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Land Value Tax and Vertical Equity in Philadelphia

Since the publication of Henry George's *Poverty and Progress*, proponents of land value taxation (LVT) have proposed it as a superior alternative to real property taxation. Most of the arguments in favor of LVT have focused on gains in efficiency or improvements in horizontal equity. Relatively little research has focused on LVT's impact on vertical equity, and the studies that have been done have found different results in different cities.

In this study, I examine the potential impact of LVT on vertical equity in Philadelphia, the place of Henry George's birth and a city that faces severe challenges with property taxation. I find that LVT would be more progressive than the current tax system and that it would shift the tax burden from residential properties to other land uses, particularly undeveloped land. Changes in tax liability under LVT would vary according to wealth, with low- and medium-wealth owners likely to pay less, and high-wealth owners more likely to pay more. As a result, I suggest that LVT offers a compelling solution to the inequity and delinquency challenges facing the city.

Real property taxation and vertical equity

In most local jurisdictions in the United States, both land and improvements are taxed based on their assessed value. Meta-analysis reveals that studies on the vertical equity of real property taxes have been inconclusive. Most studies have examined the relationship between assessed value and market value for properties of different values (Sirmans et al., 2008). Studies have found real property taxes to be both progressive and regressive, though more studies have found the latter result than the former (Sirmans et al., 2008).

LVT and vertical equity in theory

As evidenced by the title *Poverty and Progress*, equity concerns were central to Henry George's initial concept for a land value tax. George believed that LVT had a significant ethical dimension and that society—rather than individual property owners—had a right to the benefits produced by land's locational advantages (Netzer, 2001). He hypothesized that LVT would increase vertical equity by capturing the unearned benefit produced by land value increases resulting from infrastructure investment and market forces (Netzer, 2001). George suggested that, since lower-income people generally own less property and receive fewer unearned benefits from land than higher-income groups, LVT would make the tax system more progressive (Netzer, 2001).

Economic theory suggests that LVT may be more equitable than a conventional real property tax in its tax shifting behavior. Under a real property tax, the tax on improvements is often shifted from owners to renters, particularly in high taxing districts such as central cities (Roakes, 1996). This tax shifting is expected to make the real property tax regressive with regard to income. However, more recent economic scholarship has challenged this regressivity by suggesting that owners bear a substantial portion of the tax on improvements (Roakes, 1996). Regardless of the extent to which taxes on improvements actually are shifted, economic theory suggests that a pure tax on land is less likely to be shifted to renters (Kunstler, 1996).

Like all taxing schemes, LVT creates its own equity challenges and questions. Transitioning to LVT could result in steep increases in the tax burden on some property owners,

which could be unfair, particularly for owners who recently purchased property (Netzer, 2001). Many cities that have implemented LVT, such as Altoona, Pennsylvania, have used a phase-in approach to address these concerns.

In addition, George's proposition—that lower-income groups own less property and thus, benefit from LVT—may no longer be true in an era of higher home ownership rates and easier access to corporate investments (Netzer, 2001). Even if LVT makes the property tax more progressive with regard to income, it may make it more regressive with regard to other factors such as age (Netzer, 2001). As a result, successfully implementing LVT requires careful attention to the assumptions that support it as well as to its distributional impacts across a variety of socioeconomic indicators.

LVT and vertical equity in practice

In the absence of many real-world cases of LVT, empirical studies have examined its distributional effects by comparing ratios of land and improvement assessments (Roakes, 1996). The predicted shifts in the tax burden resulting from implementing LVT have varied significantly depending on local conditions (Roakes, 1996). These studies have been limited in their ability to consider the equity impacts of shifting land use patterns as a result of LVT (Roakes, 1996).

Most of the early studies on redistribution of the tax burden under LVT—conducted in the 1960s and 1970s—found that the tax burden would shift from higher density uses to lower density uses, a finding consistent with LVT theory (Roakes, 1996). Some of these studies found that residential uses would pay lower taxes, while others found that they would pay higher taxes depending on density and other factors (Roakes, 1996). In addition, not all of the findings were consistent with theoretical expectations. For example, a study of LVT's impacts on San Diego, California predicted that urban residences would experience a greater tax increase than suburban homes (Roakes, 1996).

All of these early studies focused on the distribution of the tax burden *among* land uses rather than the overall progressivity or regressivity of the tax. To address this shortcoming, three studies from 2005 to 2010 examined the vertical equity impacts of LVT on residential properties using similar methodologies. England and Zhao (2005) found that LVT would increase the burden on most residential properties, while Bowman and Bell (2008) and Plummer (2010) found decreases in residential tax burdens under LVT.

England and Zhao (2005) examined the impact of several split-rate and pure LVT systems on Dover, New Hampshire, a city of about 27,000 residents north of Boston. They found that a pure LVT system would increase property taxes on more than 99 percent of the lowest-value single-family homes (bottom 30 percent) and more than 80 percent of mid-range homes (middle 40 percent). Meanwhile, only about 26 percent of homes in the highest 30 percent of assessed value would experience an increase, and the average decrease for this group would be $138 per year. The overall impact of LVT on residential properties would be regressive, though condominiums would be more likely to benefit under LVT than single-family homes. England and Zhao concluded that a tax credit system would be needed to improve the performance of an LVT or a split-rate system for single-family homes.

Bowman and Bell (2008) replicated the England and Zhao study for Roanoke, Virginia and performed a less rigorous analysis for two Virginia counties: Chesterfield and Highland. Roanoke was an employment center that had experienced population loss, Chesterfield County was a growing suburban area and Highland County was a declining rural area. Bowman and Bell

found that all three geographies would experience overall decreases in residential property tax burdens under LVT, with the most significant decreases in Highland County.

In Roanoke, mean and median property taxes would fall for all three classes of single-family homes under LVT, with the largest median percentage decrease going to the lowest-value homes. Unlike in Dover, LVT was found to make property taxes more progressive in Roanoke. Bowman and Bell attributed the different effects on Dover and Roanoke to differences in the composition the communities—bedroom community versus central city—and to the much higher proportion of assessed value assigned to improvements in Roanoke under its current taxing system.

Plummer (2010) repeated Bowman and Bell's study using data from Tarrant County, Texas between 1997 and 2006 and found similar distributional effects. Tarrant County includes Fort Worth, and the county has been thorough in its assessment practices, performing annual reassessments of land and improvement values.

As in Roanoke, all classes of single-family residential property in Tarrant County would experience a decrease in property taxes under LVT. In Tarrant County, the largest median percentage decrease would go to the mid-range homes. Based on the Suits index, LVT would start out slightly regressive for singe-family homes in Tarrant County but would become slightly progressive by the end of the 10-year study period. Plummer concluded that, as in Roanoke, LVT would be feasible in Tarrant County because of its low land value ratio for residential properties compared to other land uses.

Real property tax in Philadelphia

Despite serving as a major source of revenue, property tax has been problematic for Philadelphia. Until recently, tax assessments were highly inconsistent across the city, and the system lacked horizontal equity. Comparable properties often had different assessed values, and nearly all properties were assessed below market value ("Actual Value Initiative," 2013).

In addition to inconsistent assessments, property tax delinquency has been a persistent problem for the city. In 2012, there were 103,000 tax delinquent properties in Philadelphia (Kerkstra, 2012). About 18 percent of properties in the city owed back taxes, and some had been delinquent for more than 30 years (Kerkstra, 2012). Together, the city and school district were owed $515.4 million in taxes and interest (Kerkstra, 2012).

As a result of these issues, property tax reform has been high on Mayor Michael Nutter's agenda. Over the past few years, the mayor championed the Actual Value Initiative (AVI), a program to synchronize assessed values with market values. The program involved a reassessment of every property in the city ("Actual Value Initiative," 2013). New assessed values went into effect in tax year 2014 ("Actual Value Initiative," 2013). Despite the attempt to bring assessed values into alignment with market values, critics have alleged that land is still consistently undervalued by AVI ("More AVI Analysis," 2013). In addition, a 2013 poll by the Pew Charitable Trusts found that 44 percent of residents believed that assessments under AVI were less fair than under the previous property tax system, while only 26 percent believed that they were fairer (Brey, 2013, October 8).

Still, the city is taking steps to reduce delinquency and to collect the millions of dollars it is owed by property owners. In 2013, the city council passed a property tax reform bill designed to reduce delinquency (Brey, 2013, June 6). The bill required the Department of Revenue to notify all delinquent owners of the amount owed and to offer an income-based payment plan to qualifying property owners (Brey, 2013, June 6). It also required timely foreclosure on properties

where owners were not paying the debt, an action that the administration had previously been reluctant to take (Brey, 2013, June 6).

LVT and vertical equity in Philadelphia

Because of the persistent difficulties it has faced with property tax assessment and administration, Philadelphia represents an ideal test case for evaluating the merits of LVT. The city's struggles with issues of poverty and tax delinquency also make it an appropriate environment for testing the vertical equity and distributional properties of LVT. In addition, the recent citywide reassessment performed as part of AVI provides a consistent baseline and makes it possible to simulate LVT with some degree of confidence.

In exploring the relationship between LVT and vertical equity, I attempt to answer two related research questions. First, I analyze how implementing an LVT system would impact the distribution of taxes among residential, commercial and industrial properties, and among low, medium and high-value residential properties in Philadelphia. Second, I evaluate whether an LVT system would make residential property taxes more or less progressive than the current property tax system.

Methods

My methods are based on Plummer (2010), Bowman and Bell (2008) and England and Zhao (2005). Using tax data provided by the Philadelphia Office of Property Assessment (OPA), I examine three test cases: tax year 2013 (pre-AVI), tax year 2014 (AVI) and tax year 2014 with LVT. For each test case, I compute three measures related to distribution and equity.

First, I calculate the percentage of the tax burden placed on each category of land use. These percentages describe the distribution of the tax burden across these land uses. More importantly, they reveal how that burden shifts under different taxing schemes. I also calculate the land value ratio—land value as a percentage of total assessed value—for each category of land use.

Second, I use income estimates from the 2008 – 2012 American Community Survey to determine median residential tax burden as a percentage of median household income by census tract for all tracts with at least 500 occupied housing units. For each test case, I plot these percentages by median income and use regression analysis to look for a trend. Though they give equal weight to all tracts regardless of the number of households, the regression lines provide some indication of the regressivity or progressivity of the tax.

Third, I plot the Suits curve and calculate the Suits index for all residential properties in each test case. Based on the Lorenz curve, the Suits curve shows the relationship between cumulative percentage of total income on the x-axis and cumulative percentage of total tax burden on the y-axis (Anderson et al., 2003). The line of proportionality, which is a straight line between (0, 0) and (100, 100), represents a perfectly proportional tax. A curve that sags below this line represents a progressive tax, while a curve that bulges above the line indicates a regressive tax.

The Suits index is a summary statistic that describes the overall progressivity or regressivity of the tax across the entire income range (Anderson et al., 2003). It ranges from -1 (totally regressive) to 1 (totally progressive), with a value of zero representing a proportional tax. I calculate the Suits index using the formula:

$$Suits\ index = \sum_{i=0}^{i=n} [T(Y_i) + T(Y_{i-1})][Y_i - Y_{i-1}]$$

where *n* is the number of properties, *Y* is the cumulative percentage of total income and *T(Y)* is the cumulative percentage of the total tax burden (Anderson et al., 2003).

Like Plummer (2010), I use total property value (AVI) as a proxy for lifetime income in performing the Suits calculations. Plummer (2010) suggests that this relationship only holds true for owner-occupied residential properties. However, the data provided by the Philadelphia OPA only distinguish properties that applied for and received a homestead exemption, not all owner-occupied properties.[1] As a result, I calculate the Suits indices and curves for all residential properties and for those residential properties granted a homestead exemption.

To assess the impact of LVT on different income groups, I segment residential properties into the highest 30 percent, middle 40 percent and lowest 30 percent by total value (AVI). As in the Suits index calculations, total property value serves as a proxy for lifetime income. Comparing the 2014 AVI and LVT cases, I then compute the following statistics for each wealth group: mean and median change in tax liability; mean and median percent change in tax liability; and percentage of properties with increased taxes.

In simulating the impacts of LVT, I make certain assumptions about the administration of the tax. Like Plummer (2010), Bowman and Bell (2008) and England and Zhao (2005), I assume a revenue-neutral LVT (i.e., the total tax levy remains the same). Unlike these studies, however, I attempt to adjust current exemptions and abatements to reflect the smaller overall tax base under LVT. Since land accounts for 21.5 percent of the total taxable value for properties currently receiving a homestead exemption, I use a homestead exemption value of $6,453, or 21.5 percent of the current $30,000 value. For all other exemptions and abatements, I assume that the percentage of the exemption or abatement remains the same (i.e., a property that is 80 percent tax-exempt under AVI remains 80 percent tax-exempt under LVT).

In all my analyses except for the initial distribution of tax burden, I focus on property classified by the OPA as residential. Properties classified as multi-family are excluded since the OPA data sets do not include the number of units, making it impossible to calculate the per-household tax burden.

In addition, I use the combined tax rate for the City of Philadelphia and the School District of Philadelphia in my calculations. Since Philadelphia has a consolidated city-county government and since the school district is geographically coterminous with the city and county, it is likely that a shift to LVT would impact both taxing bodies.

Results

Between 2013 and 2014, the share of the tax burden paid by commercial property owners fell by more than three percentage points, while the share paid on residential properties increased by about the same amount (see *Table 1*). The reassessment performed under AVI produced slight decreases in the shares paid by owners of undeveloped land and industrial properties and a slight increase in the share paid on mixed-use properties. The share of the tax burden paid by owners of multi-family residential properties stayed about the same.

[1] In tax year 2014, 38.5 percent of residential properties received a homestead exemption. However, according to 2008 – 2012 American Community Estimates, 54.1 percent of housing units in Philadelphia were owner-occupied. As a result, the homestead exemption serves as only a rough proxy for owner occupancy.

A shift from AVI to LVT would restore the share of the tax burden paid by commercial and industrial property owners to approximately their pre-AVI levels. It would decrease the share paid on residential properties and multi-family buildings by about seven and three percentage points, respectively. Owners of mixed-use buildings also would pay a slightly smaller share of the tax burden under LVT. Meanwhile, the share of the tax burden falling on vacant land would increase substantially, jumping from about two percent under AVI to more than eight percent under LVT.

Land value ratios varied significantly among land uses, both before and after AVI. Except for undeveloped land, commercial and industrial properties had the highest land value ratios. Mixed-use properties had a similar land value ratio in 2013, but after reassessment, they had the lowest land value ratio of any property class. At about 16 to 19 percent, land made up a relatively small share of the assessed value of both single-family and multi-family residential properties. The land value ratios for these property types did not change significantly under AVI.

Between 2013 and 2014, the tax rate in Philadelphia decreased significantly, partially because of the reassessment performed under AVI, and partially because the city changed its assessment ratio from 32 percent to 100 percent (see *Table 2*). Implementing LVT and maintaining the 100 percent assessment ratio, the tax rate would more than quadruple because of the significantly reduced tax base consisting only of land value.

Despite the increased rate, two measures of vertical equity suggest that LVT would be more progressive than either the 2013 or 2014 property taxes. In a regression of tax burden and household income by census tract for all residential properties, the regression line for 2013 has a slight positive slope, indicating a mildly progressive tax (see *Figure 1*). By contrast, the regression line for 2014 has a slight negative slope, suggesting that AVI caused the tax to become slightly regressive. The regression line for LVT has the steepest positive slope as well as the largest coefficient of determination, indicating that it likely is the most progressive of the three taxes. Repeating the analysis with only properties that received a homestead exemption in 2014 yields similar results, except that instead of being slightly regressive, the 2014 AVI tax is slightly progressive (see *Figure 2*).

Similarly, calculation of Suits curves and indices for the three scenarios indicates that LVT is the most progressive option. Considering all residential properties, both the 2013 and 2014 property taxes are slightly regressive with regard to income, with Suits curves that bulge above the line of proportionality (see *Figure 3*). Limiting the analysis to properties granted a homestead exemption, the 2013 tax is slightly regressive, while the 2014 tax is slightly progressive (see *Figure 4*).[2] In both cases, however, LVT is substantially more progressive than either alternative, with a curve that sags below the line of proportionality. At the top of the income range, however, LVT is slightly regressive, performing similarly to the 2013 property tax. The Suits indices, which summarize progressivity or regressivity over the entire income range, support the finding that LVT is the most progressive of the three tax scenarios (see *Table 3*).[3]

[2] Given the way that income is represented in the analysis, these results are not surprising. Since income is assumed to be proportional to total property value, a real property tax with no exemptions would be perfectly proportional (Plummer, 2010). Thus, the introduction of the $30,000 homestead exemption in 2014 makes the AVI scenario appear more progressive when only properties receiving this exemption are considered.

[3] Since total property value is used as a proxy for lifetime income, the Suits index cannot be interpreted as a measure of the absolute progressivity or regressivity of the tax. Instead, it serves as a relative measure of vertical equity.

Segmenting residential properties into wealth categories based on total assessed value reveals that a shift to LVT would impact these groups differently. For all residential properties, the middle wealth group would experience the largest median decrease in tax liability in absolute terms—a median decrease of $584—while the bottom group would receive the largest median percent decrease (see *Table 4*). On average, the tax liability for properties in the top wealth group would increase by about 11 percent, while those in the middle and bottom groups would decrease by 36 and 48 percent, respectively. Relatively few taxpayers in these groups would experience a tax increase under LVT; for property owners in the top wealth group, however, nearly 45 percent would experience increased taxes under LVT.

Considering only properties receiving a homestead exemption, the lowest wealth group would receive the largest median decrease in both absolute and relative terms: a median percent decrease of nearly 85 points. Meanwhile, the median tax liability for the top wealth group would remain about the same. On average, however, these wealthy property owners would pay $688 dollars in additional taxes under LVT, while the lowest wealth group would experience a tax decrease of more than $350 on average. Relatively few homeowners in the bottom wealth group would experience a tax increase under LVT, but 36 percent of middle-wealth homeowners and half of high-wealth homeowners would experience increased taxes.

Discussion

The distributional impacts of LVT in Philadelphia more closely parallel those found by Plummer (2010) and Bowman and Bell (2008) in Tarrant County and Roanoke than those found by England and Zhao (2005) in Dover. As in Roanoke and Tarrant County, the residential share of the tax burden would decrease under LVT in Philadelphia. Like Plummer (2010) and Bowman and Bell (2008), I find that all residential property classes would experience a decrease in median taxes under LVT. Unlike in Roanoke and Tarrant County, however, largest absolute median decrease in tax liability would occur in the middle-wealth group in Philadelphia.

In Philadelphia, the mean and median changes in tax liability associated with LVT vary significantly within some wealth groups. This is particularly true for the top 30 percent of residential properties, where the median change is negative and the mean change is positive. By contrast, Plummer (2010) and Bowman and Bell (2008) reported similar impacts on the mean and median changes in tax liability within each group. The differences between the mean and the median in Philadelphia point to a greater degree of variation within wealth groups. They suggest that the wide range of residential property wealth in the city may necessitate the use of more than three wealth groups to accurately describe the distributional impacts of LVT.

In Philadelphia, I find that the percentage of properties that would experience an increase in taxes under LVT increases as property wealth increases. In effect, wealthier property owners would be more likely to pay more under LVT, while less wealthy property owners would be more likely to pay less. By contrast, Bowman and Bell (2008) reported relatively little variation in the percentage of properties with increased taxes across wealth groups. Plummer (2010) found that this percentage was inversely related to wealth, with the lowest wealth group being the most likely to pay more under LVT. The small percentage of properties in the bottom wealth group with increased taxes reflects favorably on the feasibility of implementing LVT in Philadelphia. It suggests that the change would not exacerbate the city's delinquency problem by increasing taxes on those who could least afford to pay.

Both the tract-level and property-level analyses suggest that LVT would be more progressive than either the pre-AVI or AVI real property taxes in Philadelphia. These findings

mirror those reported by Plummer (2010) and Bowman and Bell (2008), who found LVT to be a more progressive alternative to the real property tax. They are also consistent with the theoretical expectation articulated by Henry George that, because wealthier landowners receive more of the unearned benefits of land, LVT is inherently more progressive than a conventional property tax.

The Suits curves and indices offer only weak evidence to support the claim that the real property tax under AVI is less "fair" than its predecessor; which system is more progressive seems to depend on the type of residential properties considered. To the extent that AVI is perceived to be less fair, however, LVT offers a compelling alternative that is significantly more progressive across most of the income range and is similar to the real property tax for high-income property owners. As such, it provides the city with a defensible way to address vertical equity concerns without reverting to an assessment system with known horizontal inequities.

As in Roanoke and Tarrant County, the relatively low land value ratio of residential property in Philadelphia reflects favorably on the feasibility of implementing LVT. Since LVT would shift the overall tax burden from residential properties to other uses—particularly vacant land—it is likely to be popular among homeowners, an influential constituency. In addition, implementing LVT would be similar to the pre-AVI tax system in its distributional impacts on commercial and industrial properties, effectively negating arguments that it would unfairly burden businesses.

Limitations and Further Research

Like any research, my analysis of LVT in Philadelphia suffers from certain limitations. Primary among these is its inability to compare income and tax liability directly. Instead of actual income figures, I rely on proxy variables or on aggregation by census tract. Since Philadelphia imposes a local income tax, however, it would be possible for a researcher with access to the city's full tax database to compare income and property taxes directly. This type of analysis could reveal the precise degree to which LVT is more progressive than real property tax alternatives.

Similarly, my regression analysis is limited in its descriptive power because it employs simplistic assumptions about the relationship between income and tax liability. Future regression models should include other socioeconomic and spatial covariates in order to better model the correlation between income and tax burden. In addition, models that rely on census data should adjust for differences in the number of properties in each census tract.

My analysis is also limited in its ability to model tax shifting behavior. Differences in tax shifting between renters and owners are central to LVT theory, and future analyses should attempt to distinguish the impacts on rental and owner-occupied residential properties. Instead of relying on the homestead exemption, which is a poor proxy for owner occupancy, they should employ a more reliable source, such as the city's database of rental permits.

Finally, my analysis is limited by its assumption of a static LVT. Like Plummer (2010), future analyses should consider the ways in which property values change in response to shifting tax burdens. In addition, they should include a reasonable phase-in period and should describe challenges associated with transitioning to LVT.

Conclusion

My analysis of LVT in Philadelphia suggests that it would shift the tax burden away from residential property owners to other land uses, particularly undeveloped land. This shift is related to the relatively low land value ratio of residential property in the city. I find that LVT would be more progressive than either the 2013 or 2014 real property taxes. Compared to the current tax

system under AVI, LVT would decrease taxes for most property owners in the low and middle wealth groups, but it would increase taxes for about half of property owners in the highest wealth group. Because of its progressivity and favorable impact on the lowest-wealth property owners, LVT offers a tool to address perceived unfairness in AVI without exacerbating property tax delinquency.

That LVT would improve vertical equity in Philadelphia should come as little surprise. The city is similar in many respects to other central cities, such as Roanoke, where LVT has been shown to increase the distributional equity of the property tax. In addition, as the place where Henry George spent much of his early life, Philadelphia is very likely the type of city George had in mind when he proposed LVT. Now, as the city faces a growing backlog of delinquent properties and attempts to improve the fairness of its tax system, LVT offers the prospect of a more progressive property tax in addition to its many other benefits.

Tables and Figures

Table 1

Share of Tax Burden and Land Value Ratio by Property Category

Philadelphia, 2013 - 2014

Property Category	Count	Share of Tax Burden			Land Value Ratio[1]	
		2013	2014 AVI	2014 LVT	2013	2014
Commercial	15,025	21.49%	18.25%	21.85%	25.83%	30.79%
Industrial	4,523	4.55%	3.01%	4.00%	31.69%	28.20%
Land	46,078	1.95%	1.80%	8.19%	99.72%	99.69%
Mixed Use	15,151	2.48%	3.48%	2.34%	26.23%	14.75%
Multi Family	41,475	15.32%	15.66%	12.95%	17.99%	16.60%
Residential	457,407	54.20%	57.79%	50.67%	17.44%	18.62%
Total	579,659	100.00%	100.00%	100.00%	—	—

AVI = Actual Value Initiative, LVT = Land value tax. [1]Land vaue ratio is the value of land as a percentage of total assessed value.

Table 2

Combined City and School District Tax Rates

Philadelphia, 2013 - 2014

Scenario	Assessment Ratio	Tax Base	Tax Levy	Mill Rate
2013	32%	$38,413,710,072	$1,201,089,156	$97.71
2014 AVI	100%	$94,472,555,421	$1,265,932,243	$13.40
2014 LVT	100%	$20,665,668,045	$1,265,932,243	$61.26

AVI = Actual Value Initiative, LVT = Land value tax.

Figure 1

Median Tax Burden and Median Household Income by Census Tract

All Residential Properties, Philadelphia, 2013 – 2014

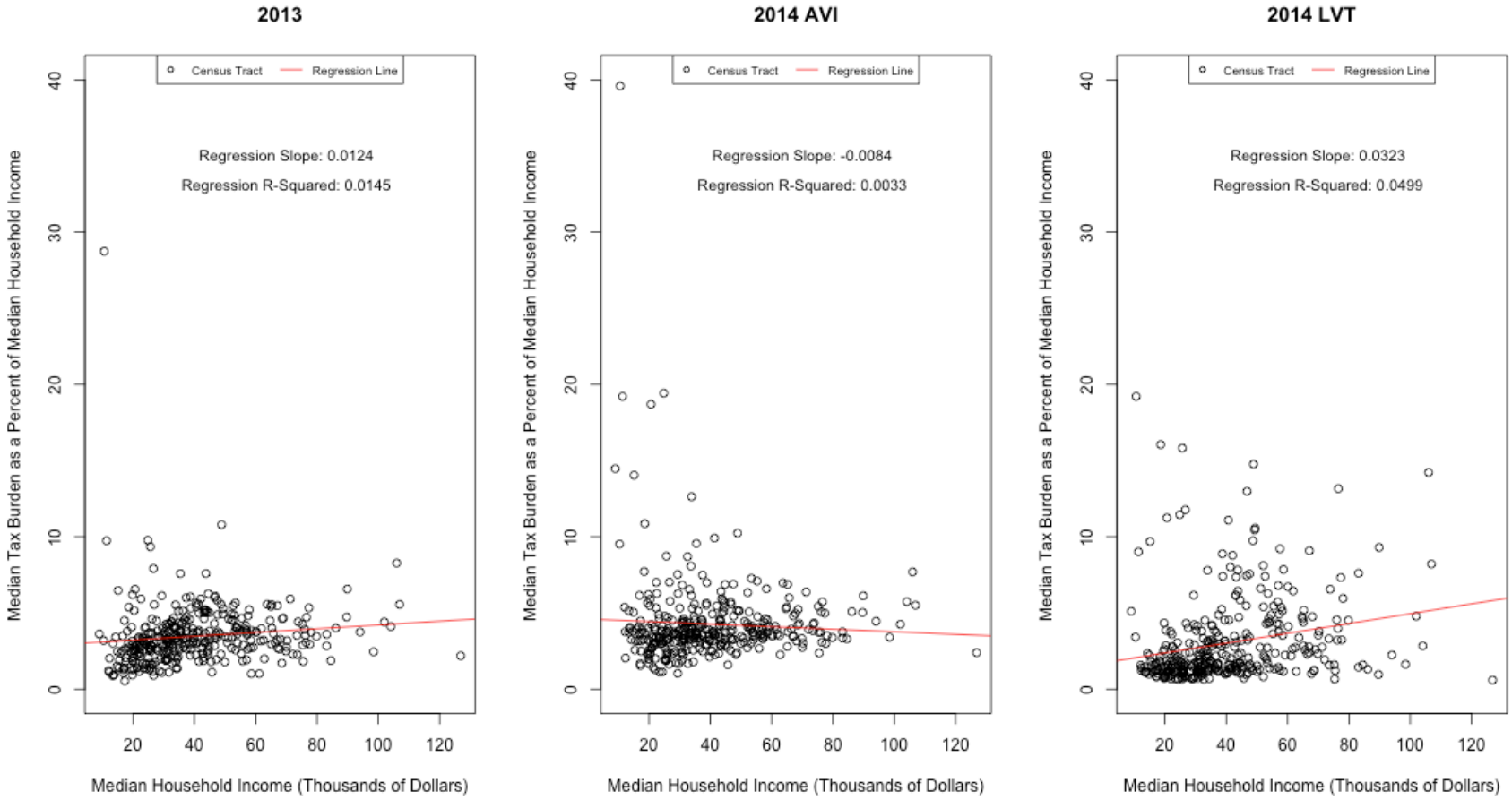

Figure 2

Median Tax Burden and Median Household Income by Census Tract

Homestead Exemption Properties, Philadelphia, 2013 – 2014

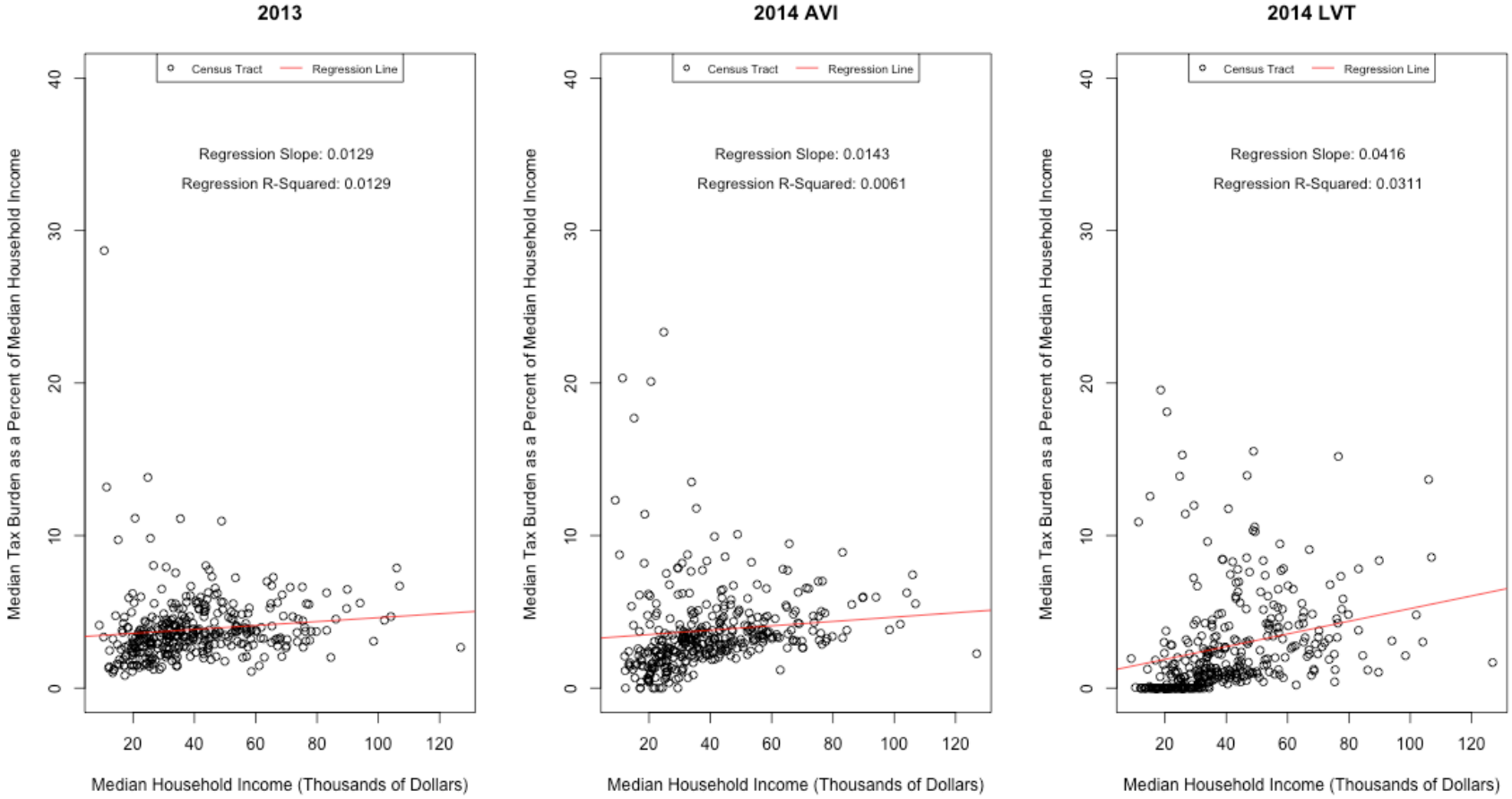

Figure 3

Suits Index Curves

All Residential Properties, Philadelphia, 2013 – 2014

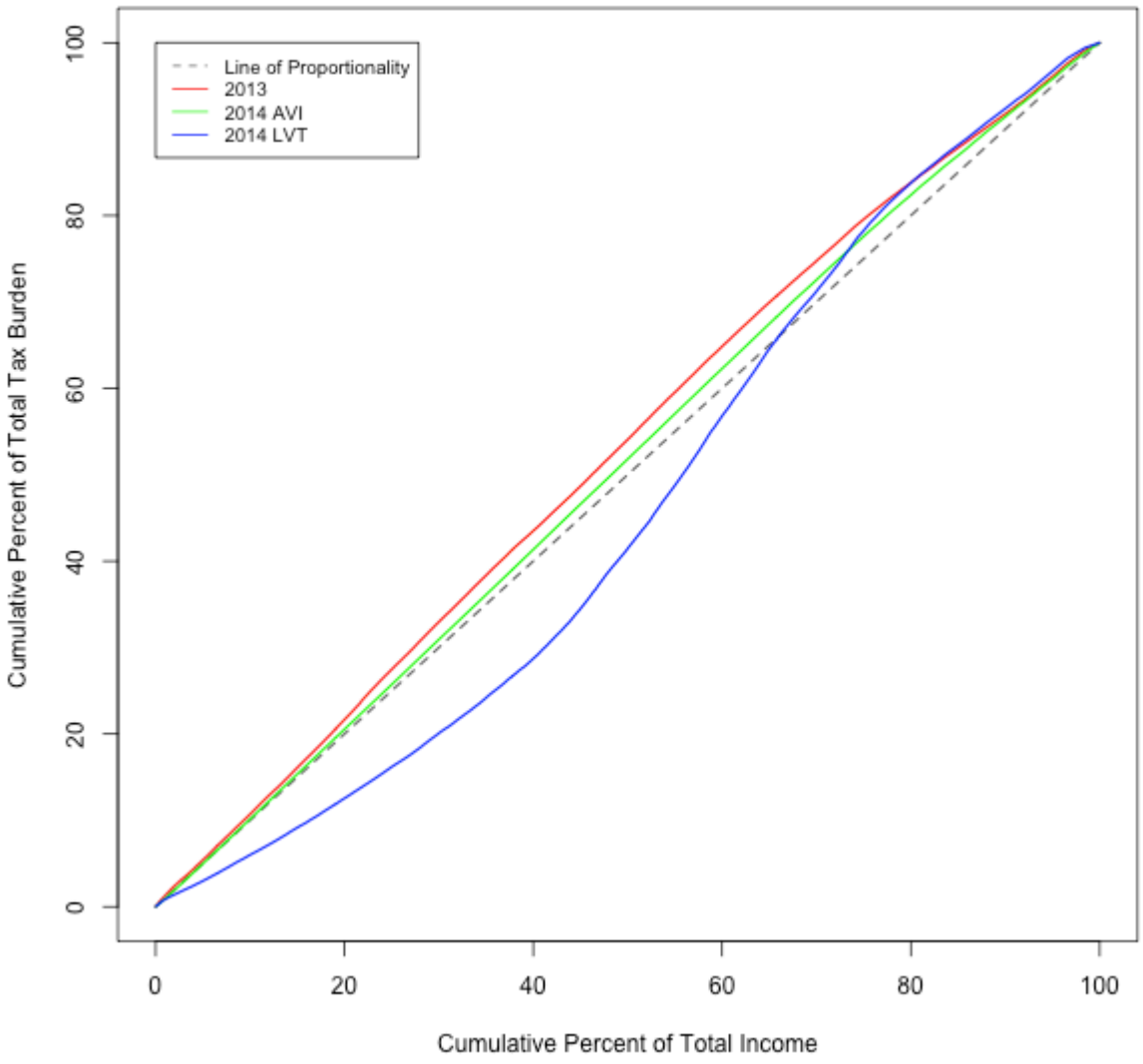

Figure 4

Suits Index Curves

Homestead Exemption Properties, Philadelphia, 2013 – 2014

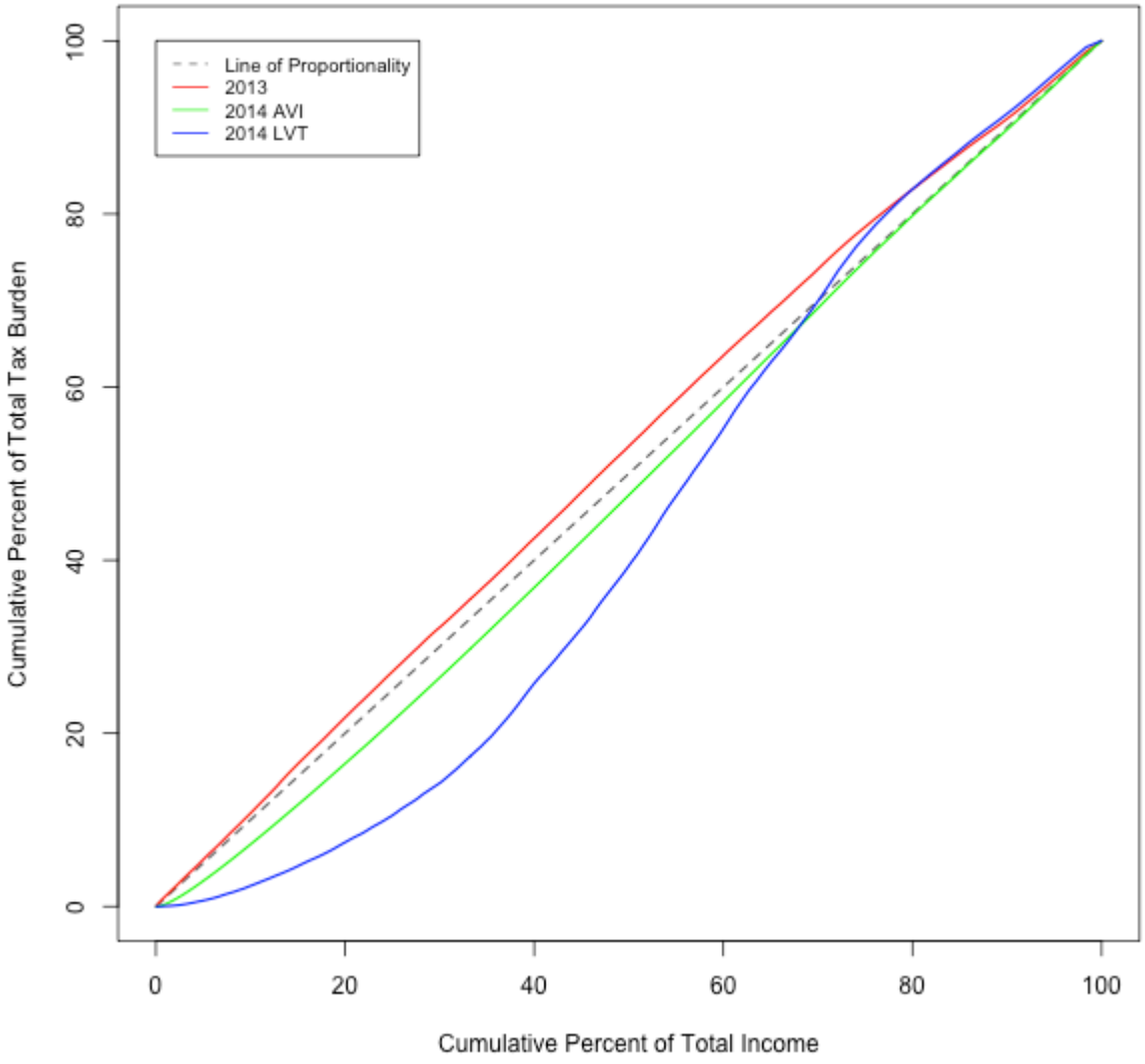

Table 3

Suits Index for Property Tax

Philadelphia, 2013 - 2014

Type of Properties	2013	2014 AVI	2014 LVT
All Residential Properties	-0.0575	-0.0272	0.0734
Homestead Exemption Properties	-0.0440	0.0382	0.1230

AVI = Actual Value Initiative, LVT = Land value tax.

Table 4

Change in Tax Liability from AVI to LVT by Wealth Group

Philadelphia, 2014

Measure of Change	Homestead Exemption Properties			All Residential Properties		
	Bottom 30 Percent	Middle 40 Percent	Top 30 Percent	Bottom 30 Percent	Middle 40 Percent	Top 30 Percent
Median ΔTL	($360)	($349)	$2	($303)	($584)	($176)
Median %ΔTL	-85.0%	-27.1%	3.3%	-54.6%	-48.7%	-15.2%
Mean ΔTL	($354)	($96)	$688	($274)	($450)	$218
Mean %ΔTL	-66.8%	-12.1%	28.0%	-48.5%	-36.3%	10.8%
% with Tax Increase	6.8%	36.2%	50.0%	6.8%	14.9%	44.6%
% with Homestead Ex.	—	—	—	19.5%	40.5%	55.0%

AVI = Actual Value Initiative, LVT = Land value tax, ΔTL = Change in tax liability, %ΔTL = Percent change in tax liability,
% with Tax Increase = Percent of properties that would experience a tax increase moving from AVI to LVT,
% with Homestead Ex. = Percent of residential properties with a homestead exemption.

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