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Reviving the New York Stock Transfer Tax: Revenues and Risks

SUMMARY

The continued uncertainty over the adequacy of the city's revenues—along with New York State's own huge deficit—have fueled calls for reinstating the state stock transfer tax, which was phased out beginning in 1978. One recent proposal would restore the tax at half its original rate. Absent any adverse reactions to the tax itself (that is, under what is known as a 'static forecast'), the city would stand to collect nearly $5 billion per year from the proposed transfer tax.

How much revenue actually would be realized depends on the sensitivity of stock market activity to changes in trading costs, the sensitivity of the city economy to changes in stock market activity, and the sensitivity of other tax collections to changes in the city economy. In this paper, we model the economic and fiscal effects of the proposed tax under a best-case scenario in which the pace of stock trading activity is affected by a stock transfer tax, but the *location* of trading activity is not—that is, neither the stock exchanges, their member firms, nor investors shift their activities out of New York City.

Our main findings are:

- The proposed tax would raise existing stock trading costs by 23 percent, almost double the 12 percent increase imposed by the old stock transfer tax before it was phased out. As a result of the increase in transaction costs, trading volume on the New York and American stock exchanges would be cut by 18 percent.
- The impact of the tax on Wall Street and the city economy would eliminate nearly 60,000 private-sector jobs.
- Stock transfer tax revenues would fund close to 38,000 public-sector jobs, resulting in an overall city job loss of almost 22,000. There would be 1.6 private-sector jobs lost for every government job gained.
- The overall city revenue gain after imposing the tax would be close to $2.9 billion, 42 percent less than the $5 billion static forecast.
- Relaxing IBO's assumption that investors do not leave Wall Street to evade the tax produces much larger economic impacts. If one-third of stock trading activity shifts out of the New York exchanges, job losses in the city could climb to 150,000, and net city revenue gains would fall to zero.

New York City
Independent Budget Office
Ronnie Lowenstein, Director
110 William St., 14th floor
New York, NY 10038
Tel. (212) 442-0632
Fax (212) 442-0350
e-mail: ibo@ibo.nyc.ny.us
http://www.ibo.nyc.ny.us

INTRODUCTION

The State of New York imposed a tax on sales of corporate stocks and certificates in 1905, shifted the tax to New York City in 1966, added a surcharge in 1975, and began phasing out the tax in 1978. The effective elimination of the stock transfer tax (STT) was completed in October 1981, at which time 100 percent of the tax was rebated to the payer. In state fiscal year 1977, before the rebates began to kick in, STT collections were $279 million. In state fiscal year 2003, the state collected and rebated $9.3 *billion*. If recent trends continue, over the coming four years annual STT receipts and rebates could average nearly $10 billion.

New York City has been able to close what had been an enormous budget shortfall in part through a series of tax increases that IBO estimates will raise $3.4 billion in 2004. However, unless what are now temporary increases in personal income and sales tax liabilities are extended, by 2007 the new revenue will fall to under $2.3 billion. Moreover, there is considerable public sentiment against the 18.5 percent property-tax hike that accounts for almost all of that remaining added revenue. The continued uncertainty over the adequacy of the city's revenues—along with New York State's own huge deficit—have fueled calls for tapping the apparent vast reservoir of potential revenue represented by the STT rebates. One recent proposal would lower the rebate to 50 percent of STT liability, in effect restoring the tax at half its original rate. The STT was imposed at a graduated rate starting from 1.25 cents per share selling for less than $5 and rising to 5 cents per share selling for $20 or more, up to a maximum of $350 per sale. Under the new proposal the actual tax rate would thus range from .0625 cents to 2.5 cents per share, subject to a $175 cap. This burden, it is thought, would be light enough to enable brokerages to still operate competitively in New York City, while pumping billions of dollars a year into the city's coffers.[1] Absent any adverse reactions to the tax itself (that is, under what is known as a 'static forecast'), the city would stand to collect nearly $5 billion per year from the proposed STT.

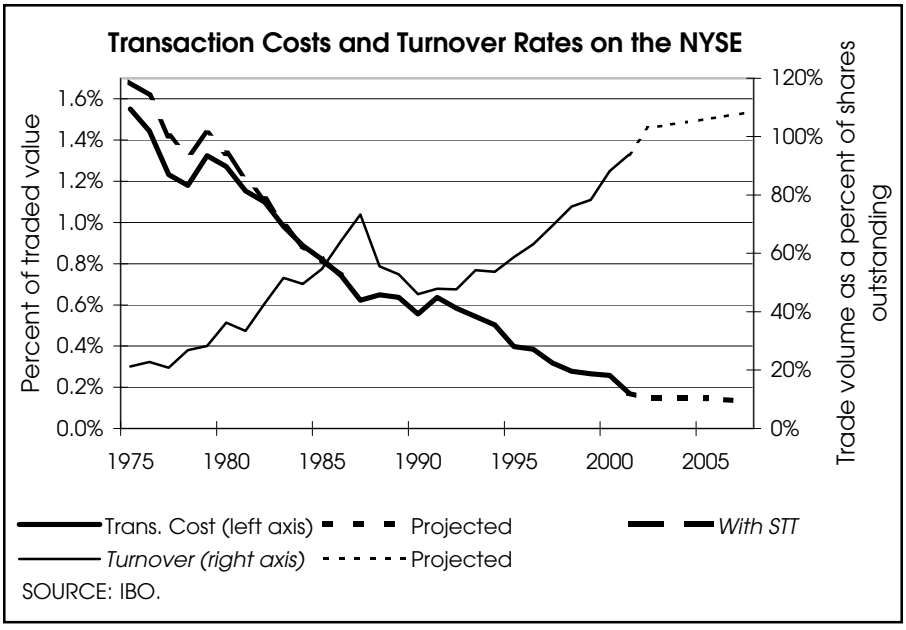
How far this scenario would be realized depends on the sensitivity of stock market activity to changes in trading costs, the sensitivity of the city economy to changes in stock market activity, and the sensitivity of other tax collections to changes in the city economy. In this paper, we model the economic and fiscal effects of the proposed stock transfer tax. We assume a best-case scenario in which the pace of stock trading activity is affected by an STT, but the *location* of trading activity is not—that is, neither the stock exchanges, their member firms, nor investors shift their activities out of New York City. In actuality, there would very likely be migration of market activity to other exchanges in response to a New York STT: the only question is, how much? At the end of this report we consider the impact of market migration.

ECONOMIC IMPACTS OF A STOCK TRANSFER TAX

Transaction Costs and Turnover. The sensitivity of stock market activity to transaction (or trading) costs is suggested in the chart below. Measured along the left axis, transaction costs consist mainly of the commissions paid to brokers and the bid-ask price differentials or *spreads* encountered by investors when shares of stock change hands. Under intense competitive pressure since fixed commission rates were abolished in 1975, costs on the New York Stock Exchange (NYSE) have declined precipitously, and the level of commissions and spreads today, about 0.15 percent of traded value, is barely an eighth of what it was a quarter-century ago.[2]

As can be seen in the chart, the fall in transaction costs since 1975 has been attended by equally dramatic growth in stock market turnover rates. (This is measured along the right axis.) Turnover—the ratio of traded share volume to total shares outstanding—has risen on the NYSE from only 16 percent before commissions were deregulated (1974) to a shade over 100 percent today, a more than six-fold increase in velocity.

A variety of studies have confirmed that changes in transaction costs are a significant factor in changes in turnover and trade volume. Ericsson and Lingren's widely cited 1992 study found that, controlling for other factors, for every 10 percent decrease in transaction costs, turnover rose by 12 percent to 15 percent. This is commonly expressed by saying that the elasticity of turnover with respect to transaction costs is between -1.2 and -1.5. The 1992 study cautioned that the long-term impact of costs on turnover might be lower and suggested that it would be prudent to assume an elasticity of -1.0.[3] More recently, Ian Domowitz and his associates, using mid-1990s data from North American and European stock exchanges, pegged the elasticity of turnover at -0.78.[4] This is the estimate we have used in our analysis. Domowitz *et al* also found that transaction costs depress share prices and increase the cost of capital. Price impacts were also found in a study of the impact of the Stamp Duty (the British stock transfer tax) on the London Stock Exchange, which found that the shares of domestic British companies traded 8.2 percent higher on untaxed foreign exchanges, where transaction costs were approximately 48 percent lower than on the London Exchange.[5] That works out to a 1.7 percent increase (decrease) in stock price for every 10 percent decrease (increase) in transaction costs, or an elasticity of



SOURCE: IBO.

price with respect to transaction costs of -0.17.

The STT, Transaction Costs, and Stock Trading. Given an expected dollar volume of trade on the New York Stock Exchange and American Stock Exchange (AMEX) approaching $15 trillion a year in coming years, a $5 billion STT would yield an effective tax rate of only about 0.034 percent. To put this in historical perspective, this is less than one-fourth of the estimated 0.146 percent effective rate of the old STT in 1978. However, as the table entitled "Impact of Stock Transfer Tax on Transaction Costs" shows, the *relative* impact of the proposed stock transfer tax would actually be much larger than that of the old STT. In 1978, a 0.146 percent tax added about 12.4 percent to basic transaction costs of 1.179 percent. In 2004-2007, however, projected basic transaction costs themselves will actually be no higher than the old STT was in 1978—just 0.146 percent. Thus a 0.034 percent tax would add 23.0 percent to the basic costs of stock trading.

Given the relationships (elasticities) of transaction costs, turnover, and stock prices, the 23.0 percent increase in costs due to the proposed STT would be accompanied by an 18.0 percent decline in trading volume (.23 x -.78 = -.18) and a 4.0 percent decline in traded value (.23 x -.17 = -.04).

The Effect on the Securities Industry and Overall City Economy. Cost-induced changes in market volume and value are, in turn, accompanied by changes in securities industry employment.[6] We estimate an elasticity of city securities employment with respect to trading volume of 0.52 (that is, for every 10 percent change in volume, there is a 5.2 percent change in employment).[7] Thus the 18.0 percent decline in trading volume would be accompanied by a 9.3 percent drop in securities industry employment in New York City. That translates into a loss of 19,400 securities industry jobs. Security industry firms would initially absorb about a $2 billion diminution in profits from the reduction in trading volume and brokerage revenue, but the contraction in employment and attendant lowering of compensation costs would eventually offset the losses in revenue. If the securities industry did *not* shed jobs following the STT shock, however, the average annual decrease in profits would be $6.5 billion.

The expression, "when Wall Street sneezes, New York City catches a cold" aptly characterizes the way changes in the securities sector, good and bad, reverberate through the city's economy. All else being equal, the securities industry impacts would cut overall city job growth by 80,000; by 2007, employment would be 50,000 higher than in 2002, instead of 130,000 higher as IBO forecast in April 2003. There would an $8.4 billion cut from expected New York City resident personal income growth, and $19.5 billion less in expected city output (gross product). Median single-family home prices would slip 7.0 percent.[8]

However, all else would not be equal with the restoration of a stock transfer tax: there would be a flow of new tax revenues into the city's coffers, and these would forestall city outlay reductions or fund city outlay increases. These net government outlay impacts would also affect the city economy. The overall impact of the STT has to be measured net of the spending it funds.[9]

Impact of Stock Transfer Tax on Transaction Costs

With impact on stock turnover and price

	1978	2004-07[1]	Ratio
Maximum tax per share[2]	$0.05	$0.025	0.500
Effective stock transfer tax rate[3]	0.146%	0.034%	0.231
Basic transaction costs[3,4]	1.179%	0.146%	0.124
% impact of tax on costs	**12.4%**	**23.0%**	**1.860**
% impact of tax on stock turnover rate	-9.7%	-18.0%	
% impact of tax on average stock price	-2.1%	-3.9%	

SOURCE: IBO.
NOTES: [1] Forecast transaction costs, proposed stock transfer tax. [2] Charge for share selling for $20 or more. [3] Measured as a percentage of traded value. [4] Consists largely of brokers commissions and bid-ask price spreads.

Economic Impacts of Proposed Stock Transfer Tax Including Impact of Outlays Funded by the Tax

Annual average 2004-2007

Change from IBO baseline forecasts	Tax increase	Funded outlays[1]	Net
NYC securities industry employment	(19,400)	0	(19,400)
Percent	-11.4%	0.0%	-11.4%
Total NYC employment	(80,000)	58,100	(21,900)
Percent	-2.1%	1.6%	-0.6%
Private employment	(72,100)	12,700	(59,400)
Percent	-2.3%	0.4%	-1.9%
Government employment	(7,900)	45,400	37,600
Percent	-1.4%	8.3%	6.9%
NYC Personal Income ($ billion)	(8.43)	2.24	(6.19)
Percent	-2.1%	0.6%	-1.6%
Gross City Product ($ billion)	(19.46)	5.37	(14.10)
Percent	-3.2%	0.9%	-2.3%
Median single-family home price ($)	(20,820)	8,040	(12,770)
Percent	-7.0%	2.7%	-4.3%

SOURCE: IBO.
NOTE: [1]Economic impacts of city government outlays funded by net STT revenues.

We estimate that the overall city employment loss (relative to IBO's baseline forecast) would be only about 22,000 (0.6 percent) when both the taxing and funding sides of the STT are factored in. However, there would be a significant change in the *composition* of jobs in the city: the public sector would gain almost 38,000 jobs relative to IBO's April 2003 forecast, while private industry would lose nearly 60,000 jobs. Thus for every public-sector job gained or saved, there would be 1.6 private-sector jobs lost. (This assumes that net STT revenues are spread among discretionary operating outlays;[10] if some of the revenues were to be used to pay city debt service or for capital spending or debt reduction, the public emplyment impact of the STT would be smaller.)

For other major economic indicators, the positive funding-side impact of the STT would again only partially offset the negative taxing-side impact. Personal income growth would still be reduced by $6.2 billion (1.6 percent), and gross city product by over $14 billion (2.3 percent). Median home prices would fall by nearly $12,800 (4.3 percent) against the baseline.[11] The net losses in personal income and output would be magnified by the large difference between wages and salaries on Wall Street and wages and salaries in city government, and also the high incomes in sectors that would be particularly affected by a securities industry contraction, such as business and legal services.

National Economic Impacts. It is not only the city's (or region's) economy that would be affected. Because the New York Stock Exchange holds and allocates much of the nation's corporate wealth, a tax on the activities of the exchange would have national economic consequences. Still assuming that the STT affects the pace but not location of stock market activity (see below), these effects would include: a 4.0 percent decline in stock prices, equivalent to a loss of almost $600 billion in corporate equity value; since private households hold over half of equity value, a loss of $300 billion in household sector wealth; about $45 billion in losses for government retirement funds; a $10.5 billion drop in personal consumption expenditures; and a one-time $7.5 billion reduction in capital gains.[12]

The taxing, spending, and net economic impacts of the proposed STT are summarized in the economic impacts table.

FISCAL IMPACTS OF A STOCK TRANSFER TAX

Stock Transfer Tax Receipts. The proposed stock transfer tax would have a negative impact on its own base, the volume of traded shares in the several STT brackets. The reduction in trade volume and in the prices of traded shares induced by adding the STT to transaction costs would lower projected annual STT collections by $1.1 billion (21.9 percent), to $3.9 billion.

Current City Tax Receipts. The STT's impact on the securities industry, and through the securities industry on the whole city economy, would adversely affect the bases of the city's current taxes—residential income, business profits, property values, sales, and so on. The estimated annual reduction in current city tax collections would average about $700 million over the next four years. This includes $254 million from the personal income tax, $205 million from business income taxes, $74 million from the general sales tax, and $104 million from the property tax.[13]

State Tax Receipts. Inasmuch as New York City incomes, profits, and sales also account for a significant share (40 percent to 44 percent) of New York State's tax receipts, the proposed city STT would also have secondary impacts on state revenue. Indeed, the impacts on current state taxes would actually be greater than the impacts on current city taxes; this results from the state's greater reliance on individual and business income taxes. In all—and after accounting for the stimulus provided by STT-funded government outlays—the estimated annual reduction in current state taxes would run around $1 billion.

Total City Fiscal Impact. A little less than one-third of New York State's discretionary spending flows to New York City in the

Fiscal Impact of Proposed STT (City and State Impacts Net of Impact of Government Outlays Funded by the Tax)

Annual average 2004-2007, dollars in millions

	City and state fiscal impacts[1]
STT (half rebate forecast[2])	**$4,983**
Secondary city tax impacts *(changes from baseline forecast)*	
STT	(1,091)
Current city taxes	
Personal income tax[3]	(254)
Business income taxes	(205)
Property tax	(104)
Sales tax	(74)
Other	(67)
Total current city taxes	(704)
Total secondary impact on New York City taxes	(1,796)
% offset to static STT forecast	*-36.0%*
Memo: STT impact on NY State taxes: (1,005)	
Impact on state taxes funding outlays going to NY City	(319)
Total city revenue offsets	(2,115)
% offset to static STT forecast	*-42.4%*
Net city revenue gain	**$2,869**
Impact on state taxes funding outlays outside NY City	(686)
Total city and state revenue offsets	(2,801)
% offset to static STT forecast	*-56.2%*
Net total city/state revenue gain	**$2,182**

SOURCE: IBO.
NOTES: [1]Does not include federal and other state government fiscal impacts.
[2]Proposal is to reimpose STT at half the level of now rebated collections.
[3]Does not include one-time $10 million loss from STT impact on capital gains.

form of intergovernmental aid or direct state assumption of government service costs.[14] Assuming that the state's STT-induced revenue losses are shared proportionately among its discretionary budget lines, the end result would be a further negative city fiscal impact of about $320 million. The other $685 million in state revenue losses would be borne by the rest of the state.

As the table on fiscal impacts of the proposed SST shows, total secondary fiscal impacts in New York City would offset $2.12 billion—42.4 percent—of the initial projected annual revenue gain from the STT, leaving an actual annual net gain of $2.87 billion. Inclusive of all the impacts on state taxes, the negative secondary revenue losses would offset $2.80 billion (56.2 percent) of the initial STT forecast, leaving a net city and state gain of $2.18 billion.

Transitional Tax Effects (Capital Gains). One of the effects of an STT would be, we saw, a one-time fall in capital gains realizations. The portion of this loss borne by New York households would (further) reduce both New York City and New York State personal income tax collections in the first and/or second year of the STT. The city would lose $10 million in income tax collections, the state almost $35 million.

Other Fiscal Impacts. The impact of the STT on the New York City economy would have fiscal consequences for neighboring state governments and for the federal government. Regionally, the securities industry contraction would, via the lost earnings of commuters, produce an annual drop of about $13 million in New Jersey and Connecticut income taxes. The federal tax impact would be significant: above $3.5 billion drained from annual federal personal and corporate income tax collections. Other tax losses would follow from the effects of the STT on national wealth in our no-market-migration scenario. The decline in personal consumption expenditures would slice $345 million from annual sales tax collections nationwide. In addition, the shock to capital gains would generate one-time (transitional) personal income tax collection losses of $1.1 billion for the federal government and $340 million for other states. The income, wealth, and consumption that would be lost to a New York STT are presently taxed by so many different governments (city, state, federal, even other state and local) that the *overall* fiscal impact the STT would be negative—some $6.7 billion in annual federal, state, and local secondary government revenue losses, and a net all-government annual revenue loss of $1.7 billion.

DOWNSIDE RISKS: BUSINESS CYCLE SENSITIVITY AND MARKET MIGRATION

Sensitivity. Between 1999 and 2002, while the average price per traded share on the NYSE fell 35 percent, the average stock transfer tax collection (and rebate) per traded share fell by 42 percent. What apparently happened was that falling share prices dropped many shares into lower STT brackets. The continuing fall in transaction costs and increase in turnover rates somewhat masked the problem—total nominal STT collections continued to grow in 2000 and 2001, though considerably more slowly than traded share volume: in state fiscal year 2000, nominal STT collections grew 10.5 percent, while share volume grew 28.8 percent; in 2001, nominal collections grew just 1.8 percent, while share volume grew 19.0 percent. Finally, in state fiscal year 2002, nominal collections fell 11.7 percent, despite the fact that volume grew 16.2 percent.

This drop in revenue points to an important consideration regarding using the stock transfer tax as a local revenue source: its cyclical sensitivity. Except insofar as trade volume can be kept growing at double-digit rates, the recipients of STT receipts would be at the mercy of market swings. For New York City, this would only compound its existing vulnerability to Wall Street shocks, which already create and then wipe out hundreds of millions of dollars in personal and corporate income tax revenues over the course of a business cycle.

Market Migration. As noted at the outset, this analysis of the impact of an STT on the city economy has been based on a best-case scenario that assumes that the market response to an increase in transaction costs is limited to a reduction in trading velocity or turnover, accompanied by a more modest impact on share prices. But while not trading would be the simplest way to avoid the tax, there may and almost inevitably would be other means of tax avoidance,[15] including migration of securities trading activity away from the NYSE and AMEX, that is, its relocation to stock exchanges not affected by the STT. Desertion of the city-based stock exchanges may be a real threat, particularly with the increasing competitiveness of electronic exchanges. It has been argued that London's 0.5 percent STT both shows that the tax works *and* would remove from the running New York's chief competitor for transactions affected by New York's (much smaller) proposed tax.[16] But London's STT has been shown to adversely impact prices and volume, and there is mounting pressure to remove it.[17] Moreover, that tax applies only to UK-listed stocks.[18]

Market migration would compound the negative economic impact of an STT,[19] while attenuating or even erasing any local fiscal gain. We estimate that if one-third of the activity on the New York stock exchanges migrated to other exchanges (electronic and/or foreign), New York City could lose at least 150,000 jobs and $42 billion in annual output (gross product). At that point the revenue from the STT would be sliced almost in half (this reflects the impact of both migration and reduced trading velocity), and the overall city revenue gain would approach, or possibly fall below, zero.

CONCLUSION

Our analysis indicates that even in a best-case scenario where traders do not flee Wall Street to avoid a stock transfer tax, a half-restored (50 percent instead of 100 percent rebated) STT would have appreciable adverse impacts on both stock trading volume and securities industry employment. Because the affected securities jobs are concentrated in New York City, there would be significant secondary job losses in the city economy, and the ability of the tax to raise revenue for the city would be impaired. At minimum, the city would lose nearly 60,000 private-sector jobs. Under this scenario, an STT could still fund close to 38,000 city government jobs, but there would be 1.6 private-sector jobs lost for every public-sector job saved or gained. In addition, the city budget would become more vulnerable to the swings of the stock market, which are typically more extreme than those of the broader economy.

Our study also suggests that there are significant downside risks to a New York STT. Relaxing the unrealistic assumption that there would be no shifting of stock trading to avoid the tax, the city's economic losses due to the tax would rapidly mount, net revenue gains would decline, and the cost in private-sector jobs for every saved public-sector job would multiply. Amidst today's uncertainty about the role that Wall Street will play in the increasingly mobile capital markets of the 21st century,[20] we cannot dismiss the possibility that a large share of market activity would migrate from New York City if the New York stock transfer tax were reinstated.

Written by David Belkin

END NOTES

[1] Cf. Mason (2002).
[2] See Jones (2000).
[3] Ericsson and Lindgren (1992). See also Hubbard (1995), Schwert and Seguin (1995), and Swan and Westerholm (2001).
[4] Domowitz and Steil (2002); Domowitz, Madhavan, and Glen (2001).
[5] London Stock Exchange (2001b).
[6] Heaton and Lo (1995); Baker, Pollin and Schauberg (1995).
[7] This is stronger than the older estimate by Heaton and Lo (1995) and contrasts with the rejection of a significant volume/employment link by Pollin and Heintz (2003). Our estimate accounts for important recent trends in the securities industry, notably the rise in program trading and the declining share of total securities industry employment located in New York City, and also factors in the 9/11 shock. Using a 1989-2003 annual sample, we find (log)SEC = 5.8747 *(0.9106)* + 0.5199*(log)VOL *(0.0761)* - 2.2824*(log)SEC_US *(0.4635)* - 0.2984*PRTRPCT *(0.0930)* - 0.0404*DUMMY_911 *(0.0154)*, where SEC = New York City securities industry employment, VOL = NYSE trading volume, SEC_US = securities industry employment in the rest of the United States, PRTRPCT = NYSE program trading volume share, and DUMMY_911 represents the terror attack shock (standard errors are italicized in parentheses). All the variables are significant at the 1 percent level or better (except DUMMY_911, significant at the 2.5 percent level). The adjusted R-squared is 0.9209, and the Durban-Watson is 2.02. Note that the impact of NYSE trading volume on overall New York City securities employment is net of within-city shifts of brokerage and securities services to NASDAQ.
[8] The median price, which was $264,000 in 2002, would be $269,000 in 2007 instead of $290,000. These results were obtained by applying securities employment and stock price shocks to IBO's model of the New York City economy and comparing the results with IBO's most recent (April 2003) 'baseline' forecast.
[9] This is done by converting the STT revenue gain (net of the impact of the tax on the STT base) in New York City to a government employment change, and then adding the positive government employment shock to the negative securities employment and stock price shocks applied to IBO's model of the city economy.
[10] The magnitude of the public-sector jobs impact was estimated from the ratio of

net STT revenues to currently projected city funded outlays on wages and salary and administrative and covered organization costs (Since net STT revenues themselves depend in part on the government jobs impact, and iterative process was used to arrive at the ratio.) Note that administrative costs include contract services; thus the estimated public-sector jobs gain includes contractual jobs as well as government payroll jobs.

[11] The 2007 median would be $277,000 instead of $290,000.

[12] Estimation of the capital gains impact is based on Miller and Ozanne (2000). The decline in personal consumption expenditures results from what is known as a "wealth effect": for every dollar of personal wealth gained or lost in the market, there is a 3 cent to 4 cent rise or fall in consumer spending.

[13] Because of the considerable lags between changes in market values and changes in property tax collections, the estimated annual property tax impact is based on a lagged six-year (2006-2011) average. All other annual figures are based on four-year (2004-2007) averages.

[14] See Gardner (1999).

[15] See McConnell (1995).

[16] Pollin, Baker, and Shauberg (2001).

[17] London Stock Exchange (2001a, 2001b. 2001c, 2001d, 2002a).

[18] It did not, for example, prevent 50 percent of the Swedish market from migrating to London after Sweden introduced and then increased its own stock transfer tax in the mid-1980s. A 100 percent increase in the Swedish stock transfer tax rate yielded a 22 percent increase on stock transfer tax revenues; the migration of trade to the London Stock Exchange accounted for much of the poor results. On transaction taxes and market migration, see Campbell and Froot (1994, 1995); note also London Stock Exchange (2002b).

[19] This would include the deadweight losses (suboptimal uses of resources) accompanying tax avoidance.

[20] As of this writing (November 2003), a seat on the New York Stock Exchange was selling for less than 50 percent of its 1999 peak price. Concern over the future of the exchange has clearly played a role in the drop.

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