added at least $0.27 for each dollar in credits awarded. Retail trade was by far the best investment of credits, accounting as a sector for 37% of the jobs created by the KOZ Program and an additional $5.31 for each $1 in credits.

In short, the more labor-intensive sectors generated higher Returns on Investment. They utilized fewer tax credits and contributed more in Wage Taxes. Those which handle transactions and paper assets require fewer employees while reaping large profits; these remain untaxed for the duration of their KOZ participation, and thus ROI is lower. It should also be noted that most of the KOZ credits have been awarded to industries which are shrinking. Of the nearly $259 million in BIRT and NPT credits awarded during this period, just $11 million (4.2%) were awarded to firms in growth sectors, while the remainder went to firms in stagnant or shrinking sectors. Overall ROI was $0.15 in Additional Wage Tax receipts for every dollar of credits awarded. Table 4 summarizes the data.

Table 2: KOZ Impact Compared to Local Growth of Industry Sectors[29]

NAICS Descriptor	Firms	BIRT Credits	NPT Credits	TOTAL Credits	Wage Tax	Additional Wage Tax	ROI	Jobs Created
NAIC Code 00	25	2,239,069	16,096	2,255,165	5,259	5,259	0	1
Utilities	4	1,251,595	234,300	1,485,895	1,884,585	1,775,065	1.19	541
Construction	28	3,134,431	38,354	3,172,785	9,008,597	2,373,846	0.75	46
Manufacturing	30	4,375,430	246,408	4,621,838	30,577,236	-194,376	-0.04	-122
Wholesale Trade	28	14,334,817	85,715	14,420,532	10,209,432	3,916,053	0.27	173
Retail Trade	12	1,948,114	0	1,948,114	20,540,062	10,353,839	5.31	1362
Transportation and Warehousing	12	6,727,941	2,139	6,730,080	12,213,103	8,756,470	1.3	634
Information, Finance & Insurance	213	138,979,380	9,364,404	148,343,784	7,121,793	5,731,673	0.04	774
Real Estate and Rental & Leasing	158	23,719,462	4,284,703	28,004,165	1,458,315	249,699	0.01	52
Professional, Scientific and Technical Services	59	40,795,411	1,048,365	41,843,776	27,339,251	6,156,112	0.15	186
Management of Companies and Enterprises	11	3,065,949	334,365	3,400,314	0	0	0	0
Administrative & Support, Waste Mgmt & Remed Svcs	12	750,598	8,913	759,511	5,119,109	-399,165	-0.53	-69
Educational Services, Health Care and Social Assistance	6	658,906	171,426	830,332	593,899	293,895	0.35	87
Arts, Entertainment, & Rec, Accomm & Food Svcs	9	100,492	3,736	104,228	709,086	365,485	3.51	27
Other Services, except Public Administration	10	1,049,343	999	1,050,342	5,844,011	-164,304	-0.16	-24
TOTALS	**617**	**$243,130,939**	**$15,839,923**	**$258,970,861**	**$132,623,737**	**$39,219,553**	**0.15**	**3,669**
Legend	*< 5% Growth*		*+or – 5% Growth*			*>-5% Growth*		

[29] Thanks to Greg Waldman at the Philadelphia Department of Commerce for sharing his data on growth rates. This chart compares KOZ since implementation in 1999 to growth of various sectors since 2004.

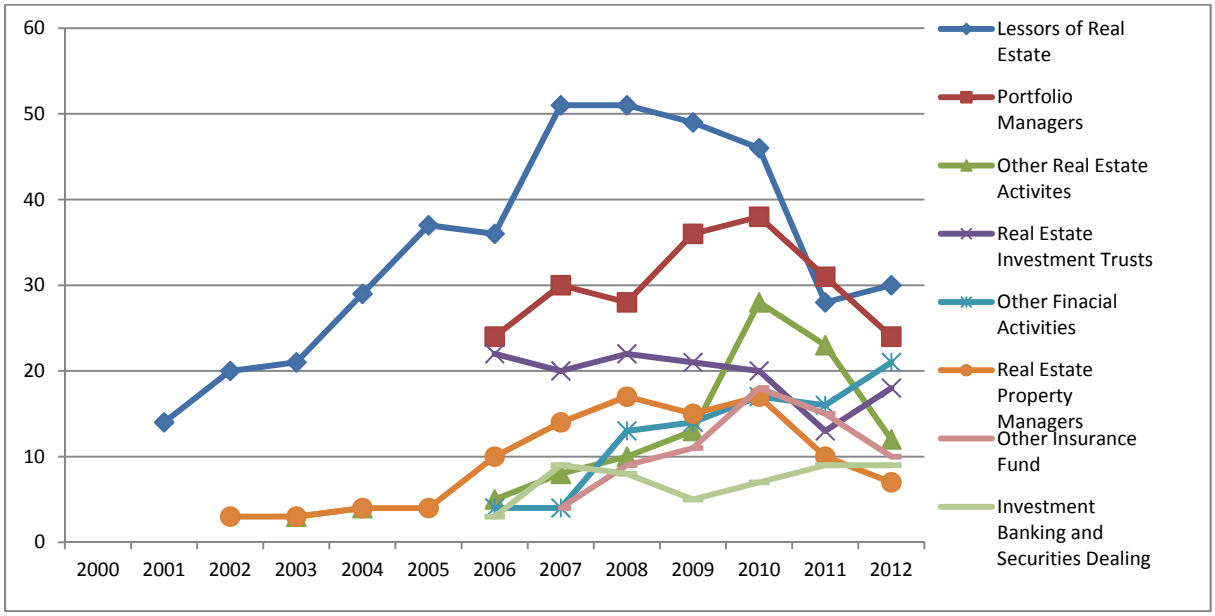
Change over time by sub-sector

During the period 1999-2012, firms classified as Lessors of Real Estate (NAICS 5311) had the most sustained participation in the KOZ Program, accounting for 18% of all accounts;[30] these firms received $19 million in credits and remitted less than half a million dollars in Wage Taxes. Firms classified as Portfolio Managers (NAICS 52392) first appeared in the program in 2006 and became the leading industry the subsequent year, finally topping out in 2010 with 38 different entities receiving credits. All told, Portfolio Management was in the top five of total participants by year and received $58.8 million in BIRT and NPT credits while remitting $2.6 million in Wage Tax. Like Portfolio Managers, firms classified as Real Estate Investment Trusts (NAICS 52593) first participated in the KOZ program in 2006. While there were fewer entities, REITs became the third largest industry in the program and second largest measured by amount of credits received, with 136 entities receiving over $38.6 million in tax credits. This sub-sector also generated the smallest amount of Wage Tax receipts of any of the top industries – of those that that created any employment at all – with only $34,387 over the course of 6 years.[31] Figure 7 below illustrates participation rates by classification over time.

[30] Total number of entities in a particular NAICS code in a given year summed throughout the program then divided by total number of all entities in a given year totaled during the program

[31] Of the top eleven industries by volume of credits awarded, three generated $0 in wage tax; two were in NAICS 5311 (Lessors of Real Estate).

Figure 7: Number of Entities by 5 digit NAIC Code per Year[32]



[32] See Appendix B for Table B-6: Top Entities Participating in KOZ Program by 5 digit NAICS Code per Year

Conclusion

The KOZ program can plausibly be credited with creating around 3,700 jobs; it did so with an exceptional price tag. Each additional job cost about $104,000 in credits; if we assume that the average annual wage for a job among KOZ participating entities is $50,000 a year, at a Wage Tax rate of 3.924%, it would take roughly 52 years for each job to pay itself off. There is also little evidence to suggest that more tax credits create more jobs. Nevertheless, this is the presumption behind the program, that the magnitude of state and local taxes represent the most significant obstacle to firms considering locating or remaining in Philadelphia, and thus to economic development and growth. Pro-business advocates make this point at every opportunity, at times suggesting that if only the BIRT and other business taxes would disappear, Philadelphia would suddenly see a reversal of half a century of job loss. Yet the evidence from three decades of site-specific tax incentive programs like the KOZ suggests strongly that tax policy matters to most firms primarily on the margins. Firm behavior seems to be guided much more by factors such as proximity to markets and talent, transportation infrastructure, reduction of externalities, and cluster effects than tax policy.

On the business tax side of the ledger, the KOZ Program cost the City Treasury $116 million in foregone BIRT revenues from Philadelphia-based companies that relocated into KOZs and $243 million in BIRT tax credits. Assuming that 100% of the companies doing business as of the end of 2012 remain in the City after the KOZ's tax incentives expire, they represent potential future annual business tax revenues of $18.7 million; 67% retention would translate to $12.5 million annually. At 100% retention, it will take roughly 19 years to 'pay off' the $359 million in BIRT credits and foregone BIRT revenues; at 67% retention, it will take roughly 29 years.

The KOZ Program in Philadelphia has attempted to increase economic activity in distressed or underutilized areas of the City. In some cases and in some sectors, KOZ designation has coincided with great success at reasonable ROI; in others, success and KOZ designation have also coincided but with

very low ROI; and in yet a third set of circumstances, KOZ designation did little if anything positive or negative, and to this date, nearly 52% of KOZ designated acres within the City remain vacant. In sum, the firms that have participated in the KOZ program have only had their bottom lines benefitted on the margins.

But from our analysis of the available data as well as our reading of the literature in urban economic development, we are drawn to conclude that opportunity zones are suboptimal policy for numerous reasons. First and foremost, the nature of the benefits provided by opportunity zone programs limits the type of firms that have the ability to participate. New firms do not create enough profits that require tax payments in their first years for the credits to offset the costs of moving to an economically distressed area, the supposed target of such programs. Since labor costs constitute, on average, half of operating costs, mitigating the local and state taxes does little to help new firms. Existing firms utilize similar factors when making location decisions. The benefits of tax credits are small compared to other costs, the most prominent being location outside a successful business cluster. Particular firms tend to move to specific locations because of their general business nature.

Further, under opportunity zone programs, the type of firms that receive credits skew toward two types of industries. The first is those with few or no employees; the second are those companies that are heavily capitalized and create enough profit for the credits to have a substantial impact on their bottom lines. Firms that are able to participate in the program receive a tremendous market advantage because of the credits. The program facilitates the movement of already-thriving firms to more technologically advanced or otherwise desirable buildings while shaving the operating costs. This has the effect of limiting competition, consolidating growth in a few firms, leading to stagnant development and limited innovation.

The parcel-specific location approach pushes opportunities for development to the fringes of the city, and in so doing, government resources are applied inefficiently across the city. It requires firms

to locate in places where external costs are high. The focus of the city is solely placed on cost mitigation, and attempting to create industries which can compete in a global sourcing battle with minimal supply chain support. Industries or development not being focused in a specific direction creates a chaotic approach to economic development. A firm may start or move to a designated area, however there is little in place to ensure where they move is in the long term interest of the city. The firms that decide to participate will only do so contingent on their own success and not on the needs of the overall economy. This is not the wrong motivation for the entities but creates government micro management, with little long term effect.

This scattershot approach to development leads to only the slightest increases in overall economic development because the firms incentivized to locate or relocate into these zones import their supply and then export the product. The literature on development suggests that the surest path to local economic growth is by facilitating the development of economic clusters, building upon local strengths and trends; the indiscriminate approach represented by zone-type programs is anathema to a more intentional, strategic approach. Thus the regional impact of any relocation is limited as the firms establish here for superficial financial reasons and not to develop a vibrant local economy; their attachment to place is very thin, so to speak. In the long run, the local economy cedes control to the whim of firms who want tax credits along with the flexibility of participating in the market.

In sum, with an exorbitant price tag, the KOZ program aided the economic development of the city. However our analysis leads us to conclude that nearly $385 million dollars in tax credits could have been put to better use as part of a more targeted, cluster-based strategic development plan.

Appendix A: Methodology

Estimating the number of jobs created

To determine the total number of jobs created as a result of the KOZ program, we performed a regression analysis to estimate the amount of additional Wage Tax receipts that could be attributed to the KOZ's incentives alone. We began by tabulating the Wage Tax remitted by all KOZ participating entities within the three years before they entered the program; we combined this figure with the Wage Tax paid when the entities were enrolled in the KOZ program. We subtracted each year's receipts from the previous year's to determine the change in Wage Tax from year to year, the first year the entity was in business, the total wage tax was the change in wage tax. Each year and the total was put in the column labeled "change in wage tax" in Table A-1 below. We created a dummy variable, "KOZ," where 1 denotes a year the entity was in the zone receiving a subsidy while 0 denotes not receiving a subsidy. The same process was used to create the dummy variable for the years 1999-2012. Another set of simple regressions were set up with Wage Tax and Change in Wage Tax as the dependent variable and BIRT, NPT, and LQ as the independent variables. We ran two regressions - one with data from existing entities and the other with data from new entities.

We added the coefficients for each year to the KOZ coefficient and the intercept, where Change in Wage Tax is the dependent variable, to generate figures for the average change in Wage Tax receipts by year after firms enter the KOZ program. We then divided the average change in wage tax by the resident Wage Tax rate for the corresponding year to generate figures for the average additional wages produced after an entity enters the KOZ Program. We derived the aggregate additional income from the KOZ by multiplying the average additional wages by the number of entities that paid Wage Tax that year. To determine the number of jobs created in a given year, we divided the aggregate additional income in the KOZ by the average wage in the City (using stats from the BLS). We summed these

numbers to estimate total jobs created by the entities in the KOZ program during the 14-year period of this study.

Using this method to derive the number of jobs created has several advantages: it helps to reduce any statistical noise or biases which might exist; it takes into account the past growth of the entity along with the general level of economic growth in each particular year. In sum, it provides a steady tracking line of the number of jobs created each year within the KOZ.

Determining the amount of jobs created by sector, however, presented an entirely different problem. Since the Wage Tax rate and the number of entities changed most years of the study, simply aggregating total Wage Tax receipts in one sector through the years would produce an inaccurate result. The same issue arises if we tried to determine new jobs by simply divided total new income by average wage. There is no midpoint or weighted average which can be fairly used to estimate all the years from 2001 to 2012. Thus we employed a more labor-intensive and straightforward approach, we determined the number of jobs created by each entity in each year and then summed the results. The general method mirrored that described above, but for individual entities rather than the entire universe. We divided the Additional Wage Tax receipts by the Wage Tax rate for each year, then we divided by average wage, to determine the number of jobs created that year.

While these two methods produced different numbers, they fell within a fairly tight (+/- 3%) range, 3,669-3,744 jobs created. These results diverge significantly from the figure of 5,332 new jobs provided by the Commerce Department. Note that our analysis does not attempt to derive numbers of jobs retained due to the KOZ Program; the Commerce Department reports that the KOZ is responsible for retaining 5,673 jobs. We cannot comment on retention figures, since the available data do not permit the construction of a valid model for testing the results.

There are several plausible explanations for the divergence between our analysis and the figures reported by the Commerce Department. First, and most obviously, our estimates were based on

'reverse engineering' from actual tax records, while Commerce's were based simply on annual reports submitted by KOZ participants, with little or no attempt at verification. Second, we used a longitudinal method that attempted to capture the ebb and flow of the program over time, while Commerce Department's figures were, at best, self-reported periodic snapshots. Third, in Commerce Department's definition, any job that moved into the City counted as a job 'created'; utilizing wage tax data, our study was not able to distinguish jobs at firms that moved into the City from jobs that were held by Philadelphia residents at firms that were located outside the City, since the City collects the same amount of wage tax either way. Data show that 124 entities remitted Wage Tax before joining the KOZ Program and 105 paid BIRT before joining, thus 19 entities were outside of the City but employed Philadelphia residents before joining the KOZ Program; it is unlikely, though, that this would account for such a large discrepancy. Finally, our method attempts to reduce much of the bias of entity growth or contraction as a function of the vagaries of the larger economy; in other words, we contend that not every job gained or lost by a participant in the KOZ Program can plausibly be attributed to the KOZ Program's incentives. In short, since our analysis of job creation is based on actual tax records rather than self-reporting, we believe it is far more robust than the figures provided by the Commerce Department.

Difference between Change in Wage Tax revenue and Additional Wage Tax revenue

As described above, there were two groups of entities with employees that entered the KOZ Program. The first were entities already located in the City and the second were entities new to the City. New entities to the City did not pay Wage Tax before entering the KOZ Program. Thus all of the Wage Tax revenue generated by those entities increased Wage Tax revenue. But in order not to double-count jobs created from one year to the next, we subtracted the previous from the current year's Wage Tax revenue in a column titled "Change in Wage Tax." We calculated "Additional Wage Tax" for a given entity by subtracting the wage tax from the year before by the wage tax for each year in the KOZ, then

adding them together. Change in Wage Tax is the difference from year to year while Additional Wage Tax is the cumulative total the City collected.

APPENDIX B: TABLES

Table B-1: Credits Awarded Vs. Revenue Collected

Year	KOZ BIRT Credits	KOZ NPT Credits	KOZ Property Tax Credits	KOZ U&O Credits	Total KOZ Credits	KOZ Wage Tax	Total Change in Wage Tax	Jobs Created
2000	16,548	3,665	0		20,213	0		
2001	305,192	18,696	1,935,088		2,258,976	492,501	-267,176	-146
2002	1,678,303	30,010	2,888,643	721,394	5,318,350	4,060,306	1,136,790	609
2003	1,855,088	11,832	3,267,075	871,976	6,005,971	4,339,996	521,670	269
2004	2,026,063	144,258	3,622,065	1,266,579	7,058,965	4,289,447	1,269,473	625
2005	2,145,550	36,556	6,247,814	1,634,822	10,064,742	5,709,049	2,018,405	999
2006	34,347,508	535,614	11,951,214	2,557,684	49,392,020	11,844,373	1,042,830	496
2007	45,799,647	1,086,743	10,778,951	3,070,917	60,736,258	14,689,071	443,280	201
2008	37,813,881	568,826	11,338,976	3,221,163	52,942,846	22,371,527	1,081,690	508
2009	31,852,234	3,472,724	13,633,042	3,996,546	52,954,546	20,422,246	-1,186,767	-561
2010	36,756,961	4,368,398	15,232,146	4,652,469	61,009,974	20,136,419	106,841	50
2011	30,540,710	1,851,663	10,963,180	2,879,946	46,235,499	16,757,410	1,004,418	458
2012	17,993,255	3,710,938	5,647,577	3,341,514	30,693,284	7,511,392	530,653	234
Total	**243,130,939**	**15,839,923**	**97,505,772**	**28,215,010**	**384,691,643**	**132,623,737**	**7,702,108**	**3,744**

Table B-2: BIRT Credits Awarded by Year; Entities with Employees vs. Without

Year	BIRT Credits to Existing Entities with Employees	BIRT Credits to New Entities With Employees	BIRT Credits to New Entities without Employees	BIRT to Existing Entities without Employees	Total BIRT Credits Awarded
2000	0	0	16,403	145	16,548
2001	227,616	39,102	24,717	13,757	305,192
2002	1,320,558	67,445	159,902	130,398	1,678,303
2003	1,543,050	57,230	121,863	132,945	1,855,088
2004	1,598,953	39,918	140,112	247,080	2,026,063
2005	1,347,056	36,259	456,411	305,824	2,145,550
2006	3,683,799	12,628,306	13,345,893	4,689,509	34,347,508
2007	12,236,349	2,587,482	24,969,580	6,006,236	45,799,647
2008	11,834,631	2,462,108	17,134,779	6,382,363	37,813,881
2009	11,974,453	2,564,508	14,034,988	3,278,285	31,852,234
2010	10,726,278	2,693,878	19,628,530	3,708,275	36,756,961
2011	8,738,286	3,078,843	15,539,689	3,183,892	30,540,710
2012	1,700,048	1,407,557	13,832,585	1,053,065	17,993,255
Total	**66,931,077**	**27,662,636**	**119,405,452**	**29,131,774**	**243,130,939**

Table B-3: Property Tax Credits Awarded by Tax District and Parcels Receiving Credits

Year	Parcels	New Parcels	Property Tax Credits from the City	Property Tax Credits from the School District	Total
2001	64	64	$876,924	$1,058,163	$1,935,088
2002	73	13	$1,249,910	$1,638,733	$2,888,643
2003	95	25	$1,373,405	$1,893,670	$3,267,075
2004	104	10	$1,522,635	$2,099,430	$3,622,065
2005	137	42	$2,626,441	$3,621,373	$6,247,814
2006	162	30	$5,024,022	$6,927,192	$11,951,214
2007	175	27	$4,531,229	$6,247,722	$10,778,951
2008	151	17	$4,318,127	$7,020,849	$11,338,976
2009	191	51	$5,191,757	$8,441,286	$13,633,042
2010	197	21	$5,800,730	$9,431,416	$15,232,146
2011	112	18	$4,792,323	$6,170,857	$10,963,180
2012	15	3	$2,468,719	$3,178,858	$5,647,577
Total	**1,476**	**321**	**$39,776,221**	**$57,729,550**	**$97,505,772**

Table B-4: Credits Awarded to Entities at the Cira Centre

Year	Cira Centre BIRT Credits	Cira Centre NPT Credits	Total Cira Centre BIRT & NPT Credits	Wage Tax From Cira Centre	Cira Centre Entities with Payroll	Cira Centre Total Entities
2006	29,955,639	477,910	30,433,549	1,476,484	21	80
2007	38,153,654	816,302	38,969,956	5,770,285	32	115
2008	29,317,507	311,411	29,628,918	5,806,926	27	126
2009	23,571,744	3,096,420	26,668,164	4,716,579	24	129
2010	27,505,416	4,184,911	31,690,327	4,579,529	22	159
2011	25,358,155	1,703,051	27,061,206	4,565,561	22	141
2012	13,051,803	3,445,726	16,497,529	792,671	6	115
Total	**186,913,918**	**14,035,731**	**200,949,649**	**27,708,035**	**154**	**865**

Table B-5: Credits Awarded at Cira as a Percentage of Citywide Tax Revenue

Year	Cira Centre BIRT Credits as a percent of Citywide Total	Cira Centre NPT Credits as a percent of Citywide Total	KOZ BIRT Credits as a percent of Citywide Total	KOZ NPT Credits as a percent of Citywide Total
2006	8%	4%	9%	5%
2007	9%	7%	11%	10%
2008	8%	3%	10%	6%
2009	6%	33%	8%	37%
2010	8%	35%	11%	36%
2011	8%	30%	9%	32%
2012	4%	28%	5%	30%
Total	**7%**	**20%**	**9%**	**22%**

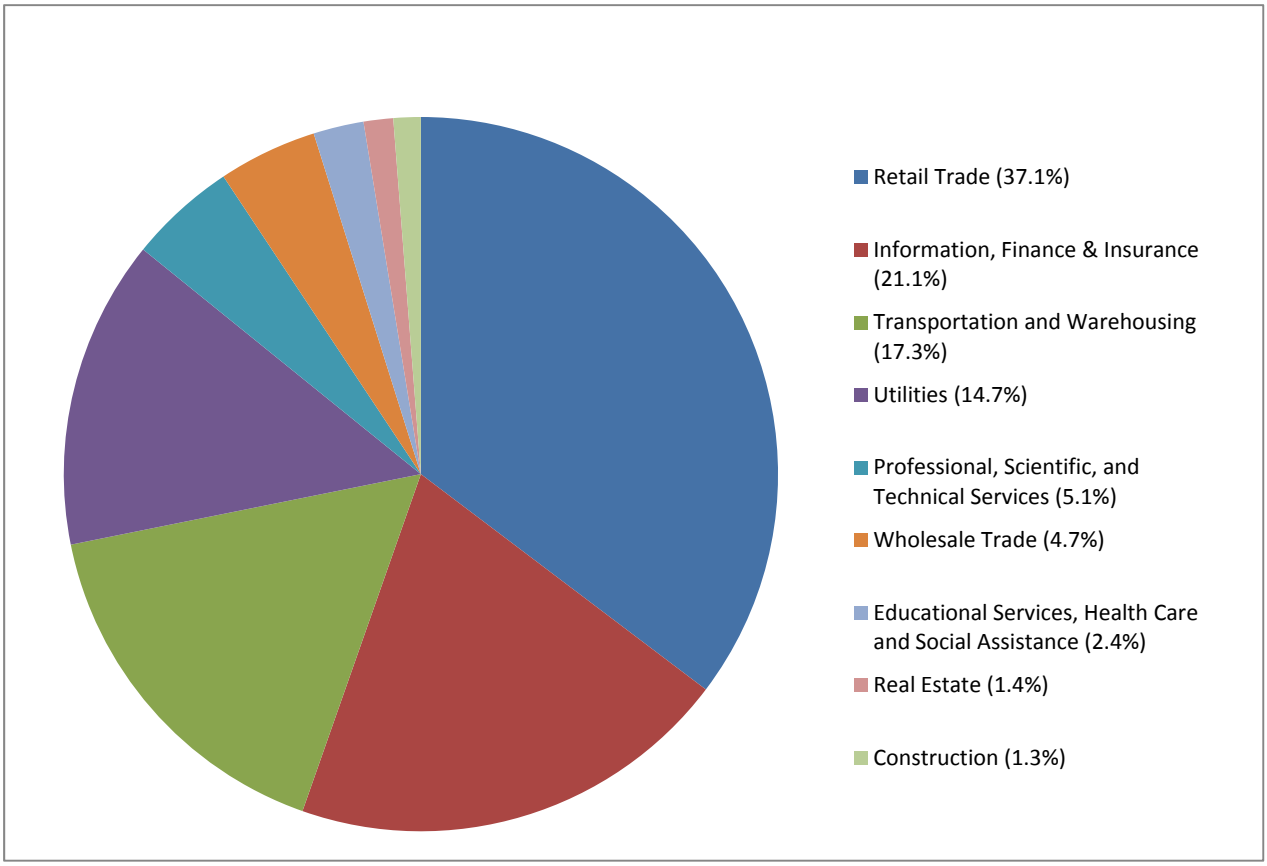
Table B-6: Top Entities Participating in KOZ Program by 5 digit NAICS Sector per Year

YEAR	Lessors of Real Estate	Portfolio Managers	Other Real Estate Activites	Real Estate Investment Trusts	Other Finacial Activities	Real Estate Property Managers	Other Insurance Fund	Investment Banking and Securities Dealing	Total	Total Acct.
2000	X	X	X	X	X	X	X	X	8	9
2001	14	X	X	X	X	X	X	X	14	32
2002	20	X	X	X	X	3	X	X	25	75
2003	21	X	3	X	X	3	X	X	27	68
2004	29	X	4	X	X	4	X	X	37	90
2005	37	X	X	X	X	4	X	x	42	107
2006	36	24	5	22	4	10	X	3	104	184
2007	51	30	8	20	4	14	4	9	140	283
2008	51	28	10	22	13	17	9	8	158	308
2009	49	36	13	21	14	15	11	5	164	318
2010	46	38	28	20	17	17	18	7	191	343
2011	28	31	23	13	16	10	15	9	145	267
2012	30	24	12	18	21	7	10	9	131	188
Total	417	211	108	136	89	105	67	52	1,185	2,273
Wage Tax (1000s)	467	2,676	82	34	128	707	126	0	4,350	
Credits (1000s)	19,073	58,824	6,038	38,646	17,178	2,274	6,845	3,645	169,036	

Table B-7: BIRT Revenue Collected the Year before entering the KOZ

Year	BIRT Paid the Year Before Entering the KOZ	Cumulative BIRT Paid the Year Before Entering the KOZ	Existing Entities the year before Entering the KOZ
1999	12,141	12,141	4
2000	758,369	770,510	14
2001	521,207	1,291,717	26
2002	71,600	1,363,317	11
2003	289,284	1,652,601	12
2004	893,581	2,546,182	15
2005	9,815,583	12,361,765	36
2006	3,006,481	15,368,246	27
2007	488,618	15,856,864	23
2008	216,524	16,073,388	15
2009	171,702	16,245,090	7
2010	120,881	16,365,971	10
2011	52,972	16,418,943	9
Total	**$16,418,943**	**$116,326,735**	**209**

Figure 8: Jobs Created by KOZ Program by Sector (Total = 3,700)



APPENDIX C: Review of the Literature on Tax Incentives

Policies like the Keystone Opportunity Zone Program that attach tax incentives to specific parcels of land have spawned a tremendous amount of literature in the field of urban economics. Using the tax code to incentivize one type of economic activity over another is nothing new in the U.S., and actually pre-dates the founding of the republic.[33] However, the economic stagnation which prevailed in the 1970s and the dramatic decrease in federal subsidies in the 1980s, led states and municipalities to fundamentally alter the relationship between tax policy and economic growth.[34] Long-standing norms of urban economic governance, based on defining a local market and then shaping it to fit the needs of society, were replaced by policies that entailed actively recruiting businesses and allowing them to shape the local market. Tax incentive programs grew in scope and scale during the 1990s as states "went to war," lowering taxes to compete with one another. By 2002 over 40 states had adopted similar programs to the KOZ costing states between 20 and 30 billion dollars annually on economic development incentives.[35]

Keystone Opportunity Zones are designed to be an economic development and urban revitalization program, based on the assumption that open, competitive, and minimally regulated markets will create the most efficient use of resources and robust economic growth.[36] Unable to afford to build the infrastructure to support the next generation of industry, municipalities sought alternative methods to create growth.[37] The chosen method is to try and impose market forces where they have failed in the past,[38] if it ever existed at all, trading tax revenue for the prospect of growth.[39]

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[33] Terry Buss, "The Effect of State Tax Incentives on Economic Growth and Firm Location Decisions: An Overview of the Literature," Economic Development Quarterly, 15(1) 2001

[34] David Harvey, "From Managerialism to Entrepreneurialism: The Transformation in Urban Governance in Late Capitalism," Geografiska Annaler. Series B, Human Geography, 71(1) 1989

[35] Timothy Bartik, "Evaluating the Impacts of Local Economic. Development Policies on Local Economic Outcomes: What has been done and what is doable?" in OECD, *Evaluating Local Economic and Employment Development: How to Assess What Works among Programmes and Policies*, OECD Publishing. 2004

[36] Barry Poulson and Jules Kaplan, "State Income Taxes and Economic Growth," Cato Journal, 28 (1) 2008

[37] Andrew Kolesar, "Can State and Local Tax Incentives and other Contributions Stimulate Economic Development," Tax Lawyer, 44,1990

[38] Christopher Mele, "Casinos, Prisons, Incinerators and Other Fragments of Neoliberal Urban Development," Social Science History, 35(3), 2011

The economic theory behind this policy is derived from John Maynard Keynes' General Theory about what governs investment decisions. If the rates of profit are higher than interest rates, it will lead to new investments that had previously not been seen as profitable, thereby creating additional investment and economic growth.[40] The interest rate is the minimum guaranteed rate of return on an investment. If the marginal efficiency of capital cannot surpass the interest rate, then investors will keep their capital in a more liquid form, such as bank deposits or other paper assets. This creates a "more conducive economic environment" as business is freed from the economic constraints of the State by lowering the cost and raising the return on economic activity.[41] The KOZ Program uses tax credits to attempt to increase the relative rate of profit, operating under two assumptions: that the credits will offset any negative environmental cost and induce an entity to locate in that particular site; and that any money a firm does not spend on taxes will be spent growing the firm's employment, capacity, or both.

Most American cities experienced declining populations after World War II, due to the twin forces of suburbanization and deindustrialization of the urban core. Politicians assumed that industry and society "voted with their feet," as a result of the increasingly unfavorable tradeoff between tax price and governmental services.[42] As people and businesses left the city and urban decay accelerated, state and local governments offered tax incentives to either save existing jobs and industries, protect sacred institutions or effectively buy existing jobs by luring them away from other locales.[43] In Philadelphia as in many other cities in the past few decades, various "zone" programs have attempted to steer growth toward so-called "distressed" areas that had been hardest hit by deindustrialization and depopulation. According to the Philadelphia Department of Commerce, moving entities into vacant

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[39] Neil Brenner and Nik Theodore, "Cities and the Geographies of 'Actually Existing Neoliberalism,'" Antipode, 34 (3), 2002

[40] John Manard Keynes, *The General Theory of Employment, Interest and Money*, London: Macmillan, 1936

[41] Poulson and Kaplan, "State Income Taxes and Economic Growth," op. cit.

[42] Poulson and Kaplan, "State Income Taxes and Economic Growth," op. cit.

[43] Buss, "The Effect of State Tax Incentives on Economic Growth and Firm Location Decisions," op. cit.

parcels in distressed areas spurs two types of investment. The first is the development of land which previously was vacant, which was not only producing no revenue for the City but also was driving down the value of surrounding buildings. In practice, this often meant that a firm moved from a more to a less desirable area within the City to take advantage of the new incentives, so a subsequent stage of development entails finding a new entity to backfill the space in the more desirable location.[44] Yet selecting the parcels to receive credits is challenging; to date, a very large proportion of Philadelphia's KOZ acreage remains undeveloped. In part this is because firms take many factors into consideration when assessing location or relocation, and while tax incentives are certainly a consideration, they tend to be relatively low on the list, especially since most states now have similar incentive programs.[45]

The literature on urban development examining the impact of these types of incentives on growth is similarly voluminous and is imbued with similar prescriptions for what is believed to be the central ailment – market inefficiencies and high taxes. Yet serious studies have found little to no impact at all of incentives on overall growth.[46] While the literature offers many suggestions as to why tax incentives are relatively ineffective at spurring growth, in the final analysis, state and local taxes make up only a small part of operating cost, while the largest cost driver tends to be labor. Thus incentives have little impact on firm-level decisions about location, and even less impact relative to the size of a typical metropolitan market.[47] Tax incentive programs might make a larger marginal difference to start-ups, which tend to have fewer employees and thus lower labor costs, and are generally more cost sensitive. In the end, a bulk of the benefit goes to firms that were probably already predisposed to consider relocating but, of course, have no disincentive from seeking tax incentives.[48]

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[44] Discussion with Vincent Dougherty, Philadelphia KOZ Administrator

[45] Michael Wasylenko, "Taxation and Economic Development: The State of the Economic Literature," New England Economic Review, 1997.

[46] Buss, "The Effect of State Tax Incentives on Economic Growth and Firm Location Decisions," op. cit.

[47] David Argall, "A Policy Analysis of the First Six Years of Pennsylvania's Keystone Opportunity Zone Program, 1998-2004: Enlighten Economic Development or Corporate Welfare," Ph.D. dissertation, Pennsylvania State University, 2006; Buss, "The Effect of State Tax Incentives on Economic Growth and Firm Location Decisions"; Alan Peters and Peter Fisher, "The Failures of Economic Development Incentives," Journal of the American Planning Association, 70(1) 1998.

[48] Buss, "The Effect of State Tax Incentives on Economic Growth and Firm Location Decisions," op. cit.

The evidence from the literature also suggests that firms that relocate to a distressed area do little to change the employment trajectory of the residents in contiguous neighborhoods. This is because firms tend to draw from metropolitan labor markets and not the hyper-local labor market immediately surrounding their new location, which due to its distressed character is often bereft of a firms' greatest need, skilled and experienced workers.[49] There is some evidence that programs which tie subsidies to hyper-local first-source hiring produce some employment benefits for surrounding neighborhoods.[50]

In sum, while policies such as the KOZ Program are popular and prevalent within most of the states of the union, their affect on economic development and growth on the whole has been very limited at best.[51] Even the most robust analyses, using sophisticated econometrics and modeling, can find only tenuous correlations between tax incentives and economic development.[52] As we have found to be the case in Philadelphia's experience with the KOZ Program, attempts to stimulate job creation with tax incentives have an elasticity that is typically less than 1.0; in other words, the marginal increase in jobs and attendant tax revenue will nearly always be less than the marginal increase in tax incentives.[53] Overall, the proliferation of non-targeted incentive programs like the KOZ has tended to foster a zero-sum outlook on the part of states and municipalities in pursuit of a beggar-thy-neighbor strategy.[54]

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[49] Peters and Fisher, "The Failures of Economic Development Incentives," op. cit.

[50] Matthew Freedman, "Targeted Business Incentives and Local Labor Markets," Journal of Human Resources 48(2) 2013.

[51] Samuel Staley and Michael LaFaive, "State of Economic Development: Feeding Sparrows Through a Horse," ALEC Policy Forum, 2002.

[52] Poulson and Kaplan, "State Income Taxes and Economic Growth."

[53] Timothy Bartik, "Jobs, Productivity and local Economic Development: What Implications Does Economic Research Have for the Role of Government?" National Tax Journal , 47(4), 1994

[54] Buss, "The Effect of State Tax Incentives on Economic Growth and Firm Location Decisions," op. cit.

Acknowledgments

City Controller's Office Contact	Bill Rubin, First Deputy City Controller, (215) 686-6696, bill.rubin@phila.gov
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