

Tax Policy Choices and New York City's Competitive Position

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INTRODUCTION

The purpose of this background paper is to help inform tax policy choices that the new mayoral administration may face. It examines levels of taxation in New York City compared to other cities, and it reviews research on how taxes affect the local economy and migration patterns. The focus is on the personal income tax and the real property tax, particularly the tax on commercial property. These are two elements of tax policy for which New York City has distinctive policies and for which changes may be considered.

The paper is organized in four sections. The first describes the structure of local taxes in New York City and compares it to that of other large cities in the United States. The second reviews the literature on the relationship between taxes and migration of residents and employment, and it presents data on the current pattern of residential choice and migration in the New York region. The third focuses on the local personal income tax, indicating how hypothetical increases in the rate structure would affect household tax burdens. The fourth section focuses on the tax on commercial property indicating how New York City compares to other large cities in this type of tax and commenting on the possible implications of an increase.

NEW YORK IN A COMPARATIVE PERSPECTIVE

New York City’s taxes are high. A comprehensive and unique study by the New York City Independent Budget Office used data from 2004 to compare cities with a population over 1 million, computing taxes as a percentage of taxable resources.¹ It found that New York City’s state and local taxes were the highest among large cities by far: state and local taxes were 46 percent higher than the average for the other cities, and local taxes were 90 percent higher than the average for other cities. (See Table 1.) The combined state and local personal income tax in New York City was more than three times as high in the other cities, and accounted for three quarters of the difference between New York and the other cities.

Table 2 shows the state and the local burden for the individual cities. New York City’s taxes were 26 percent higher than the second-highest city, Philadelphia. The personal income tax was much higher than in the four other cities that had such a tax. Business income taxes were double or even triple the level in five of the eight other cities. The property tax was higher than in every city but San Antonio. The sales tax and “other taxes” were typically lower than in other cities.

Table 1: State and Local Taxes in New York City and Average of Other Large U.S. Cities, 2004

	Taxes per \$100 of taxable resources		New York City above (below) average		
	Average of other cities	New York City	Per \$100 of taxable resources	Percent of difference	Percent above or below
State and local taxes					
Property tax	\$ 1.89	\$ 2.28	\$ 0.39	13.6%	20.6%
Sales tax	1.73	1.56	(0.17)	-5.9%	-9.8%
Personal income tax	0.95	3.12	2.17	75.9%	228.4%
Business income taxes	0.55	1.06	0.51	17.8%	92.7%
Other taxes	1.04	1.00	(0.04)	-1.4%	-3.8%
Total	\$ 6.16	\$ 9.02	\$ 2.86	100.0%	46.4%
Local taxes only					
Property tax	\$ 1.89	\$ 2.28	\$ 0.39	14.7%	20.6%
Sales tax	0.52	0.82	0.30	11.3%	57.7%
Personal income tax	0.10	1.11	1.01	38.0%	1010.0%
Business income taxes	0.12	0.71	0.59	22.2%	491.7%
Other taxes	0.33	0.70	0.37	13.9%	112.1%
Total	\$ 2.96	\$ 5.62	\$ 2.66	100.0%	89.9%

Note: Comparison cities are Los Angeles, Chicago, Houston, Philadelphia, Phoenix, San Diego, San Antonio and Dallas.

Source: Author’s analysis of information in New York City Independent Budget Office, *Comparing State and Local Taxes in Large U.S. Cities*, February 2007.

Table 2: State and Local Taxes in New York City and Eight Other U.S. Cities, 2004

	State & local taxes per \$100 of taxable resources	Percent that NYC is above (below) other city					
		Total	Property tax	Sales tax	Personal income tax	Business income taxes	Other taxes
New York City	\$ 9.02	-	-	-	-	-	-
Philadelphia	7.16	26.0%	57%	32%	39%	-17%	0%
Los Angeles	6.88	31.1	39.0	(6.6)	72.4	53.6	(7.4)
San Antonio	6.73	34.0	(18.0)	(37.8)	n/a	341.7	(16.7)
Phoenix	6.25	44.3	20.6	(46.0)	372.7	241.9	104.1
San Diego	6.01	50.1	54.1	(15.7)	93.8	107.8	75.4
Chicago	5.89	53.1	3.2	59.2	250.6	92.7	(20.6)
Houston	5.53	63.1	17.5	(20.4)	n/a	171.8	(18.7)
Dallas	5.20	73.5	15.2	(12.8)	n/a	158.5	(2.0)

Source: Author's analysis of information in New York City Independent Budget Office, *Comparing State and Local Taxes in Large U.S. Cities*, February 2007.

Another comparison of taxes in individual cities is prepared annually by the Chief Financial Officer of the District of Columbia. It calculates personal income tax, property tax, sales tax, and automobile taxes on representative households in the District and in the largest city in each state (51 cities in total) at five income levels ranging from \$25,000 to \$150,000. The study reasonably varies household property values among locations (for example, at a given income level a New York City homeowner is likely to own a more expensive house than a person with the same income in Boise, Idaho), but in other respects the households are the same from place to place. Depending on the year of the study, the household is assumed to have either one or two children.

Because this study considers only direct taxes on households, it does not take into account taxes on businesses that may be borne in part by households or that may affect regional economies in other ways. For example, the Independent Budget Office study considers all property taxes in New York City, including taxes on commercial property, which are quite high, whereas the District of Columbia study only includes homeowner property taxes, which in New York City are quite low. Still, it is a useful way to examine direct taxes on households, and it is cited widely.

Table 3 shows taxes at each income level, relative to the median for 51 cities, for 21 cities that ranked in the top 10 for one or more income levels in 2011, the last year for which data are available. New York City's ranking rises as income rises: the household with \$25,000 of income pays 10.7 percent more in taxes than a similar household in the median city, earning New York City the 16th-highest ranking, but the New York City household with \$150,000 of income pays 41.2 percent more than the median, the third-highest ranking for this income group. Again, this does not reflect taxes on businesses, some of which may be passed through to households in the form of higher utility bills, lower wages, or in other ways. Because these taxes in New York City tend to be higher than in other cities, the indirect effects could be large.

Table 4 focuses on the highest income households and the ten cities with the highest burden for that group. New York City ranks number three, behind only Bridgeport and Philadelphia. New York's

Table 3: State and Local Taxes for Representative Households, Selected Cities, 2011

	\$25,000		\$50,000		\$75,000		\$100,000		\$150,000	
	Percent above (below) median of 51 cities	Rank of 51 cities	Percent above (below) median of 51 cities	Rank of 51 cities	Percent above (below) median of 51 cities	Rank of 51 cities	Percent above (below) median of 51 cities	Rank of 51 cities	Percent above (below) median of 51 cities	Rank of 51 cities
Bridgeport	25.4%	5	161.1%	1	129.8%	1	100.9%	1	76.4%	1
Philadelphia	52.7	2	77.4	3	62.4	2	58.0	2	49.7	2
New York City	10.7	16	25.3	14	25.7	8	29.1	6	41.2	3
Columbus	14.0	12	53.7	4	41.1	4	38.7	3	36.9	4
Louisville	21.6	8	35.2	7	33.2	5	33.2	4	35.1	5
Baltimore	(8.6)	39	28.4	11	26.1	6	27.0	7	28.6	6
Portland, ME	(6.5)	33	21.2	15	17.3	13	18.7	10	23.3	7
Newark	1.5	25	95.3	2	48.3	3	31.8	5	20.3	8
Los Angeles	15.9	10	41.4	5	20.6	10	11.7	13	18.3	9
Detroit	10.6	18	26.2	13	24.2	9	20.5	8	16.5	10
Milwaukee	(6.5)	34	26.4	12	19.4	11	19.2	9	15.8	11
Chicago	31.9	4	36.6	6	25.9	7	18.4	11	11.2	14
Providence	6.0	21	34.3	8	17.5	12	9.2	14	5.7	20
Atlanta	25.0	6	1.9	24	3.2	22	0.5	24	2.4	23
Boston	15.5	11	30.5	10	13.2	14	6.3	17	0.6	25
Burlington, VT	(3.8)	31	31.0	9	10.5	15	0.6	23	(1.5)	30
Indianapolis	18.3	9	3.3	23	1.2	24	(0.8)	27	(1.7)	31
Birmingham, AL	52.9	1	3.5	22	-	26	(3.1)	28	(3.6)	33
Honolulu	39.5	3	(23.8)	43	(19.9)	39	(16.4)	37	(12.5)	37
Phoenix	23.6	7	(10.2)	33	(17.1)	38	(20.0)	38	(18.5)	40

Note: Cities shown are those ranked in the top 10 at one or more income levels, ordered by tax at \$150,000.

Source: Natwar M. Gandhi, *Tax Rates and Tax Burdens in the District of Columbia - A Nationwide Comparison: 2011*, Chief Financial Officer, District of Columbia, September 2012.

high overall ranking is driven by its first-ranked personal income tax, which is 82.6 percent above the median. Because New York City's income tax is quite progressive and does not reach its top tax rate until taxable income hits \$500,000, the city's relative ranking probably would rise if the study were to include households with income of \$500,000 or more.

Table 4: State and Local Taxes on Households with \$150,000 Income, Selected Cities, 2011

	Personal income tax		Property tax		Sales tax		Auto tax		Total	
	Percent above (below) median of 51 cities	Rank of 51 cities	Percent above (below) median of 51 cities	Rank of 51 cities	Percent above (below) median of 51 cities	Rank of 51 cities	Percent above (below) median of 51 cities	Rank of 51 cities	Percent above (below) median of 51 cities	Rank of 51 cities
Bridgeport	12.4%	15	213.3%	1	-1.8%	30	128.3%	3	76.4%	1
Philadelphia	52.4	2	82.7	3	(0.3)	28	(37.0)	36	49.7	2
New York City	82.6	1	(9.4)	29	18.7	18	(44.0)	41	41.2	3
Columbus	37.0	6	66.4	4	-	26	(43.0)	39	36.9	4
Louisville	50.0	3	29.3	12	(4.7)	33	9.7	24	35.1	5
Baltimore	37.0	7	39.2	9	(2.8)	31	(43.1)	40	28.6	6
Portland, ME	24.0	9	35.9	10	(29.9)	45	68.6	9	23.3	7
Newark	(37.5)	39	148.3	2	(4.6)	32	(65.8)	51	20.3	8
Los Angeles	(18.8)	33	63.2	5	18.6	19	96.0	7	18.3	9
Detroit	42.4	5	(11.8)	30	(16.3)	41	(10.6)	28	16.5	10

Source: Natwar M. Gandhi, *Tax Rates and Tax Burdens in the District of Columbia - A Nationwide Comparison: 2011*, Chief Financial Officer, District of Columbia, September 2012.

Due to changes in methodology over time it is not appropriate to compare tax levels calculated in the District of Columbia studies from one year to another, but rankings are more robust and provide useful information. Table 5 shows New York City's ranking at three income levels for the personal income tax, sales tax, and total taxes for selected years. For the highest income group, the state and local personal income tax in New York City was the highest in the nation for all available years. The income tax on higher income households is the main reason that total state and local taxes on these households in New York City have long been among the highest in the nation.

Table 5: Ranking of New York City State and Local Taxes Among 51 Cities, by Income Levels, Selected Years

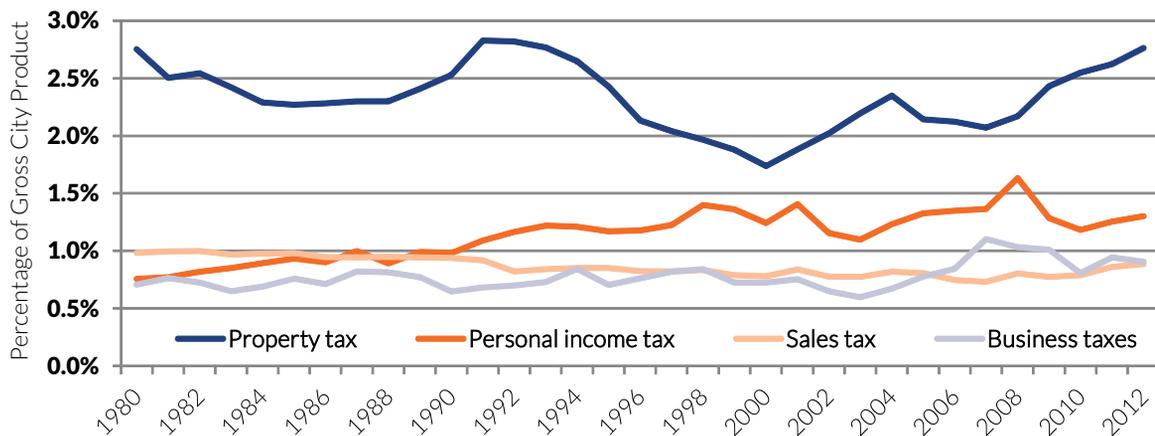
	Personal income tax			Sales tax			Total taxes		
	\$25,000	\$75,000	\$150,000	\$25,000	\$75,000	\$150,000	\$25,000	\$75,000	\$150,000
1997	20	1	1	NA	NA	NA	19	4	3
1999	23	1	1	NA	NA	NA	21	5	4
2001	15	2	1	28	28	28	25	6	5
2003	42	2	1	18	18	18	23	3	2
2005	35	5	1	13	18	16	22	8	2
2007	41	2	1	18	16	16	NA	NA	NA
2009	40	4	1	15	13	13	16	5	2
2011	40	5	1	16	11	18	16	8	3

NA - Denotes a year for which comparative rankings are not reliable.

Notes: Methodological changes, particularly for the sales tax between 1999 and 2001, may have affected rankings. Income levels are not adjusted for inflation.

Source: District of Columbia, *Tax Rates and Tax Burdens in the District of Columbia - A Nationwide Comparison*. Chief Financial Officer, District of Columbia, Various Years.

Figure 1: Major New York City Taxes as a Percent of Gross City Product, 1980-2012



Sources: Taxes from NYC Independent Budget Office, <http://www.ibo.nyc.ny.us/RevenueSpending/TaxRevenue.xls>; Gross City Product from 1996-2012 from NYC Office of Management and Budget, http://www.nyc.gov/html/omb/downloads/pdf/ec07_13.pdf; earlier years estimated by author.

Table 6: New York City Taxes as Percent of Gross City Product, 1980-2012

	Property tax	Personal income tax	Sales tax	Business income taxes	Other taxes	Total
1980	2.75%	0.76%	0.98%	0.71%	0.79%	5.99%
1985	2.27%	0.93%	0.98%	0.76%	0.71%	5.66%
1990	2.53%	0.98%	0.94%	0.65%	0.71%	5.80%
1991	2.83%	1.09%	0.92%	0.68%	0.66%	6.18%
1992	2.82%	1.17%	0.82%	0.70%	0.64%	6.15%
1993	2.77%	1.22%	0.84%	0.73%	0.62%	6.18%
1994	2.65%	1.21%	0.85%	0.84%	0.61%	6.17%
1995	2.43%	1.17%	0.85%	0.71%	0.59%	5.75%
1996	2.13%	1.18%	0.82%	0.76%	0.54%	5.44%
1997	2.04%	1.23%	0.82%	0.82%	0.49%	5.39%
1998	1.97%	1.40%	0.83%	0.84%	0.50%	5.54%
1999	1.88%	1.36%	0.79%	0.72%	0.52%	5.27%
2000	1.74%	1.24%	0.78%	0.73%	0.49%	4.97%
2001	1.88%	1.41%	0.84%	0.75%	0.50%	5.38%
2002	2.02%	1.15%	0.78%	0.65%	0.51%	5.11%
2003	2.20%	1.10%	0.77%	0.60%	0.54%	5.21%
2004	2.35%	1.23%	0.82%	0.67%	0.65%	5.72%
2005	2.14%	1.33%	0.81%	0.78%	0.74%	5.79%
2006	2.12%	1.35%	0.75%	0.85%	0.74%	5.81%
2007	2.07%	1.36%	0.73%	1.10%	0.81%	6.08%
2008	2.17%	1.63%	0.80%	1.03%	0.73%	6.37%
2009	2.43%	1.29%	0.77%	1.01%	0.54%	6.04%
2010	2.55%	1.18%	0.79%	0.81%	0.46%	5.79%
2011	2.62%	1.25%	0.86%	0.94%	0.51%	6.19%
2012	2.76%	1.30%	0.89%	0.91%	0.55%	6.41%
Change to 2012 from:	Change in percentage points					
1991-1994 average	(0.00%)	0.13%	0.03%	0.17%	(0.09%)	0.24%
2000 lowpoint	1.03%	0.06%	0.11%	0.18%	0.06%	1.43%
2002	0.74%	0.15%	0.11%	0.26%	0.04%	1.30%
	Percentage change in level of taxation					
1991-1994 average	(0.1%)	11.1%	3.2%	22.6%	(13.5%)	3.8%
2000 lowpoint	59.0%	4.8%	13.6%	25.0%	12.3%	28.8%
2002	36.7%	12.8%	13.9%	39.4%	8.9%	25.4%

Sources: Taxes from NYC Independent Budget Office, <http://www.ibo.nyc.ny.us/RevenueSpending/TaxRevenue.xls>; Gross City Product from 1996-2012 from NYC Office of Management and Budget, http://www.nyc.gov/html/omb/downloads/pdf/ec07_13.pdf; earlier years estimated by author.

While New York City’s overall taxes have been high relative to other cities for years, there have been important changes over time. Table 6 shows New York City taxes by major category as a percentage of gross city product for 1980, 1985, and 1990 through 2012. The table also shows the change to 2012 from the 1991-1994 period average (a previous high point), from the 2000 low point, and from 2002, the last mayoral changeover year. The 1.3 percentage point increase from 2002 as a share of gross city product is an increase in the level of taxation of 25 percent. Taxes most likely were depressed in 2002 due to the stock market declines in prior years and to a national recession. But comparisons to 2003 or 2004 also show increases that are considerable, albeit not as large.

Among the taxes, the property tax has shown the greatest variability. (See Figure 1.) Its current level is well above the low point in 2000 and close to the peak in 1991. The personal income tax has trended upward with notable variability; its 2012 level is below the peak in 2008 but close to the level of 1998, 1999, and 2005-2007.

TAXES AND MIGRATION

Are New York City's taxes so high that they are damaging economic growth or causing taxpayers to flee to other locations? This question is much harder to answer than whether the City's taxes are comparatively high, where the answer is clear cut.

This section of the paper seeks to address the harder question in two ways. First it reviews the economic literature on the topic, focusing particularly on recent studies examining interstate migration in response to increases in upper-income bracket state tax rates. The implications of these studies for New York City tax policy must be considered carefully because of the limited parallels between state and local (especially New York City) circumstances. A second subsection examines the current situation with respect to outmigration from New York City and other parts of the region and with respect to the residential decisions of high income earners within the New York region. These data suggest that: (1) higher-income households in New York City are more likely to migrate out of the area than similar households in other parts of the New York region, and (2) individuals with high earnings from jobs in New York City are more likely to opt to commute from suburban counties than those with lower earnings from jobs in the city.

Lessons from the Literature

Economists have been studying how taxes affect the economy for decades. The research has been evolving, with data and methods improving, questions becoming more refined, and answers becoming more nuanced. It is clear that taxes do affect the economy, although there is still enormous variation in the estimated magnitude of the diverse impacts. This research generally concludes that the employment and population impacts are likely to be greatest within regions rather than across large geographic differences, and that the effects depend in part on what tax revenue is spent on, since spending can have positive economic effects – for example, spending on infrastructure or education could, under some circumstances, increase private sector productivity.²

Whether taxes in New York City are so high that further increases would reduce economic growth so much that the tax increase would not yield a net revenue increase has been debated. One paper based on data through 2001 found that New York City then was near the peak of its “revenue hills” – it was nearing the point where tax-rate increases would have large enough negative effects that tax revenue would actually decline. The paper concluded that New York City had relatively little room to increase personal income or property tax rates, with somewhat more room to increase the sales tax.³ Another analysis challenged this finding, arguing that the analysis left out important determinants of employment in New York City.⁴

More recently several studies have examined the relationship between income tax rates and interstate migration. In the past decade, several states enacted “millionaire” taxes – higher rates on high-income taxpayers, sometimes starting at thresholds below \$1 million. For example, in 2004 New Jersey raised its rate on taxable income above \$500,000 by 2.6 percentage points, from 6.37 percent to 8.97 percent.⁵ California and Maryland also adopted increased rates on the highest-income taxpayers, and several other states have increased top rates as well.⁶

Two sets of studies have attempted to analyze millionaire-tax policies specifically. These studies are summarized below and described more fully in Appendix A.

The first set of studies by Cristobal Young and Charles Varner used progressively better data and methods to examine the relationship between migration of high-income taxpayers and income tax rates in New Jersey. Their first study used summary data from New Jersey tax records, with counts

of the number of half-millionaire households (“HMHs”) in New Jersey and the number of them that migrated in or out of the state in each year from 2000 to 2007.⁷ Thus, the data covered four years before the tax increase and four years with the tax increase. They found that the average outmigration rate increased after 2003 (a low year for outmigration) while the average immigration rate decreased.⁸

They then estimated how many HMHs might have been lost due to the tax increase and how much revenue might have been lost. To develop upper bound estimates, they assumed that the increase in the outmigration rate from 2003 was attributable to the tax increase, yielding an estimated HMH outmigration rate increase of 0.2 percent. Similarly, they assumed that the decrease in the immigration rate compared to the highest immigration year before 2004 (which was 2000) was due to the tax increase, yielding an estimated decrease in immigration of HMHs annually of 0.4 percent of HMHs outside New Jersey. They calculated the potential revenue loss under the assumption that outmigrants and “missing” immigrants would not be replaced by people already in New Jersey. Under this assumption, the estimated revenue loss was 4.2 percent of the revenue projected from the tax increase assuming no migration impact.

In a second study Young and Varner used individual tax records from New Jersey on all taxpayers with income of \$200,000 or more for each year from 2000 through 2007.⁹ They compared migration behavior of taxpayers with incomes between \$200,000 and \$500,000, who were not subject to the tax increase, with that of taxpayers with incomes above \$500,000. Versions of the statistical analysis included controls for age, marital status, number of children, and the composition of taxpayer income.¹⁰

The main tax-related conclusions from this analysis were:

- Half-millionaires were more likely to have net outmigration than near-half-millionaires, whether before or after the tax increase, and the top 0.1 percent of taxpayers were even more likely to have net outmigration, again regardless of the tax policy.
- The differences in the increase in net outmigration of half-millionaires and of near-half millionaires after the policy change was not statistically significant.¹¹
- Increased net outmigration was significantly related to the tax increase for two subgroups of half-millionaires: (a) those in the top 0.1 percent of taxpayers and who earned all of their income from investments, and (b) elderly half-millionaires, particularly those in the top 0.1 percent.

Using their results, Young and Varner estimated that the migration effects resulted in a potential loss of 1.8 percent of an estimated \$900 million static revenue gain from the tax increase.¹² This is lower than their estimate of 4.2 percent in the first study.

A third study by Varner and Young examined the 2005 Mental Health Services Tax in California, which raised the top rate on income above \$1 million by one percentage point.¹³ It used a panel data set on California taxpayers to compare the behavior of taxpayers with income between \$500,000 and \$1,000,000 (who did not face the tax increase) with those with incomes above \$1,000,000. They found no difference between how millionaires and near-millionaires responded to the policy change. In other words, they found no effect of the tax increase on millionaire migration. It is not clear how meaningful these results are for the New York, New Jersey, Connecticut metropolitan area: it is much harder for taxpayers in California to move to another state and still access job opportunities and amenities of the California economy than it is for taxpayers in New York or New Jersey to do so.

Two studies were conducted by staff of the New Jersey Department of the Treasury. These studies used Internal Revenue Service data to relate interstate outmigration to tax rates, unemployment, housing prices, and distances between states.¹⁴ They found that outmigration is higher when marginal

tax rates are greater in the origin state than in a potential destination state. They used the findings to estimate a seven-year impact on migration and tax revenue due to the New Jersey tax rate increase. The estimated impact is larger (about 8 to 14 percent of revenue) than in the Young and Varner studies for two reasons: (1) they find a greater initial migration response, and (2) they assume the higher migration response persists over time rather than being a one-time response to the tax policy change.

These recent studies are interesting and controversial, but their relevance to income tax policy for New York City is limited. The situation in New York City differs from that in New Jersey and California because the tax rate in New York City is already at non-comparable levels for high earners and because New York City high earners have the option of moving to nearby suburban counties in New York State where income tax rates are lower, but California and New Jersey taxpayers do not have a similar option. For these reasons, it may be more instructive to consider the current patterns of migration and residence within the New York region.

Migration in the New York Region

Nationally people move frequently, but migrate from one state to another infrequently. Between 2010 and 2011, 11.6 percent of the population moved: 7.7 percent moved within the same county, 2.0 percent moved to a different county in the same state, and 1.6 percent moved to a different state.¹⁵ When people do move, housing markets and job opportunities often play a major role.¹⁶ Characteristics such as marriage, having children present in the home, or owning a house, are major impediments to moving.¹⁷ Many of these characteristics are associated with people with higher incomes.

The American Community Survey (ACS), a relatively new national data source, permits analysis of interstate and intraregional migration. For the New York region, it is possible to determine (1) how much more likely people, and particularly high income individuals, living in New York City are to leave the region than are similar people living in other parts of the region, and (2) how much more likely are individuals with high-paying jobs in New York City to choose to live outside the city than those with lower earnings.

Regional Outmigration. To address the first issue, it is possible to use the ACS for 2007-2011 to compare regional outmigration for people aged 18 or older who were residents of New York City, residents of other parts of the region in New York State (Nassau, Rockland, Suffolk, and Westchester counties), residents of Fairfield County in Connecticut, and residents of the major commuting counties in New Jersey (Bergen, Essex, Hudson, Middlesex, and Monmouth). Table 7 summarizes the results. The first point evident from the table is that among the higher-income regional residents, New York City residents are more likely to move out of their region than residents of the other parts of the region. For example, 4.0 percent of New York City adults with income of \$100,000 - \$400,000 outmigrated compared with only 1.6 percent of adult residents of other New York metropolitan counties, 3.1 percent of adult residents of Fairfield County, and 3.0 percent of adult residents in the New Jersey counties.¹⁸

The second point is that in other parts of the region higher-income residents are less likely to outmigrate than residents with income under \$100,000, but higher income New York City residents are at least as likely to outmigrate as city residents with lower incomes. For example, 3.1 percent of residents of Fairfield County with income of \$100,000 - \$400,000 outmigrated, compared to 5.8 percent of residents with incomes up to \$100,000; in contrast, in New York City the higher income residents were at least as likely to move as those with incomes up to \$100,000.¹⁹

The people who live in New York City and the people who live in nearby counties may differ in ways that help explain these different migration rates, but it is possible to control for some of those differences.

Table 7: Regional Outmigration as a Percent of Residents by County of Origin, 2007-2011

	New York City	New York City suburbs	Connecticut (Fairfield County)	New Jersey commuting counties
<i>Income (\$000)</i>				
Up to \$100	3.6%	3.8%	5.8%	4.7%
\$100-400	4.0%	1.6%	3.1%	3.0%
\$400+	3.5%	1.1%	2.4%	3.1%
Total	3.6%	3.5%	5.3%	4.5%

Note: New York City suburbs are Nassau, Suffolk, Westchester and Rockland counties. New Jersey commuting counties are Bergen, Essex, Hudson, Middlesex and Monmouth counties.

Source: Author's analysis of U.S. Census Bureau, *American Community Survey, 2007-2011 Five-Year Public Use Microdata*.

Appendix B presents the results of a logistic regression of outmigration, with independent variables drawn from those commonly found in prior research. The results generally are consistent with the academic research – the people most likely to move are those who are unemployed or not in the labor force, and people with more education; those least likely to move are married or have children present in the house. However, of particular relevance to tax policy is the finding that after controlling for these other factors, high-income people (income above \$400,000) who live in New York City are more likely to move than otherwise similar people in the surrounding counties. The appendix presents “odds ratios” for each variable. For example, the odds ratio for income above \$400,000 is 1.9792, or about 2. This means the probability that someone with income above \$400,000 will outmigrate is approximately twice the probability that someone who is otherwise similar, but with lower income, will outmigrate.²⁰ If the outmigration probability for someone with a particular set of characteristics and income below \$400,000 was 3 percent, this suggests that an otherwise similar person with income above \$400,000 would have an outmigration probability of 6 percent.

Intraregional Migration. Commuting patterns indicate people’s willingness to live in New York City versus living in another part of the region. Table 8 shows the number of adults who work in New York City by whether they are commuters or city residents. On average 21.6 percent of workers commute to New York City, but the share varies considerably by wage income. In general, higher-wage workers are more likely to commute than are lower wage workers; 50.6 percent of workers earning \$250,000 - \$400,000 were commuters, while only 12.2 percent of workers earning less than \$50,000 were commuters. In other words, people with incomes above \$50,000 are about two to four times more likely to commute than people with incomes below \$50,000.

These large differences in residential choice cannot be attributed fully to differences in the individuals’ demographic characteristics other than income. Appendix C presents the results of a logistic regression of commuting. After adjusting for age, marital status, presence of children in the home, education, and racial and ethnic characteristics, individuals with higher wage income are more likely to be commuters to New York City than people with similar characteristics but lower wage income. As with the outmigration regression, the results are presented in terms of odds ratios. The odds ratios for the higher income groups range from about 2.5 to almost 4, suggesting that after adjusting for demographic and other differences, higher income individuals are about 2.5 to 4 times more likely to commute as the lowest income group.

Table 8: New York City Workers by Commuter Status and Wage Level, 2007-2011

Wages (\$000)	Number of Workers (in thousands)			Commuters as a percent of total
	Commuters	Residents	Total	
Up to \$50	305.3	2,194.8	2,500.1	12.2%
\$50-75	183.3	547.3	730.6	25.1
\$75-100	145.3	260.0	405.3	35.8
\$100-250	224.9	282.4	507.3	44.3
\$250-400	24.3	23.8	48.0	50.6
Above \$400	38.6	41.9	80.5	48.0
Total	921.7	3,350.1	4,271.8	21.6%

Source: Author's analysis of U.S. Census Bureau, American Community Survey, 2007-2011 Five-Year Public Use Microdata.

This analysis indicates that higher income individuals are already more likely to opt for suburban residences than lower income individuals. But it does not necessarily mean that they are even more likely to do so if tax rates rise. However, it does suggest the likelihood of becoming a commuter will rise if an accumulation of factors influencing the choice – including taxes – weighs in favor of living outside the city.

NEW YORK CITY PERSONAL INCOME TAX POLICY

When assessing different taxes, analysts and policymakers often seek to strike a balance between goals of equity and adherence to a “benefit” principle of taxation. Concerns for equity favor taxes that are progressive, meaning higher income households pay a larger share of their income in taxes than do lower income households. The personal income tax usually scores high on the equity criterion, because it is largely based on ability to pay and policymakers can control progressivity well by adjusting tax brackets and other characteristics of the tax. This is especially true for national tax policy, but at the state and local level varying reliance on income taxes can create competitive disadvantages for states or cities that depend too heavily on the income tax.

The benefit principle favors taxes that are distributed among residents (and businesses) in proportion to their consumption of services provided by the government; that is, people should pay in relation to the extent they receive benefits. The property tax is often seen as scoring well on this criterion, especially for local governments, because household reliance on core local government services (police, fire, and sanitation) correlates with the size and value of the property they own or occupy. However, because it is in many respects a tax on housing, the property tax is also regressive and scores poorly in terms of equity. Thus, choices between the taxes are a difficult balancing act. This section considers the impact on progressivity and regional competitiveness of two changes to the New York City personal income tax. The next section considers New York City’s competitive position with respect to real estate taxes, particularly commercial real estate taxes. The two income tax policy alternatives are: (1) a 10 percent across the board surcharge, and (2) a 0.75 percent increase in the top tax rate, from 3.876 percent to 4.626 percent. These options are policies that are near the bounds of past tax increases. New York City imposed a 14 percent surcharge several times in the past; a 10 percent surcharge is well within the bounds of historical experience. It would raise more than \$800 million annually at current income levels. The second option, increasing the top rate to 4.626 percent, would exceed the previous highest top rate in New York City of 4.464 percent in 1998. However, that top rate began at income of \$108,000 while this option would take effect at income of \$500,000 and would apply to less income. This option likely would raise more than \$750 million annually. It is reasonably consistent with past experience, similar in revenue magnitude to the surcharge, and a round number (0.75 percent increase).

The analysis of the options has two elements. First, it identifies the impact on the combined state and local tax rate paid by New York City residents at different income levels. The analysis uses 19 different income levels based on the 10 income categories used in New York State Department of Taxation and Finance reports and expanded to include more income ranges at the upper level.²¹ The income levels used are based on the midpoint of each reported or interpolated income range, rounded to a multiple of \$1,000; the 19 hypothetical taxpayers are married taxpayers with incomes ranging from approximately \$23,000 to \$1.9 million.

The second element of the analysis is a comparison of the state and local tax rates under the two options to current state and local income tax rates in New York City, in areas of New York State outside New York City, in New Jersey and in Connecticut. In each case the state and local income tax rate is “net” income tax taking into account the benefit of deductibility of state and local income taxes against the federal income tax, for those taxpayers who itemize deductions for their federal taxes. This deduction lowers federal tax liability, effectively offsetting some of the difference between the City income tax and income tax in other locations and softening the impact of a local income tax increase. (See Appendix D for a more detailed description of the method used.)

Table 9 summarizes the results of the analysis. As expected, in comparison to current New York City rates, the surcharge modestly increases the rate at all income levels. The increase is between one- and two- tenths of a percentage point across the board. The other option increases the rate only at the

Table 9: State and Local Income Taxes as a Percent of Federal Adjusted Gross Income, by Area and Policy Option

Federal adjusted gross income (rounded)	New York City			New York City suburbs	Connecticut	New Jersey
	Current policy	0.75% top rate increase	10% surcharge			
\$23,000	2.0%	2.0%	2.1%	1.0%	- %	1.0%
\$28,000	2.9	2.9	3.0	1.6	0.1	1.1
\$33,000	3.7	3.7	3.8	2.1	0.4	1.2
\$38,000	4.1	4.1	4.3	2.4	0.7	1.3
\$42,000	4.6	4.6	4.8	2.7	1.1	1.3
\$47,000	5.1	5.1	5.3	3.0	1.4	1.4
\$52,000	5.5	5.5	5.7	3.3	2.2	1.4
\$57,000	5.8	5.8	6.1	3.5	2.8	1.5
\$63,000	6.2	6.2	6.4	3.8	3.3	1.5
\$70,000	6.6	6.6	6.8	4.0	3.9	1.6
\$87,000	6.6	6.6	6.8	4.2	3.9	1.9
\$121,000	6.0	6.0	6.2	3.7	3.7	2.1
\$171,000	6.1	6.1	6.3	3.9	3.9	2.7
\$230,000	7.6	7.6	7.9	4.5	4.3	3.2
\$290,000	8.9	8.9	9.2	5.7	5.5	4.7
\$490,000	9.5	9.5	9.8	6.1	6.1	5.4
\$690,000	8.7	8.8	9.0	5.2	5.5	5.2
\$1,300,000	6.2	6.5	6.4	4.0	4.0	4.6
\$1,900,000	6.3	6.6	6.5	4.0	4.0	4.8

Note: Net of savings from deductibility against federal income tax.

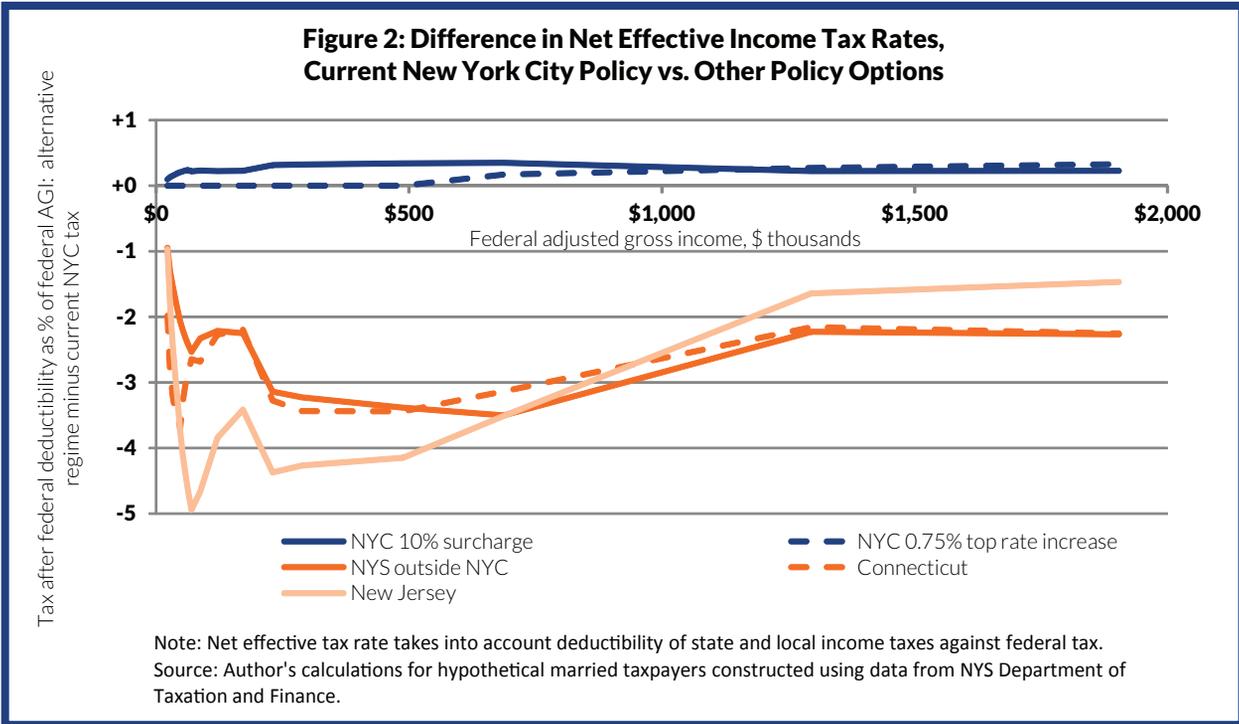
Source: Author's analysis of hypothetical married-filing-joint taxpayers, as described in text and Appendix D.

three highest levels, by between one-tenth and three-tenths of a percentage point.

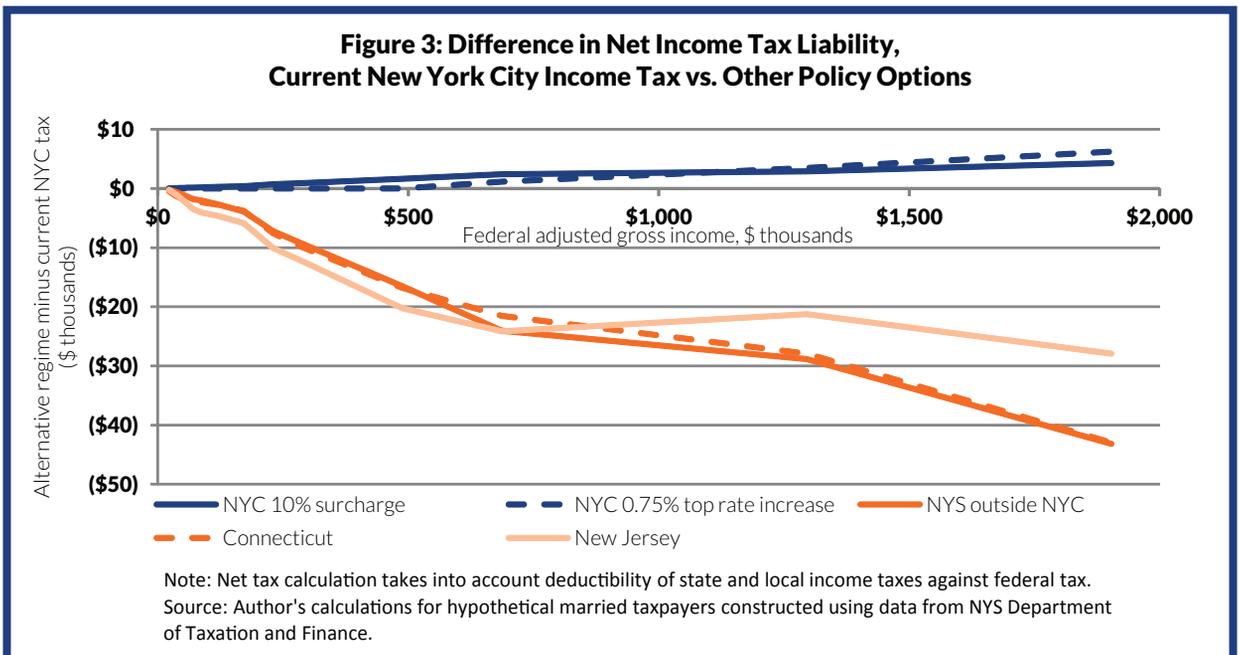
The impact of the options on competitiveness with other parts of the region is more subtle. Income tax rates in New York City currently are much higher than in Connecticut, New Jersey, or the rest of New York State. The rates in New York City at the five highest levels are between 6.2 percent and 9.5 percent; in New Jersey the range at these levels is from 4.6 percent to 5.4 percent; in Connecticut and other parts of New York from 4.0 to 6.1 percent. Given these large differences under current policy, the increase in rates in New York City under the two options has only a modest adverse impact on the differential between New York City and the other areas.²²

Figure 2 shows the difference in tax rates under the alternative policies. Values above the zero horizontal line indicate state and local income taxes that are higher than taxes under the current New York City tax regime. Under the two tax increase options, taxes are higher than under the current tax. Values below the horizontal line indicate that income taxes under an alternative regime are lower than current income taxes in New York City. This is the case for all hypothetical taxpayers for New York outside of New York City, Connecticut, and New Jersey. The differences in tax rates are particularly large for low- and middle- income taxpayers, but they narrow somewhat for taxpayers with more than \$1 million of income.

Figure 3 shows the tax differentials in actual dollar terms rather than as tax rates. These dollar figures



make clear the impact of the tax policy changes relative to the already existing differences among jurisdictions. For example, the 10 percent surcharge would raise taxes on a married couple earning approximately \$1.9 million by just under \$5,000; the couple already pays approximately \$28,000 more in New York City under the current regime than they would in New Jersey



How large would the adverse impacts on the competitiveness of New York City be if either of the options was pursued? The fact that the increase in tax differentials among jurisdictions is small relative to already existing differentials, combined with the modest negative impacts found in studies of state income tax rate changes, might suggest the impacts would not be great. But this is a highly speculative inference. The situation in New York City is unique. The already high rates, together with the relatively easy opportunities for intraregional migration (already used by many high earners), make any predictions about likely outmigration highly uncertain.

NEW YORK CITY PROPERTY TAX POLICY

This section examines New York City's current property tax policy and its effects on the competitiveness of the city for commercial activity. The available comparative data indicate New York City imposes a property tax on commercial property that is much higher than in most competitive areas, and that New York City also creates differential rates between commercial and other types of property that are much greater than in other areas. The policy implication is that these conditions should be considered in any initiatives to raise more revenue from the property tax.

The analysis in this section relies primarily on annual data published jointly by the Lincoln Institute of Land Policy and the Minnesota Center on Fiscal Excellence. Their reports compute effective tax rates for different kinds of properties for the largest city in each state and for the largest 50 cities in the nation, as well as for selected suburban and rural locations. The analysis takes into account all property taxes imposed on a parcel of property in a given location, such as county taxes, school taxes, city taxes or taxes imposed by villages and towns, and special district taxes. It does not generally reflect special-purpose exemptions or other programs that are available to some properties but not to others. In the case of New York City it does adjust for the average impact of transitional assessed values and exemptions.²³

The published data do not include information for key jurisdictions within the New York region that compete with New York City – notably Mineola and White Plains in New York, Hoboken and Jersey City in New Jersey, and Stamford, Connecticut. The author has applied the Lincoln Institute methodology to these locations using data from 2012.

The data for New York City include only the property tax, and do not include the commercial rent tax. New York City is one of only two jurisdictions in the United States that impose a tax on commercial rent. (The other is the state of Florida.) The tax was enacted in 1963 when New York City was approaching a state constitutional limit on the property tax; it was a means to capture some of the growth in real estate values without exceeding the constitutional cap.²⁴ The current tax is imposed on commercial rents on properties in Manhattan south of 96th Street. The effective rate is 3.9 percent of gross rent for properties with gross rent of more than \$300,000 annually; the effective rate phases up from zero to 3.9 percent for properties with gross rent between \$250,000 and \$300,000. The property tax equivalent of the commercial rent tax depends on the relationship of rent to property value, which varies with market conditions. Applying assumptions about market values and rents for Manhattan office properties that were used by the New York City Department of Finance in early 2013, the commercial rent tax likely was about 0.7 to 0.9 percent of market value, or about 15 to 20 percent of the property tax.²⁵ (Based on market conditions during the 2000's, this would have ranged from about 10 percent to 25 percent.²⁶) Put differently, for properties in Manhattan subject to the commercial rent tax, the effective tax likely was 15 to 20 percent higher than shown in the tables below.

A Comparative View of Commercial Property Taxes

Table 10 shows the property tax on a \$25 million commercial property in 2012 in the 15 largest cities in the nation by population, and in selected jurisdictions in the New York region. The New York City commercial property tax (not reflecting the commercial rent tax) was second highest among large cities, behind Chicago. New York's commercial property tax was 10 percent higher than third-highest Philadelphia, 35 percent higher than Houston, and 154 percent higher than Los Angeles. It was 51 percent higher than the average for the other 14 of the 15 largest cities – an annual difference of \$327,000 for a \$25 million property.

Closer to home, New York was 30 percent higher than the average for the five locations within the

**Table 10: Property Tax on \$25 Million Commercial Property,
Selected Locations, 2012**

(dollars in thousands)

Jurisdiction	Tax	Tax Rate	New York City percent above (below) other jurisdiction
<i>15 largest cities in the U.S.:</i>			
Chicago	\$ 1,166	3.89%	(17.3%)
New York City	964	3.21	
Philadelphia	876	2.92	10.0%
Dallas	792	2.64	21.6%
San Antonio	761	2.54	26.7%
Houston	717	2.39	34.5%
Austin	693	2.31	39.2%
Phoenix	687	2.29	40.2%
Columbus	687	2.29	40.3%
Indianapolis	571	1.90	68.9%
Jacksonville	526	1.75	83.2%
San Jose	382	1.27	152.2%
Los Angeles	380	1.27	153.8%
San Francisco	351	1.17	174.9%
San Diego	333	1.11	188.9%
Average of largest 15 cities, excluding NYC	\$ 637	2.12%	51.3%
<i>Nearby jurisdictions:</i>			
Mineola	\$ 1,450	4.83%	(33.5%)
New York City	964	3.21	
White Plains	813	2.71	18.6%
Jersey City	563	1.88	71.2%
Stamford	505	1.68	90.9%
Hoboken	368	1.23	161.8%
Average of nearby jurisdictions, excluding NYC	\$ 740	2.47%	30.3%

Notes: Estimates for Mineola, White Plains, Jersey City, Stamford, and Hoboken developed by the author using methodology of the Minnesota/Lincoln Institute study.

Source: Minnesota Center for Fiscal Excellence and Lincoln Institute for Land Policy, *50-State Property Tax Comparison Study*, 2012, and author's analysis.

region. New York City’s tax is reported as lower than in Mineola, but that is a questionable finding, because Nassau County appears to have an extraordinarily variable and contentious property tax system. Many observers believe that the relationship between true market value and the value carried on the Nassau County assessment roll is inconsistent at best.²⁷ At the other extreme, a \$25 million commercial property in Hoboken is subject to property tax of \$368,000, about \$596,000 less, annually, than in New York City.

It may be surprising to readers to see Chicago higher than New York City in 2012. That is a recent phenomenon. Table 11 shows the tax rates on commercial property for each year from 2005 through 2012. In every year between 2005 and 2011, the New York tax rate was higher than the Chicago rate. The recent increase in Chicago reflects, in part, increases in the median level of assessment.²⁸

Table 11: Tax Rates on Large Commercial Property, Selected Cities, 2005-2012
(percent of market value)

	2005	2006	2007	2008	2009	2010	2011	2012
Chicago	3.11%	2.80%	2.41%	2.09%	2.03%	1.79%	2.04%	3.89%
New York City	3.87	3.64	3.29	2.96	3.24	3.31	3.20	3.21
Philadelphia	2.90	3.16	3.04	2.98	3.43	3.40	2.05	2.92
Dallas	2.83	2.72	2.41	2.31	2.38	2.55	2.62	2.64
San Antonio	2.67	2.81	2.41	2.47	2.58	2.49	2.48	2.54
Houston	2.79	2.40	1.99	2.01	2.39	2.34	2.34	2.39
Austin	2.56	2.31	2.10	2.06	2.13	2.27	2.27	2.31
Phoenix	3.34	3.05	3.05	2.35	2.02	2.09	2.10	2.29
Columbus	1.52	1.74	1.89	1.67	1.83	1.96	1.83	2.29
Indianapolis	2.47	2.60	3.28	na	2.62	1.94	3.04	1.90
Jacksonville	1.79	1.71	1.73	1.49	1.58	1.67	1.72	1.75
San Jose	1.16	1.19	1.19	1.22	1.25	1.27	1.29	1.27
Los Angeles	1.20	1.18	1.18	1.19	1.22	1.27	1.25	1.27
San Francisco	1.14	1.14	1.14	1.16	1.16	1.16	1.17	1.17
San Diego	1.11	1.10	1.10	1.08	1.10	1.10	1.11	1.11

Note: Commercial property effective tax rates are for the highest-value property group examined; year generally is the year of the tax levy.

Source: Minnesota Center for Fiscal Excellence and Lincoln Institute for Land Policy, *50-State Property Tax Comparison Study*, various years.

Disparities between Commercial and Small Residential Property

One reason the commercial property tax is so high in New York City is because taxes on small residential properties (know as Class 1 in New York City) are so low, a longstanding policy in New York. Table 12 shows the effective tax rate on commercial and homeowner properties in New York City, the City’s ranking among the 50 large cities included in the Lincoln Institute and Minnesota Center analysis, and the average for large cities, for available years from 1995 through 2012. In a typical year New York City’s commercial property tax is 50 percent or more above the average for large cities, while the homeowner property tax generally is 50 percent or more below the average.

Table 12: Property Tax Rates in New York City and Other Large Cities, by Type of Property, 2005-2012

(percent of market value)

Commercial property				
	New York City		Average tax rate,	NYC percent above
	Tax Rate	Rank	50 largest cities	(below) the average
2005	3.87%	1	2.06%	88.0%
2006	3.64	2	2.03	79.4%
2007	3.29	2	1.94	69.4%
2008	2.96	3	1.83	62.2%
2009	3.24	3	1.86	73.7%
2010	3.31	3	1.87	76.5%
2011	3.20	3	1.97	62.8%
2012	3.21	4	2.06	55.8%

Homestead property				
	New York City		Average tax rate,	NYC percent above
	Tax Rate	Rank	50 largest cities	(below) the average
2005	0.59%	46	1.50%	(60.5%)
2006	0.54	46	1.44	(62.2%)
2007	0.38	49	1.39	(72.8%)
2008	0.33	49	1.34	(75.4%)
2009	0.59	45	1.38	(57.4%)
2010	0.65	44	1.41	(54.2%)
2011	0.62	47	1.48	(58.1%)
2012	0.63	47	1.51	(58.1%)

Ratio of Commercial Rate to Homestead Rate			
	New York City		Average, 50
	Ratio	Rank	largest cities
2005	6.5	1	1.4
2006	6.7	1	1.4
2007	8.7	1	1.4
2008	9.0	1	1.4
2009	5.5	1	1.3
2010	5.1	1	1.3
2011	5.2	1	1.3
2012	5.1	1	1.4

Note: Commercial and homestead property effective tax rates are for the highest-value property group examined; year generally is the year of the tax levy.

Source: Minnesota Center for Fiscal Excellence and Lincoln Institute for Land Policy, *50-State Property Tax Comparison Study*, various years.

The relationship between commercial and homeowner property tax rates is notably different in New York City than in other large cities: in a typical year the tax rate on commercial property is 5-6 times as great as the tax rate on homeowner property. While other large cities also tend to tax commercial property more heavily than homeowner property, the difference is not as extreme. Table 12 shows that in most years the rate for commercial property in the average large city is about 40 percent higher than the effective rate for homeowner property, rather than 5-6 times as great as it is in New York City. New York City has the highest ratio of commercial property tax rate to homestead tax rate of any large city in the country, and has held this distinction each year from 2005 through 2012.

The extraordinary extent to which New York City taxes commercial property more than homestead property is evident in Table 13. It identifies the ten cities, out of the top 50 by population, with the highest ratio of commercial tax rate to homestead tax rate. New York's ratio is 9 percent higher than second-ranking Boston's. After that the disparity widens dramatically: New York is 39 percent higher than third-ranked Colorado Springs and 140 percent higher than tenth ranked Kansas City.

What are the implications of the distinctive way in which New York City taxes commercial property? A 10 percent increase in the tax on commercial property (Class 4) would be roughly comparable in to the 10 percent surcharge on the personal income tax examined earlier. If the City were to adopt such an increase it would exacerbate the already-large differences in New York City commercial property taxes compared to other large cities and to nearby jurisdictions: New York's commercial property tax would be 188 percent higher than in Hoboken, 110 percent higher than in Stamford, and 88 percent higher than in Jersey City – again, without considering the impact of the commercial rent tax, which does not have counterparts in these other locations. Estimating the economic impact of a commercial property tax increase is not practical, but such a change would be tantamount to taking the price of a luxury good (a New York City location) that already is substantially more expensive than its competitors and increasing it further, rather than increasing taxes that are not as far out of line with those of competitors.

Table 13: Tax Rates on Commercial Property Relative to Homestead Property, Selected Cities, 2012

	Tax rate (as a percent of market value)		Commercial: Homestead Ratio	NYC percent above other city
	Commercial property	Homestead property		
New York City	3.21%	0.63%	5.1	
Boston	2.85	0.61	4.7	9.3%
Colorado Springs	1.72	0.47	3.7	38.8%
Denver	2.02	0.57	3.6	43.1%
Washington	2.06	0.64	3.2	57.8%
Mesa	1.92	0.68	2.8	79.6%
Phoenix	2.29	0.86	2.7	89.7%
Tucson	2.48	0.97	2.6	97.8%
Chicago	3.89	1.64	2.4	114.7%
Kansas City	2.92	1.38	2.1	140.3%

Note: Commercial and homestead property effective tax rates are for the highest-value property group examined; year generally is the year of the tax levy.

Source: Minnesota Center for Fiscal Excellence and Lincoln Institute for Land Policy, *50-State Property Tax Comparison Study*, 2012.

CONCLUSION

New York City's tax burden is far greater than that in other large cities. Higher taxes can, in concept, cause people to flee a high-tax jurisdiction, potentially reducing the tax base. Empirical research on migration suggests that people move, or choose not to move, primarily for non-tax reasons such as to seek employment in better labor markets, to go to less-expensive housing markets, and to take advantage of opportunities that college degrees provide. Analysis of recent relevant data, however, suggests that high-income New Yorkers are more likely to outmigrate than are high-income individuals in neighboring or metropolitan counties in New York, Connecticut, and New Jersey. Similar analysis suggests that individuals who work in New York City are more likely to be commuters if their wages are high.

Some people do move for tax reasons. The empirical research on "millionaire taxes" suggests that their impact on migration has been relatively small. Based on prior research, there is likely to be some "tax flight" migration from New York City to other locations if the City enacts new increases, but it is not practical to quantify this impact with any confidence because tax differentials between New York City and its neighbors already are great and intraregional migration is a very real possibility. It is important to remember that New York City's income tax already is an outlier. The combined city and state tax rate is far higher than in neighboring or competitor states, and the personal income tax accounts for three quarters of the difference between tax burdens in New York City and in other large cities. Furthermore, the research on tax migration based on New Jersey data examined top marginal rates that are well below those currently in effect in New York City when combined state and city rates are taken into account. Thus, the experience in New York City may be different from that in New Jersey.

Although the property tax in New York City, on average, contributes relatively little to the City's outlier status, that fact alone is deceptive. The tax on homeowner properties is very low compared with other large cities – typically ranking the City at or near 50 in an annual study of property tax rates in 50 large cities. By contrast, the commercial property tax rate is about 5-6 times the homeowner tax rate in most years, and New York City's commercial property tax rate is much higher than in most other large cities and much higher than in potential competitors in the region. In 2012 the commercial rate was 47 percent higher than the average of the other 14 largest cities in the nation and 42 percent higher than the average for Hoboken, Jersey City, Mineola, Stamford, and White Plains. It was 162 percent higher than in Hoboken – a difference of \$596,000 annually on a property worth \$25 million. Further increases in the commercial property tax would make New York City even more of an outlier.

Policymakers considering raising the personal income tax or the commercial property tax need to be aware that both taxes are already significantly higher than in other large cities. They are dealing with uncertainty related to these distinct competitive circumstances and would be well advised to examine options where New York City is not as far out of line with other cities.

APPENDIX A

Study	Policy or trend examined	Data & methods	Authors' conclusions	Comments
<p>Young, Varner, & Massey 2008; Policy Research Institute for the Region, Princeton University</p>	<p>Outmigration from NJ 2004+ 8.97% tax rate on taxable income above \$500k (for HMH's – half-millionaire households).</p>	<p>Census Bureau annual summary data by state, for description of longer-term migration trends without regard to income levels. Census ACS person-level microdata for 2000-2006 combined. Logistic models of outmigration and immigration based on demographic characteristics. NJ annual summary of tax data, with counts of HMHs and of numbers of in- and outmigrating HMHs (based on part-year filings), 2000-2007.</p>	<p>Outmigration is driven by low-income individuals, especially unemployed and not in labor force. Elderly and individuals with children much less likely to move than others. Outmigration reflects NJ's high cost of living. Number of HMH outmigrants increased in 2004+, but rate of outmigration increased only very slightly. Immigration slowed slightly. NJ loses at most ~350 HMHs per year due to the 2004 tax increase, out of 44,000 (0.8% of HMHs). About \$38m annual loss on average. CA, MA, NY outmigration similarly largely driven by low-income individuals. Tax rates, climate, and crime do not appear to explain their outmigration.</p>	<p>In YVM analysis, impacts do not grow with time. Implicitly assumes that when people leave, they take their jobs and income with them – the money is gone. Authors report their ACS income data are top-coded at \$300k. However, more-current ACS data are more promising: 2007-2011 data for NY has wages topcoded at \$507k and other income also has high topcoding. Highest income in the data is around \$1.3 million.</p>
<p>Cohen, Lai, & Steindel, 2011, New Jersey Dept. of the Treasury</p>	<p>Interstate differences in tax rates. Hypothetical 1% across-the-board rate increase. Combined impact of all changes since 2003: 2004+ HMH increase, temporary rate increases, bracket creep.</p>	<p>IRS annual state-level data on state-to-state migration: total number of migrants and their income, by year, based on tax filing, 1992-2008. Description of trends. OLS linear and log-linear models of state-to-state outmigration rates, based on differences in tax rates, unemployment, and housing prices, and on distances between states.</p>	<p>When taxes, housing prices, or unemployment are relatively higher in the home state, outmigration is greater. Clear but modest effects of tax differentials on interstate migration. 1% across the board increase would raise \$2.5b revenue, but lose 4,200 taxpayers and \$29m revenue (1.2% of the increase) to outmigration. Cumulative changes from 2003 to 2009 lowered number of taxpayers by 20,000, with loss of over \$125m in state tax revenue, partially offsetting increases from tax changes.</p>	<p>State-level summary data (as opposed to microdata) limit the inferences that can be drawn. Cannot confidently address HMH tax questions with these data. Assumes outmigration response to a tax increase persists forever. Implicitly assumes that when people leave, they take their jobs with them – the money is gone.</p>

Study	Policy or trend examined	Data & methods	Authors' conclusions	Comments
Young & Varner 2011, National Tax Journal	NJ 2004+ 8.97% tax rate on taxable income above \$500k (for HMH's – half-millionaire households).	<p>Time-series cross-section taxpayer-level data on ALL NJ-1040 tax returns 2000-2007 (without individual linkage identifier).</p> <p>Data included outmigrants coded +1, immigrants coded -1, and stayers coded 0.</p> <p>Difference-in-differences model - compares immigration, outmigration, and non-moving behavior pre- and post- tax change, for HMHs and for \$200-500k income households used as control. Allows estimates of the "treatment effect" (the effect of higher 2004+ tax rates).</p>	<p>HMH outmigration increased after tax was put into effect, but so did outmigration of unaffected near-HMHs.</p> <p>NJ HMH outmigration in a typical year is about 459 HMHs, or 1.2% of all HMHs. 1% point increase in effective tax rate leads to ~ 0.04% decrease in # of HMHs.</p> <p>Groups that are more likely than average millionaires to outmigrate in response to tax increase: those reliant solely on investment income; those over age 65; extremely high income business owners. These groups are a very small subset of HMHs and don't affect totals much.</p> <p>"Static" estimate was that the tax increase raised ~\$900m. Model suggests about 70 HMHs outmigrated because of the tax. IF they take their jobs/income with them, revenue loss of ~\$16m (1.8% of the increase); mostly attributable to HMHs with income above \$3m.</p>	<p>Authors also examined multinomial logit models; did not change fundamental conclusions (per correspondence).</p> <p>Method forces explanatory variables to have the same influence in both directions – e.g., if elderly people are more likely to migrate out of NJ, they also are more likely to migrate into NJ.</p> <p>Treats outmigration as one-time behavioral change in response to policy change, rather than occurring year after year after year. Tax-averse people leave once, rather than continually year after year.</p>
Cohen, Lai, & Steindel, Feb. 2012, State Tax Notes	Essentially same as 2011 report	Same as 2011 report; annual IRS state-level state-to-state migration data, updated to 2010.	Essentially same as 2011 report: "average marginal tax rates have a small but significant effect on migration." Impact of tax changes from 2004-2009 reduced \$1 billion annual static revenue gain by about \$115m (11%).	<p>Implicitly assumes that when people leave, they take their jobs with them – the money is gone.</p> <p>Cannot distinguish millionaires.</p> <p>Assumes outmigration response to a tax increase persists forever – people keep leaving at higher rates, year after year after year.</p>
Varner & Young 2012	California's Mental Health Services Tax (MHST) – increased top rate by 1% for taxable income above \$1 million, in 2005+.	<p>Longitudinal tax return data for taxpayers in California who had adjusted gross income of \$500k or more in any year during 1992-2009. Panel data with individuals linked over time.</p> <p>Difference-in-differences regression. Control group is those earning \$500k-\$1m.</p>	<p>Migration counts at most for 1.2% of annual changes in millionaire population.</p> <p>Neither immigration nor outmigration shows a tax-flight effect from the MHST.</p>	<p>Panel nature of data (with individuals linked over time) allows improved identification of migrants, compared with earlier studies.</p> <p>Most million-dollar earners are having an unusually good year, and tax may be transitory.</p>

Study	Policy or trend examined	Data & methods	Authors' conclusions	Comments
Cohen, Lai, & Steindel, Sep. 2013, unpublished draft	NJ 2004+ 8.97% tax rate on taxable income above \$500k (for HMMH's - half-millionaire households).	<p>Time-series cross-section taxpayer-level data on ALL NJ-1040 tax returns 2000-2007 (without individual linkage identifier).</p> <p>Replication of Young & Varner 2011. Also, estimated outmigration separately (YV had estimated immigration and outmigration together).</p>	<p>Replicated the YV 2011 conclusions with minor differences.</p> <p>Separate outmigration equation suggested that annual outmigration of HMMHs increased by about 80.</p> <p>Report argues that near-millionaires could be affected, also, out of concern that they could be HMMHs in the future.</p>	Draft provided to me by study's authors.

APPENDIX B

Characteristics Affecting Outmigration: Logistic Regression Results				
	Odds ratio	95% confidence interval for odds ratio		Comment
		Lower bound (2.5%)	Upper bound (97.5%)	
<i>Income-related characteristics</i>				
Some self-employment income	1.5874	1.4844	1.6959	INCREASES odds of outmigration
Some retirement income	1.0235	0.9554	1.0957	
No wage income	0.4256	0.4070	0.4451	LOWERS odds of outmigration
Income above \$400,000	1.9792	1.4559	2.6664	INCREASES odds of outmigration
Income above \$400,000 & resided in NYC previous year	2.2937	1.6811	3.1386	INCREASES odds of outmigration
Income above \$400,000 & age 65+	1.2441	0.5836	2.3259	
Resided in NYC previous year	0.9572	0.9277	0.9877	LOWERS odds of outmigration
Resided in NYC previous year & age 65+	0.9674	0.8752	1.0686	
<i>Age group:</i>				
18-24	0.5044	0.4736	0.5373	LOWERS odds of outmigration
25-44	0.4539	0.4255	0.4843	LOWERS odds of outmigration
45-64	0.1397	0.1300	0.1501	LOWERS odds of outmigration
65+	0.0807	0.0734	0.0887	LOWERS odds of outmigration
<i>Labor force status, compared to working</i>				
Unemployed	2.1189	2.0017	2.2418	INCREASES odds of outmigration
Not in labor force	3.5371	3.3776	3.7036	INCREASES odds of outmigration
<i>Marital status, compared to single</i>				
Married	0.8779	0.8435	0.9138	LOWERS odds of outmigration
Widowed, divorced, or separated	1.4205	1.3488	1.4958	INCREASES odds of outmigration
Person's children are present in the household	0.4521	0.4275	0.4778	LOWERS odds of outmigration
<i>Education, compared to no high school diploma</i>				
HS Graduate	1.1999	1.1375	1.2661	INCREASES odds of outmigration
Some college	1.4565	1.3794	1.5383	INCREASES odds of outmigration
Associate's degree	1.1659	1.0768	1.2616	INCREASES odds of outmigration
Bachelor's degree	1.7904	1.6912	1.8959	INCREASES odds of outmigration
Master's degree	1.9279	1.8025	2.0621	INCREASES odds of outmigration
Professional degree or doctorate	2.7221	2.5089	2.9519	INCREASES odds of outmigration
Male	1.0609	1.0283	1.0945	INCREASES odds of outmigration
Hispanic	0.9102	0.8681	0.9539	LOWERS odds of outmigration
<i>Race, compared to white</i>				
Black	1.0414	1.0000	1.0842	
Another race, alone	0.8455	0.7871	0.9077	LOWERS odds of outmigration
Multiple races	1.2492	1.1403	1.3658	INCREASES odds of outmigration
Other	0.9104	0.8676	0.9549	LOWERS odds of outmigration
# of individuals (observations)	547,678			
McFadden pseudo r-squared=	0.0888			
Data: U.S. Census Bureau, <i>American Community Survey, 2007-2011 Five-Year Public Use Microdata</i> , residents of and outmigrants from: New York City, Nassau, Rockland, Suffolk, and Westchester Counties in New York; Bergen, Essex, Hudson, Middlesex, and Monmouth Counties in New Jersey; and Fairfield County in Connecticut.				

APPENDIX C

Characteristics Affecting Commuting to New York City: Logistic Regression Results				
	Odds ratio	95% confidence interval for odds ratio		Comment
		Lower bound (2.5%)	Upper bound (97.5%)	
<i>Income-related characteristics</i>				
<i>Wages in \$ thousands</i>				
\$50-100	2.4983	2.3183	2.6923	INCREASES odds of commuting
\$100-250	3.6432	3.3698	3.9388	INCREASES odds of commuting
\$250-400	3.8363	3.3969	4.3325	INCREASES odds of commuting
Greater than \$400	3.0625	2.7640	3.3932	INCREASES odds of commuting
<i>Age group and family situation</i>				
25-44	0.7849	0.7310	0.8427	LOWERS odds of commuting
45-64	1.0819	1.0039	1.1660	INCREASES odds of commuting
65+	1.0015	0.8745	1.1468	
Married, age 24-44	2.3137	1.8038	2.9677	INCREASES odds of commuting
Married, age 45-64	2.0003	1.5581	2.5681	INCREASES odds of commuting
Married, age 65+	1.8276	1.3748	2.4294	INCREASES odds of commuting
Children present in the home	1.2472	1.1875	1.3099	INCREASES odds of commuting
<i>Education, compared to no high school diploma</i>				
HS Graduate	1.8310	1.6986	1.9737	INCREASES odds of commuting
Some college	2.3810	2.2073	2.5683	INCREASES odds of commuting
Associate's degree	2.5069	2.3002	2.7321	INCREASES odds of commuting
Bachelor's degree	2.4241	2.2511	2.6105	INCREASES odds of commuting
Master's degree	2.3386	2.1626	2.5290	INCREASES odds of commuting
Professional degree or doctorate	1.8059	1.6559	1.9694	INCREASES odds of commuting
Male	1.4736	1.4239	1.5250	INCREASES odds of commuting
Hispanic	0.7573	0.7206	0.7959	LOWERS odds of commuting
<i>Race, compared to white</i>				
Black	0.5462	0.5222	0.5714	LOWERS odds of commuting
Another race, alone	0.5406	0.5001	0.5843	LOWERS odds of commuting
Multiple races	0.7397	0.6629	0.8253	LOWERS odds of commuting
Other	0.6640	0.6366	0.6926	LOWERS odds of commuting
# of individuals (observations)	174,871			

Data: U.S. Census Bureau, *American Community Survey, 2007-2011 Five-Year Public Use Microdata*, adult (18+) workers in New York City.

APPENDIX D

Methodology for hypothetical taxpayers model

I analyzed the potential impact of alternative tax regimes by building a database of hypothetical taxpayers for whom I could calculate income tax under alternative tax regimes. The database includes income and deduction components for single and married New York state taxpayers in different income ranges in 2010, constructed from income-range averages using data in the state's annual analysis of personal income tax returns.³⁵ Because the state uses broad income ranges for upper-income taxpayers, I constructed 10 additional hypothetical taxpayers by interpolating values from adjacent income ranges. This analysis focuses on 19 hypothetical taxpayers, married taxpayers with incomes ranging from approximately \$23,000 to \$1.9 million. I also computed results for single taxpayers; they do not alter any important conclusions so they are not reported here.

The database is based on averages for New York State taxpayers rather than for New York City taxpayers because the state publishes detailed components of income and deductions for the entire state, and only limited details for substate areas.³⁶ The most important way in which average state taxpayers in a given income range are likely to differ from average city taxpayers in the same income range is in the deduction for state and local taxes, where at any given level taxes are higher in the city. However, I discard the reported income tax deduction and calculate the income tax deduction for each taxpayer based on the law under examination so the income tax deduction should not be an issue. I do not attempt to recalculate the property taxes. Because property taxes on residences are lower in New York City than in much of the state, this may overstate deductions somewhat in any given income range. Because the taxpayers are "average" they cannot be used to illustrate some of the extreme situations that may occur under any particular set of tax laws.

I do not change the taxpayers from location to location. For example, if I calculate the New Jersey income tax for a particular taxpayer, I do not assume the person's characteristics change – they do not purchase a New Jersey home and pay (higher) New Jersey property taxes, nor do their medical or charitable deductions change. There is no perfect way to deal with this issue; the way I have done it is to calculate taxes on the same individual in each location, with the only difference being in the state and local income taxes they pay and in how that affects their federal income tax liability.

To analyze this database I built a model that calculates 2013 tax liability for each taxpayer under the current New York City income tax, the New York State income tax, the state income taxes in Connecticut and New Jersey, and the federal income tax. The model allows taxpayers to deduct state and local taxes, including income taxes, against the federal income tax, if itemization is better for them than the federal standard deduction. Thus, a given taxpayer will have a different federal tax liability when the state and tax regime being evaluated changes. I tried to incorporate all major features of each tax system into the model. At the federal level it reflects the reduced tax rate on capital gains and the alternative minimum tax. The state and local tax calculations in each jurisdiction incorporate major tax features that are broadly available or required, such as phaseouts of exemptions, deductions, and lower tax bracket savings, but not those that are dependent on more-unusual circumstances. For example, the model incorporates the New York State and New York City household credits, and the New Jersey property tax credit, but it does not reflect the New York State college tuition tax credit.

For each taxpayer the model calculates tax liabilities under the following tax regimes:

1. **Current NYC tax regime:** New York City income tax liability, associated New York State liability, and associated federal tax liability.

2. **0.75 percent top rate increase:** New York City, New York State, and federal tax liabilities, using a top tax rate of 4.626 percent and with the itemized deduction for income taxes adjusted accordingly.
3. **10 percent surcharge:** New York City, New York State, and federal tax liabilities, assuming that New York City tax before credits is increased by 10 percent, with the itemized deduction for income taxes adjusted accordingly.
4. **New York outside of New York City:** New York state tax liability and associated federal tax liability, without calculation of City liability.
5. **Connecticut tax liability:** Connecticut state income tax and associated federal income tax.
6. **New Jersey tax liability:** New Jersey state income tax and associated federal income tax.

The model also calculates summary measures for each taxpayer under each tax regime, including effective tax rates for federal, state, and local income taxes as a percentage of federal adjusted gross income, and net effective tax rates after taking deductibility of state and local taxes against the federal income tax. For each taxpayer, under each regime, the model calculates federal income tax with and without the deduction for income taxes. It treats the difference between the two as the savings from federal deductibility. Finally, the model compares the various tax measures under each regime to taxes under the current New York City income tax.

**Table D-1: State and Local Tax Liability for Hypothetical Taxpayers
(Reflecting Savings from Deductibility Against Federal Income Tax)**

Federal adjusted gross income	New York City			New York City suburbs	Connecticut	New Jersey
	Current policy	0.75% top rate	10% surcharge			
22,530	447	447	468	233	-	228
27,508	803	803	839	446	26	309
32,702	1,198	1,198	1,248	695	144	397
37,575	1,551	1,551	1,615	908	265	478
42,488	1,954	1,954	2,035	1,148	471	557
47,486	2,419	2,419	2,517	1,438	658	645
52,410	2,875	2,875	2,990	1,723	1,143	728
57,486	3,349	3,349	3,482	2,021	1,597	834
62,576	3,859	3,859	4,010	2,349	2,051	962
70,047	4,603	4,603	4,754	2,827	2,747	1,140
87,039	5,704	5,704	5,907	3,678	3,370	1,644
121,315	7,235	7,235	7,504	4,546	4,479	2,569
171,490	10,465	10,465	10,850	6,609	6,699	4,607
230,088	17,518	17,518	18,242	10,286	9,982	7,453
288,686	25,747	25,747	26,679	16,423	15,821	13,431
487,798	46,351	46,351	48,003	29,835	29,557	26,110
686,909	59,587	60,755	61,993	35,522	38,054	35,453
1,295,235	80,350	83,827	83,236	51,491	52,416	59,095
1,903,561	119,986	126,235	124,304	76,805	77,033	92,053

Source: Author's analysis of hypothetical married-filing-joint taxpayers, as described in text.

ENDNOTES

¹ Comparing State and Local Taxes in Large U.S. Cities, Fiscal Brief (New York City Independent Budget Office, February 2007).

² For a review of the literature, see Elizabeth A. Roistacher, How Much Do Taxes Matter? What Economists Can - and Can Not - Tell New York City Policymakers (Citizens Budget Commission, December 11, 2006).

³ Andrew Haughwout et al., "Local Revenue Hills: Evidence from Four US Cities," *Review of Economics and Statistics* 86, no. 2 (2004): 570–585.

⁴ Moshe Adler, Oliver Cooke, and James Parrott, "Do Tax Increases in New York City Cause a Loss of Jobs? A Review of the Evidence," *State Tax Notes*, February 4, 2002, <http://fiscalspolicy.org/wp-content/uploads/2011/06/critique.pdf>.

⁵ Andrew Lai, Roger Cohen, and Charles Steindel, *The Effects of Marginal Tax Rates on Interstate Migration in the US* (New Jersey Department of the Treasury, October 2011).

⁶ "Trend #1: 'Millionaires' Taxes' | Tax Foundation," 1, accessed November 4, 2013, <http://taxfoundation.org/article/trend-1-millionaires-taxes>.

⁷ Cristobal Young, Charles Varner, and Douglas S. Massey, *Trends in New Jersey Migration: Housing, Employment, and Taxation* (Policy Research Institute for the Region, Princeton University, September 2008).

⁸ Out migration rates were relative to the population of HMHs in New Jersey. Inmigration rates were relative to the number of HMHs outside of New Jersey (the pool of available immigrants).

⁹ Cristobal Young and Charles Varner, "Millionaire Migration and State Taxation of Top Incomes: Evidence from a Natural Experiment," *National Tax Journal* 64, no. 2 (2011): 255–284.

¹⁰ Most versions of the model used all 1.4 million observations of individual taxpayers with income of \$200,000 or more, for the years 2000 through 2007. The dependent variable was an indicator that was coded -1 if a taxpayer outmigrated, +1 if they inmigrated, and 0 if they had not moved. They estimated the model by ordinary least squares (OLS), and calculated robust standard errors that were clustered within 20 income groups. One analysis criticized their use of OLS for this model rather than a multinomial logit model (Antony Davies and John Pulito. *Tax Rates and Migration*. Working Paper. Mercatus Center, George Mason University, August 2011.) In response to a query from me, Young stated that the "complaint reflects an outdated understanding of what is important in econometric analysis. Today, OLS is routinely used for limited dependent variables because the results are readily interpretable, which is not the case for ordered or multinomial logit." (Email correspondence, October 26, 2013.)

¹¹ In this discussion, a coefficient is deemed statistically significant if 5 percent level of significance using a two-tailed test.

¹² I describe the revenue loss as "potential" because it relies on the assumption that all outmigrants take their jobs with them and on coefficients in the analysis that were not statistically significant.

¹³ Charles Varner and Cristobal Young, "Millionaire Migration in California: The Impact of Top Tax Rates" (2012), http://www.stanford.edu/group/scspi/_media/working_papers/Varner-Young_Millionaire_Migration_in_CA.pdf.

¹⁴ Andrew Lai, Roger Cohen, and Charles Steindel, *The Effects of Marginal Tax Rates on Interstate Migration in the US* (New Jersey Department of the Treasury, October 2011). Roger Cohen, Andrew Lai, and Charles Steindel, "Tax Flight Has Tangible Effects On Income Tax Revenue," *State Tax Notes*, February 20, 2012.

¹⁵ Stanley J. Rolark, Alison Fields, and William Frey, “Migration Data From the U.S. Census Bureau,” November 15, 2011. In addition, 0.4 percent moved from abroad. The numbers do not add to 11.6 percent because of rounding.

¹⁶ Alicia Sasser, “Voting with Their Feet? Local Economic Conditions and Migration Patterns in New England” (2009), http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2125167.

¹⁷ Raven Molloy, Christopher L. Smith, and Abigail K. Wozniak, Internal Migration in the United States (National Bureau of Economic Research, 2011), <http://www.nber.org/papers/w17307>.

¹⁸ The denominator for the rates is the number of people who stayed in the region from one year to the next, plus the number who moved out.

¹⁹ All of the ACS data are from a sample and are subject to sampling error. Most differences discussed here are statistically significant at the 5 percent level of significance.

²⁰ In this case, the odds ratio is significant at the 5 percent level.

²¹ The data are from Tables 37, 38, 41, 42, 43, and 46 of the New York State Department of Taxation and Finance’s Analysis of 2010 Personal Income Tax Returns, September 2013, available at http://www.tax.ny.gov/pdf/stats/stat_pit/pit/analysis_of_2010_personal_income_tax_returns.xls.

²² Note that federal deductibility narrows inter-jurisdictional differences substantially for some taxpayers but not others. Some taxpayers receive little or no benefit from federal deductibility of state and local income taxes – those who do not itemize deductions, and those who are subject to the federal alternative minimum tax.

²³ The average impact of this adjustment in New York City is to reduce taxable assessed value by about 15 percent.

²⁴ Marilyn M. Rubin, A Guide to New York City Taxes: History, Issues and Concerns (Peter J. Solomon Family Foundation, December 2010).

²⁵ Michael Hyman et al., “FY’ 2014 Guidelines for Properties Valued Based on the Income Approach, Including Office Buildings, Retail, Garages, Hotels, and Residential Properties” (Property Division, New York City Department of Finance, 2013).

²⁶ Based on author’s analysis of data in Office Sales Prices to Asking Rents: A Critical Ratio, Real Estate Forefront: Emerging Developments in the NYC Marketplace (Eastern Consolidated, March 2010).

²⁷ Based on numerous telephone interviews with tax certiorari attorneys, realtors, assessment office staff, staff in the New York State Office of Real Property Services, and others.

²⁸ See Estimated Effective Property Tax Rates 2001-2010: Selected Municipalities in Northeastern Illinois (The Civic Federation, January 28, 2013).

²⁹ Cristobal Young, Charles Varner, and Douglas S. Massey, Trends in New Jersey Migration: Housing, Employment, and Taxation (Policy Research Institute for the Region, Princeton University, September 2008).

³⁰ Andrew Lai, Roger Cohen, and Charles Steindel, The Effects of Marginal Tax Rates on Interstate Migration in the US (New Jersey Department of the Treasury, October 2011).

³¹ The report says the models also included interstate differences in per-capita income, but the reported results do not show this.

³² Cristobal Young and Charles Varner, “Millionaire Migration and State Taxation of Top Incomes: Evidence from a Natural Experiment,” National Tax Journal 64, no. 2 (2011): 255–284.

³³ Andrew Lai, Roger Cohen, and Charles Steindel, The Effects of Marginal Tax Rates on Interstate Migration in the US (New Jersey Department of the Treasury, October 2011).

³⁴ 13 Charles Varner and Cristobal Young, "Millionaire Migration in California: The Impact of Top Tax Rates" (2012), http://www.stanford.edu/group/scspi/_media/working_papers/Varner-Young_Millionaire_Migration_in_CA.pdf.

³⁵ The data are from Tables 37, 38, 41, 42, 43, and 46 of the Department of Taxation and Finance's Analysis of 2010 Personal Income Tax Returns, September 2013, available at http://www.tax.ny.gov/pdf/stats/stat_pit/pit/analysis_of_2010_personal_income_tax_returns.xls.

³⁶ The state produces an annual county of residence study, the latest of which is for 2009: Department of Taxation and Finance, New York Adjusted Gross Income and Tax Liability: Analysis of 2009 State personal income tax returns by place of residence, June 2012.