

# Do Tax Increases in New York City Cause a Loss of Jobs?

## A Review of the Evidence

By

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The proposition that raising the income tax reduces employment is probably as old as the income tax itself. Two recent studies, one by researchers at the National Bureau of Economic Research (NBER)--Andrew Haughwout, Robert Inman, Steven Craig and Thomas Luce (Haughwout et al.)--and the other by researchers commissioned by the Manhattan Institute, set out to investigate whether this proposition holds true in New York City, and both discovered that it does.<sup>1</sup>

The Fiscal Policy Institute has reviewed both studies. Our detailed examination is reserved for the Haughwout et al. study. In the case of the Manhattan Institute our examination was limited to the methodology used.<sup>2</sup>

The data that the Haughwout et al. study uses covers the period 1970-1997, while the data employed by the Manhattan Institute study covers the period 1975-1999. As Chart 1 shows, since 1970 employment in New York declined sharply twice, the first time during 1969-1977, and the second time during 1989-1992, although the decline was more pronounced during the first period. The chart also indicates that New York City's highest marginal personal income tax rate, the tax variable that the Haughwout et al. study used, increased during these two periods. Both studies, therefore, explain the changes in employment during these two periods by changes in taxes.<sup>3</sup> A closer

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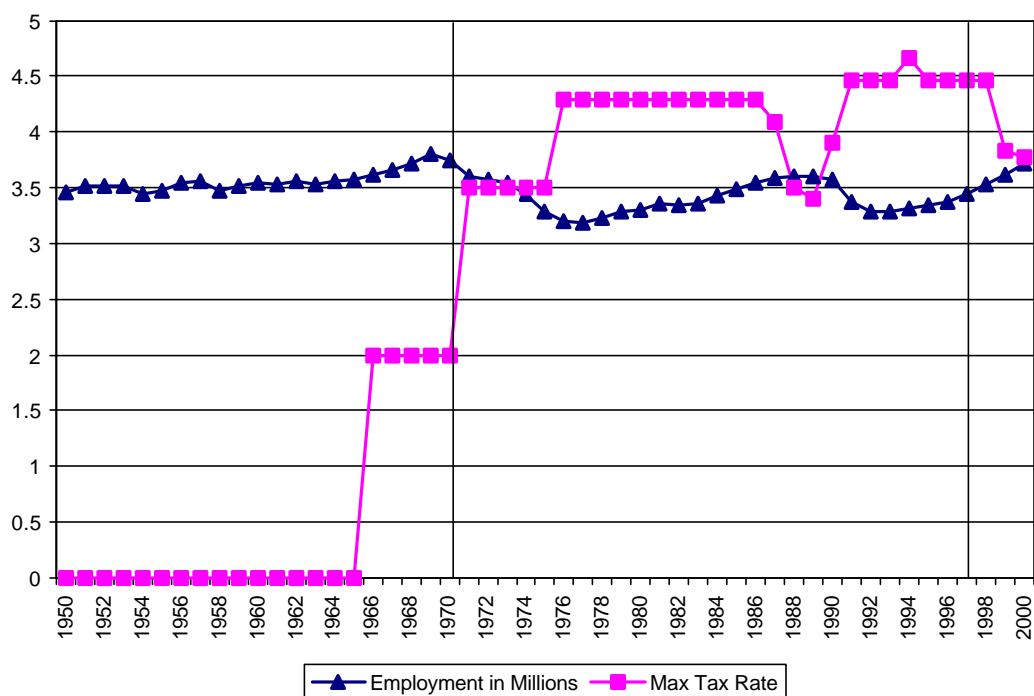
<sup>1</sup> Andrew Haughwout, Robert Inman, Steven Craig and Thomas Luce, "Local Revenue Hills: A General Equilibrium Specification with Evidence from Four U.S. Cities," National Bureau of Economic Research, March 2000; and David G. Tuerck, Jonathan Haughton, Corina Murg and Sorin Codreanu, "Tax Changes in New York City, The New York City Tax Analysis Modeling Program (NYC-STAMP)," Beacon Hill Institute at Suffolk University, commissioned by the Manhattan Institute, September 2001.

<sup>2</sup> We were unable to replicate the study commissioned by the Manhattan Institute since the underlying data were not available from the Beacon Hill Institute at Suffolk University. The methodology of the Beacon Hill study is strikingly similar to the methodology in the Haughwout et al. which preceded it.

<sup>3</sup> The Haughwout et al. study adds two more independent variables: transfers from the federal and state government to New York City, and the Dow Jones Index. The Manhattan study uses only the first of these two. Both variables are statistically insignificant in the Haughwout et al. study. But while the

examination of the economic events that took place during these two periods reveals that several factors led to the fall in employment, and that one of the responses by the city government to economic decline was to raise income tax rates. The Haughwout et al. and Manhattan Institute studies are glaring examples of regression analyses that suffer from the “omitted variable” syndrome. Correlation is being mistaken for causation.

Chart 1. Employment and Maximum Income Tax Rate, NYC, 1950-2000



### The 1970’s: The Fiscal Crisis of American Cities

The first period of precipitous decline in employment in New York City, which lasted from 1969-1977, has been the subject of numerous books. This was at the height of the long post-war process of suburbanization on the one hand, and the shift of employment

Dow Jones Index is insignificant in explaining employment in New York City, changes in the structure of the financial industry are. We return to this point below.

from the Northeast and the Midwest of the country to the South and the West on the other. In terms of employment loss New York was far from unique among cities. In her book, *Crisis in Urban Public Finance*, economist Pearl Kamer shows that the mean loss of employment in 8 large U.S. cities was 3.7% in 1969-71 and 9.1% in 1973-75. New York's rates were 3.9% and 9.3% respectively, virtually the same as these averages, and lower than Philadelphia and St. Louis, for instance.

Several factors contributed to this decline in employment in Northeastern and Midwestern cities: wages were lower in the South and so were rates of unionization. In addition, federal policy encouraged growth in new communities over old ones because federal grants were awarded for the construction of new roads but not for the maintenance of existing ones. The federal tax code was also changed to permit accelerated depreciation of capital goods, thus encouraging the construction of new industrial plants. On the supply of labor side, employees preferred to own single family homes, financed in part by the federal government through ownership-oriented mortgage and tax subsidies. While some employers remained in the city and their employees became commuters, other moved their operations to the suburbs.

The results of these shifts were that in the years 1970-1980 employment increased 43% in the southern United States but only 9% in the north,<sup>4</sup> and that the population of the suburbs increased 38% whereas the population of central cities grew by only 6%.<sup>5</sup> It was these population and employment shifts that caused so many American cities to experience severe fiscal stress in the 1970's. Causality in the Haughwout et al. and Manhattan Institute studies has been misdirected.

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<sup>4</sup> Kamer, Table 2.4, p. 36.

<sup>5</sup> Kamer, Table 2.1, p. 29.

Haughwout et al. and the Manhattan Institute may deny that rates of unionization and federal policy related to road-building, capital financing and home-ownership had anything to do with the disparity in employment growth between New York City and the United States, and that in fact it was all due to a difference in tax rates. Their models make indeed exactly this claim, when it assumes that the population of cities is determined in the models themselves, yet none of the aforementioned factors are part of their models. In order to prove that none of these factors are important, however, they should have included all of them in their regression equations, then showed that only the changes in tax rates emerged as statistically significant explanatory variables. They included none.

Of course, Haughwout et al. are aware that there are factors other than taxes that affect the levels of employment. In order to account for these, they adjust the variable that their analysis aims to explain. Instead of using the level of employment in New York City as the dependent variable, they use the City's share of employment in the nation. By using this method, Haughwout et al. free themselves from the need to account for changes in economic conditions that affect all places equally, because such changes will not cause changes in the shares. What this procedure cannot do, however, is account for the factors that produced the shifts in employment to the south and the suburbs.

Even as an "everything is taxes" model the Haughwout et al. and the Manhattan Institute models fail, however. They do not include the tax rates in other jurisdictions. What if tax rates rose elsewhere in the same manner that they rose in New York?

The 1970's had a dramatic effect not only on urban America but on the Haughwout et al. model as well. If the years 1970-1978 are removed, and the regressions are run using only the years 1979-1997, the tax rate in their regression

becomes insignificant in explaining the share of employment in New York. This also holds when the years 1998-2000 are added to the sample, a period when employment increased and tax rates were reduced. Thus, a true believer using their model will have to conclude that over the last twenty some years changes in personal income taxes had no effect on employment in New York.

Removing data points from a sample is, of course, not an ideal method for dealing with omitted variables, because in regression analysis it in itself leads to a reduction in the significance of the coefficients. We have minimized this effect by adding the years 1998-2000 to the data, but the only satisfactory solution to the problem is to include the variables that were omitted. This means first adding the variables that explain the regional shifts from the Northeast to the South and the movement from cities to suburbs. In addition following the stock market crash of 1987 the financial industry underwent major restructuring. The variables that explain this restructuring should be included in the analysis as well. This restructuring is discussed further below.

### Regression Results

To estimate the effect of changes in tax rates on employment shares, Haughwout et al. ran two equations: OLS (Ordinary Least Squares) and IV (Instrumental Variables).

Table 1 shows the results of the OLS regressions for the change in non-farm jobs in the Haughwout et al. and the FPI runs.

**Table 1: Change In Total Non-Farm Employment Share, New York City  
OLS**

	1970-1997		1978-1997
	OLS Haughwout et al.	OLS FPI	OLS FPI
Constant	-.00076 (.00043)	-.0008* (.00032)	-.00062* (.00026)
Δ tax rate	-.00065* (.00022)	-.00066* (.00022)	-.00026 (.00049)
Δ tax rate 1 period lag	-.00057* (.00021)	-.000578* (.00021)	-.00034 (.00044)
Δ tax rate 2 years lag	-.00041* (.00019)	-.00042* (.00020)	-.00031 (.00039)
Δ government transfer	.45E-6 (.24E-6)	.46E-6 (.25E-6)	1E-6 (.58E-6)
Δ Dow	.26E-6 .21E-6	.28E-6 .20E-6	.31E-6 .26E-6

\*\* Standard errors for each estimated coefficient are reported in parentheses. FPI are the results of the runs by the Fiscal Policy Institute. Shares are of employment in the U.S.

\* Coefficient's t statistic  $\geq 2.00$ .

We then added the years 1998-2000 to the data. The change in government transfers and the change in the Dow were not included in this regression, however. Instead, we first ran the regression with the 1970-1997 data, with these variables omitted. As can be seen from Table 2, changes in the tax rates, except for the two years lag, are significant in this specification, both for the years 1970-1997 and for the years 1970-2000. But once the data prior to 1978 is omitted, the tax variables are not statistically significant even when the years 1988-2000 are added.

**Table 2. Changes in Total Non-Farm Employment Share, New York City,  
1970-2000, 1978-2000**  
OLS

	1970-1997	1970-2000	1978-2000
Constant	-.00077* (.00033)	-.00073* (.00032)	-.00048* (.00023)
$\Delta$ tax rate	-.00056* (.00021)	-.00054* (.00019)	-.00019 (.00034)
$\Delta$ tax rate 1 period lag	-.00049* (.00022)	-.00049* (.00021)	-.00045 (.00034)
$\Delta$ tax rate 2 years lag	-.00031 (.00021)	-.00030 (.00019)	-.00031 (.00033)

\*\* Standard errors for each estimated coefficient are reported in parentheses. Shares are of employment in the U.S.

\* Coefficient's t statistic  $\geq 2.00$ .

Table 3 presents the results of the Instrumental Variables runs for the periods 1970-1997 and 1978-1997. Once the years 1990-1997 are removed from the data, the changes in tax rates become insignificant.



Table 3. Changes in Job Shares, New York City\*\*  
Instrumental Variables

	$\Delta$ Total NF Job Share H et al. 1970-1997	$\Delta$ Total NF Job Share FPI 1970- 1997	$\Delta$ Total NF Job Share FPI 1978- 1997	$\Delta$ Man. Job Share H et al. 1970-1997	$\Delta$ Man. Job Share FPI 1970-1997	$\Delta$ Man. Job Share FPI 1978-1997	$\Delta$ Ser. Job Share H et al. 1970-1997	$\Delta$ Ser. Job Share FPI 1970-1997	$\Delta$ Ser. Job Share FPI 1978-1997
Constant	-0.00077 (0.00044)	-0.00080* (0.00032)	-0.00062* (0.00027)	-0.00071* (0.00020)	-0.00074* (0.00020)	-0.00059* (0.00018)	-0.00010 (0.00048)	-0.00010 (0.00043)	-0.00072* (0.00031)
$\Delta$ Tax Rate	-0.00070* (0.00024)	-0.00071* (0.00024)	-0.00048 (0.00042)	-0.00089* (0.00028)	-0.00088* (0.00027)	-0.00064 (0.00045)	-0.00060* (0.00029)	-0.00058* (0.00025)	-0.00037 (0.00029)
$\Delta$ Tax Rate 1 year lag	-0.00067* (0.00024)	-0.00067* (0.00024)	-0.00042 (0.00044)	-0.00083* (0.00028)	-0.00082* (0.00027)	-0.00049 (0.00046)	-0.00047 (0.00029)	-0.00043 (0.00029)	-0.00042 (0.00043)
$\Delta$ Tax Rate 2 year lag	-0.00047* (0.0021)	-0.00048* (0.0021)	-0.00035 (0.00040)	-0.00067* (0.00027)	-0.00066* (0.00025)	-0.00045 (0.00043)	-0.00018 (0.0025)	-0.00016 (0.0023)	-0.00023 (0.00039)
$\Delta$ Government Transfers	.39E-6 (.25E-6)	.39E-6 (.26E-6)	.15E-6 (.61E-6)	.26E-6 (.34E-6)	.35E-6 (.32E-6)	.24E-6 (.70E-6)	.15E-6 (.30E-6)	.05E-6 (.28E-6)	.51E-6 (.58E-6)
Dow	.25E-6 (.21E-6)	.27E-6 (.21E-6)	.31E-6 (.28E-6)	.31E-6 (.25E-6)	.34E-6 (.23E-6)	.15E-6 (.30E-6)	.28E-6 (.25E-6)	.22E-6 (.23E-6)	.37E-6 (.27E-6)

\*\* Standard errors for each estimated coefficient are reported in parentheses. H et al. are the results reported in Haughwout et. al. FPI are the results of the runs by the Fiscal Policy Institute. Shares are of employment in the U.S.

\* Coefficient's t statistic  $\geq 2.00$ .

## 1989-1992: The Aftermath of a Stock Market Crash

Even though the Haughwort et.al. model loses significance for the 1979-1997 period when the 1970-1978 period is left out, it is still worthwhile to point out that any analysis of employment in New York City in the years following the 1987 stock market crash must take account of the effects the financial sector has on New York City's economy and aggregate employment levels.<sup>6</sup>

Restructuring in the securities and banking industries, and the bursting of the commercial real estate development bubble, were major factors in the pronounced recession in New York City in the late 1980s and early 1990s. Employment in both securities and banking started to drop soon after the October 1987 that signaled the end of the 1980s financial markets boom. Given the large employment multipliers these high-wage industries have, precipitous employment declines in securities and banking played the dominant role in leading New York City into its severe recession. While the broad financial market indices recovered from the October 1987 crash within a few months, the crash set off a contraction and restructuring in the securities industry nationwide.

In an analysis of restructuring in the securities industry on a national level in the wake of the 1987 stock market crash, an economist at the U.S. Bureau of Labor Statistics wrote, "The crash resulted in extreme cost cutting in the industry. ... After the crash of

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<sup>6</sup> For analysis of the relation of the Wall Street securities industry to the New York City economy, see, e.g., Jason Bram and James Orr, "Can New York City Bank on Wall Street?", Current Issues in Economics and Finance, Second District Highlights, Federal Reserve Bank of New York, Vol. 5, No. 11, July 1999; and Office of the State Deputy Comptroller for the City of New York, New York City's Economic and Fiscal Dependence on Wall Street, Report 5-99, August 13, 1998.

1987, firms began to reduce the number of managerial positions in order to streamline operations.” From 1987 to 1993, the BLS reports that securities firms reduced the number of managers employed by 24%.<sup>7</sup>

The crash also ended the commercial real estate lending bubble and set off a string of financial problems that affected, among others, the nation’s largest commercial banking institutions. By the late 1980s, commercial banking had begun a long-running period of merger and consolidation, which together with the massive restructuring of consumer banking and the widespread advent of ATMs, resulted in substantial job reductions.

Annual average New York City nonagricultural employment grew minimally in 1988 and declined 1989 through 1992. New York City securities employment fell by 26% and the number of commercial banking jobs dropped by 43% between December of 1987 and December of 1991. From 1987 to 1991, the severe contraction in New York City’s securities and banking industries accounted for 35% of the decline in total real wages paid in the city. According to economists at the Federal Reserve Bank of New York:

recent research indicates that downsizing in the financial sector during this period (following the 1987 crash) represented a major drag on local job growth. Between 1988 and 1991, Wall Street employment fell 16% and real earnings dropped 12%. About one year into the securities industry downturn, the overall economy also faltered: from 1989 to 1992, total employment fell 9 percent and real earnings dropped 3 percent.<sup>8</sup>

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<sup>7</sup> Brett Ilyse Graff, “Employment trends in the security brokers and dealers industry,” Monthly Labor Review, September 1995, pp. 20-29.

<sup>8</sup> Bram and Orr, p. 3.

While Haughwout, et.al. acknowledge the importance of the securities industry to the New York economy, the Dow Jones Industrial Index, which they included in their equations to capture this fact, is simply not the right indicator for the restructuring that this industry went through. A different specification may produce more interesting and insightful results.