## December 2011

# Tax Effort and Spending Effort Across New York State 

## Summary

This report looks at how the resources, broadly defined, of New York's households and businesses were taxed by state and local governments, and at how those revenues were distributed, both geographically and among major government functions, in 2004-2005. Our analysis is couched in terms of tax effort (tax revenues raised relative to taxable resources), spending effort (expenditures from those revenues relative to resources), and net fiscal effort (spending effort less tax effort).
Among our principal findings:

- State and local tax effort was high across New York, but highest in the wealthier counties in the New York City metropolitan area.
- Local household tax effort was slightly lower in New York City than in the rest of the state (the city's high personal income tax effort was offset by low residential property tax effort), while local business tax effort was much higher in the city than in the rest of the state (the city's high business income tax effort came on top of high commercial property tax effort).
- State-and consequently overall-spending effort was much higher in the poorer upstate regions. This was due especially to high state education and public safety (corrections) effort in those regions.
- New York City was an outlier in terms of both low local education effort and high state and local Medicaid effort, the latter mostly (but not entirely) due to the city's high concentration of poverty.
- Net fiscal effort (spending effort less tax effort) in New York was broadly progressive; that is, strongly positive in the poorer regions and negative in the wealthier regions.
- In terms of net fiscal effort New York City almost broke even: taxes on city households and businesses were only slightly greater than related spending in the city.

The conclusion of the report discusses the changes in New York's economic and fiscal landscape since 2004-2005 and their implications for our findings. Changes since then, particularly in Medicaid and education, appear to have shifted but not radically redrawn the broad outlines of tax and spending effort in New York.

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Introduction

This report measures taxable resources and state and local tax effort (tax revenues raised relative to resources) across New York State in 2004-2005. In addition, we look at how the tax revenues were used, examining the deployment of spending effort-and particularly its main components education, Medicaid, and public safety- within and across the regions of the state. This allows us also to investigate patterns of net fiscal effort, that is, to take some measure of how differences between taxes and spending reallocate resources between regions of the state.

The present report is a companion piece to, but also expands on, IBO's February 2007 report Comparing State and Local Taxes in Large U.S. Cities. As in the earlier study, we concentrate on the gross incomes flowing to resident households and businesses and the taxes paid out of these flows; where taxes borne by out of state commuters and visitors can be identified, these are excluded. ${ }^{1}$ We believe that this approach yields a better measure of how overlapping governments use regional tax capacities than can be obtained just by dividing taxes by either personal income or (with its very different geographic distribution) output.

New to this analysis, we have adjusted tax effort to account (albeit roughly) for major intrastate tax shifts, namely, sales and residential property taxes collected within counties from residents of other New York counties. Also new, we have provided separate gauges of household and business tax effort. Finally, the measurements of overall spending effort and net fiscal effort extend beyond our previous work.

For the following we parsed New York's 62 counties into eight regions based on economic cohesion and geography. There are three regions in the southeastern part of the state-New York City, Downstate (the five wealthy suburban counties in the surrounding metropolitan area), and Mid-Hudson/Catskills-while upstate is divided into two urban regions (the Capital District, plus a "region" amalgamating the counties containing the cities of Buffalo, Rochester, and Syracuse, labeled "Western Metros") and three nonurban regions (Northern, Central Leatherstocking, and Western). (See map on page 3.) The tables provide data for these eight regions and for the 15 most populous counties in the state.

We begin by discussing the taxable resources of households and businesses in the regions and counties
of New York State. This is followed by analysis of taxes and tax effort at both the local and state levels, including the parsing of tax effort by households and businesses. We then turn to a discussion of spending and spending effort by the different levels of government, including decomposing spending into some major spending areas. We then bring tax effort and spending effort together to consider net fiscal effort, before concluding with a discussion of some changes in the fiscal landscape since 2004-2005.

This paper also includes an appendix which (a) revises the big city tax effort estimates from our 2007 study; (b) assesses tax effort by the five counties comprising New York City; (c) examines household tax effort under alternative assumptions about the burden of property taxes; (d) discusses approaches to incorporating distributional constraints on tax capacity into our analysis; and (e) presents the impact of regional price parity adjustments on taxable resources and tax effort. The final section of the appendix describes the data and methodology used to assemble the measures of taxable resources, taxes, and spending.

## Taxable Resources

A region's gross taxable resources (GTR) comprise the incomes of households residing in the region ("personal income" or Pl ) and the surpluses generated by businesses in the region ("business capital value added" or VA). These are the principal flows of spending power from which taxpayers pay all taxes-not only taxes on income and profits, but also taxes on transactions and wealth (such as real property).

The table on page 4 shows our estimates of taxable resources in New York's regions and largest counties. An expected but still striking finding is the dominant position of New York County (Manhattan) within the state. With 8.3 percent of the state's population, Manhattan's residents accounted for 17.1 percent of the personal income; with 24.0 percent of the private workforce, Manhattan produced 44.9 percent of the business capital value added. Manhattan generated especially large shares-ranging from over half to two-thirds-of statewide capital value added in real estate, rental and leasing; information; finance and insurance; and professional and technical services. ${ }^{2}$

Overall Manhattan generated almost a quarter of the state's total \$1.1 trillion gross taxable resources.
Regions of New York

New York Gross Taxable Resources by Region and Largest County, 2004-2005

| Region | Population | Gross Taxable Resources (millions) |  |  | Per Capita |  |  | Private Employment | Per Worker Value Added |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Resident Personal Income | Business Capital Value Added | Total Gross <br> Taxable <br> Resources | Personal Income | Value Added | Gross Taxable Resources |  |  |
| New York City | 8,191,890 | \$337,684.9 | \$184,628.5 | \$522,313.4 | \$41,222 | \$22,538 | \$63,760 | 3,878,374 | \$47,605 |
| Downstate | 4,198,220 | 237,824 | 63,438 | 301,262 | 56,649 | 15,111 | 71,760 | 2,022,328 | 31,369 |
| Mid-Hudson/Catskills | 1,075,125 | 36,733 | 8,212 | 44,945 | 34,166 | 7,638 | 41,804 | 433,928 | 18,924 |
| Capital District | 813,254 | 29,465 | 10,830 | 40,295 | 36,231 | 13,317 | 49,548 | 414,838 | 26,107 |
| Central Leatherstocking | 692,591 | 19,206 | 5,458 | 24,664 | 27,731 | 7,881 | 35,611 | 303,004 | 18,013 |
| Western Metros | 2,117,172 | 71,260 | 30,939 | 102,200 | 33,658 | 14,614 | 48,272 | 1,158,408 | 26,709 |
| Western (Except Metros) | 1,431,296 | 38,999 | 10,050 | 49,050 | 27,248 | 7,022 | 34,269 | 576,252 | 17,441 |
| Northern | 794,866 | 21,092 | 5,970 | 27,062 | 26,536 | 7,511 | 34,046 | 292,301 | 20,424 |
| Total Non-NYC | 11,122,523 | \$454,580.7 | \$134,897.4 | \$589,478.1 | \$40,870 | \$12,128 | \$52,999 | 5,201,057 | \$25,937 |
| Total State | 19,314,412 | \$792,265.6 | \$319,525.8 | \$1,111,791.4 | \$41,019 | \$16,543 | \$57,563 | 9,079,431 | \$35,192 |
| Largest Counties |  |  |  |  |  |  |  |  |  |
| Kings (NYC) | 2,504,634 | \$74,224.9 | \$14,939.9 | \$89,164.8 | \$29,635 | \$5,965 | \$35,600 | 637,696 | \$23,428 |
| Queens (NYC) | 2,253,647 | 75,773.9 | 16,803.3 | 92,577.2 | 33,623 | 7,456 | 41,079 | 644,598 | 26,068 |
| New York (NYC) | 1,598,593 | 135,837.6 | 143,583.2 | 279,420.8 | 84,973 | 89,818 | 174,792 | 2,179,485 | 65,879 |
| Suffolk (Downstate) | 1,502,062 | 70,653.4 | 18,371.5 | 89,024.9 | 47,038 | 12,231 | 59,268 | 673,780 | 27,266 |
| Bronx (NYC) | 1,361,853 | 32,076.5 | 6,927.5 | 39,004.0 | 23,554 | 5,087 | 28,640 | 295,013 | 23,482 |
| Nassau (Downstate) | 1,355,892 | 81,186.2 | 22,394.2 | 103,580.4 | 59,877 | 16,516 | 76,393 | 703,382 | 31,838 |
| Westchester (Downstate) | 947,420 | 66,780.6 | 17,552.6 | 84,333.2 | 70,487 | 18,527 | 89,014 | 486,893 | 36,050 |
| Erie (West. Metro) | 927,911 | 30,178.1 | 11,730.6 | 41,908.7 | 32,523 | 12,642 | 45,165 | 473,929 | 24,752 |
| Monroe (West. Metro) | 733,732 | 25,812.1 | 12,402.5 | 38,214.6 | 35,179 | 16,903 | 52,082 | 423,195 | 29,307 |
| Richmond (NYC) | 473,164 | 19,772.0 | 2,374.5 | 22,146.5 | 41,787 | 5,018 | 46,805 | 121,583 | 19,530 |
| Onondaga (West. Metro) | 455,529 | 15,270.1 | 6,806.3 | 22,076.4 | 33,522 | 14,942 | 48,463 | 261,284 | 26,050 |
| Orange (Mid-Hud./Cat.) | 368,818 | 12,411.1 | 3,117.2 | 15,528.3 | 33,651 | 8,452 | 42,103 | 139,908 | 22,280 |
| Albany (Capital District) | 298,712 | 11,321.5 | 5,872.0 | 17,193.6 | 37,901 | 19,658 | 57,559 | 204,696 | 28,687 |
| Rockland (Downstate) | 293,631 | 14,267.0 | 4,456.3 | 18,723.3 | 48,588 | 15,177 | 63,765 | 125,035 | 35,641 |
| Dutchess (Mid-Hud./Cat.) | 291,112 | 11,394.0 | 2,344.8 | 13,738.7 | 39,139 | 8,055 | 47,194 | 128,701 | 18,219 |
| Memo: Share of Statewide |  |  |  |  |  |  |  |  |  |
| New York City | 42.4\% | 42.6\% | 57.8\% | 47.0\% |  |  |  | 42.7\% |  |
| New York County | 8.3\% | 17.1\% | 44.9\% | 25.1\% |  |  |  | 24.0\% |  |

Manhattan's \$174,792 per capita GTR and \$65,879 per worker VA were nearly double that of the next richest county, Westchester.

For New York City as a whole, the 47.0 percent share of statewide GTR was more in line with the shares of population (42.4 percent) and private employment (42.7 percent). This reflects the relatively moderate per capita GTRs in the other four counties in the city, ranging from $\$ 46,805$ in Richmond (ranked $12^{\text {th }}$ among the 62 counties) down to $\$ 28,640$ in the Bronx (ranked 58 ${ }^{\text {th }}$ ).

New York City's overall per capita GTR of $\$ 63,760$ was actually exceeded by the $\$ 71,760$ per capita GTR of the Downstate region. All five counties in this region had per capita Pl's of over \$47,000 and per capita GTR's of over $\$ 56,000$. Not coincidentally, these counties were marked by particularly strong flows of commuter earnings from New York County. This was especially true of Westchester (\$89,014 per capita GTR, ranked $2^{\text {nd }}$ in the state) and Nassau (\$76,393 per capita GTR, ranked $3^{\text {rd }}$ ). The adjacent Mid-Hudson/Catskills region is marked by both lower commuter earnings flows from New York City and less local private output, combining to yield a lower per capita GTR $(\$ 41,804)$.

The rest of New York is notable for the dissimilarities between the regions centered on large cities and everywhere else. The per capita GTRs of \$49,548 in the counties comprising the Albany Capital region and \$48,272 in the counties containing the western New York cities of Buffalo (Erie County), Rochester (Monroe County) and Syracuse (Onondaga County) were almost half again as high as the per capita GTRs in the remaining Central (\$35,611), Western (\$34,269), and Northern $(\$ 34,046)$ regions of the state.

There is similarly a large contrast in the share of business value added (VA) in total GTR in Manhattan (51.4 percent) versus the rest of the city ( 16.9 percent), as well as between Albany County (34.2 percent) and the Western Metro counties (30.3 percent) and the rest of the non-city counties (20.9 percent). For New York City as a whole the VA/GTR share was 35.3 percent.

## Taxes and Tax Effort

Measuring Tax Effort. Tax effort measures the portion of an area's tax capacity being absorbed by government and is expressed here as taxes per $\$ 100$ GTR. ${ }^{3}$ We start with
reported overlapping government taxes paid by New York households and businesses. This includes all the New York state and local (county, municipal, school district, and other) taxes collected within a county or region, with the exception of taxes wholly or largely paid by out-of-state visitors and commuters-namely taxes on hotel occupancy, nonresident personal income taxes, and nonresident estate taxes.

Adjustments were made to exclude revenue streams that were recorded as taxes but were really intergovernmental aid (notably, STAR) and to include revenues that were taxes in everything but name (communications surcharges). ${ }^{4}$

An important adjustment was the 'adding back' of state and New York City personal income taxes covering refundable credits. These credits are income support payments that are budgeted as negative taxes rather than as government outlays. We obtain a truer picture both of outlays and of the tax liabilities corresponding to outlays by shifting the refundable credits to the spending side of the budget-that is, subtracting the negative income taxes from the tax side. ${ }^{5}$

Finally, adjustments are made for taxes paid within counties by residents of other New York counties. One adjustment is for second-home property taxes paid by households whose primary residence is in another part of the state. A second adjustment is for general sales taxes paid by residents traveling from other parts of the state. A final adjustment is for New York City income taxes paid by city government employees living in other parts of the state. We properly should not count these taxes against the taxable resources of the places where they are paid for the same reason that we do not count hotel-related taxes or state nonresident income and estate taxes. Now, however, we are not dealing with taxes that are shifted out of the state ('exported' taxes), but with taxes shifted within New York State. For such taxes, one county's tax export is another's tax import.

Taxes and Tax Effort by Level of Government. In 20042005 there were $\$ 62.2$ billion in nonexported municipal, county, school district, and other local government taxes and $\$ 45.9$ billion in state government taxes, making for a total of $\$ 108.1$ billion, collected in New York State. ${ }^{6}$ New York City directly accounted for $\$ 31.7$ billion of the local government taxes and $\$ 18.8$ billion of the state government taxes- $\$ 50.6$ billion in all (see Table 2 here). But in addition, as discussed above, city residents paid
New York State and Local Government Tax Effort by Type of Government, 2004-2005 Taxes per \$100 Gross Taxable Resources

an estimated $\$ 1.1$ billion of the local taxes and $\$ 814$ million of the state taxes collected in other parts of the state (these totals are net of the taxes collected from other state residents in or by the city). Including these intrastate tax shifts, New York City households and businesses accounted for 48.5 percent of all the nonexported taxes, including 52.7 percent of the local taxes and 42.8 percent of the state taxes. Manhattan alone accounted for 30.0 percent of all the reported and shifted taxes, including 32.4 percent of the local taxes and 26.7 percent of the state taxes.

A previous IBO report showed that in 2003-2004 New York City had by far the highest state and local tax effort of any large U.S. city. ${ }^{7}$ Nevertheless, as can be seen in the table on pge 6, the tax effort yielded by reported taxes in 2004-2005 was actually lower in the city (\$9.68 per $\$ 100$ GTR) than in the rest of New York State (\$9.76). But this does not yet account for the intrastate tax shifts discussed above. These represented an additional \$0.36 in taxes per $\$ 100$ GTR in the city, and at the same time$\$ 0.31$ in taxes per $\$ 100$ GTR in the rest of the state. After factoring in shifted taxes New York City's households and businesses paid $\$ 10.05$ per $\$ 100$ GTR, and households and businesses in the rest of the state paid $\$ 9.45$.

However, even when intrastate tax shifting is taken into account, New York City's adjusted tax effort remained less than in the Downstate (\$10.32) and Mid-Hudson/ Catskills (\$10.16) regions. Moving north and west across the state, generally speaking we find lower adjusted tax effort, ranging down to $\$ 7.84$ per $\$ 100$ of taxable resources in the Western Metros region-22.0 percent lower than that of New York City. We need to keep in mind, though, that "low" is a relative term: the tax efforts in the Western Metros counties containing Buffalo, Rochester, and Syracuse all exceeded the state and local tax efforts of Philadelphia, Chicago, Los Angeles, and the other large cities we previously compared with New York City (see appendix).

After adjusting for intrastate tax shifts, New York City had both the highest local tax effort (\$6.28) and the lowest state tax effort (\$3.76) of any region. The local effort ranking was primarily a function of the very high local effort in Manhattan (\$7.23, the highest in the state by a wide margin), while the low state tax effort here reflected tax efforts in the city's other boroughs. ${ }^{8}$ Manhattan had a somewhat above-average state tax effort (\$4.38).

## State and Local Tax Effort by County Relative to Per Capita Gross Taxable Resources, 2004-2005



Per Capita Gross Taxable Resources (GTR)
State and Local


Per Capita Gross Taxable Resources (GTR)
SOURCE: IBO

New York State and Local Government Tax Effort by Type of Tax, 2004-2005
Reported and Intrastate Shifted Taxes per $\$ 100$ Gross Taxable Resources

| Region | Property | General <br> Sales | Personal Income | Business Income |  | Utility and Other | Total |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| New York City | \$2.26 | \$1.89 | \$3.33 | \$1.25 | \$0.79 | \$0.52 | \$10.05 |
| Downstate | 4.22 | 1.88 | 3.05 | 0.35 | 0.35 | 0.47 | 10.32 |
| Mid-Hudson/Catskills | 4.45 | 2.03 | 2.39 | 0.25 | 0.33 | 0.70 | 10.16 |
| Capital District | 3.23 | 1.87 | 2.22 | 0.41 | 0.19 | 0.66 | 8.59 |
| Central Leatherstocking | 3.32 | 1.98 | 1.85 | 0.33 | 0.10 | 0.82 | 8.40 |
| Western Metros | 2.89 | 1.83 | 2.00 | 0.44 | 0.12 | 0.54 | 7.84 |
| Western (Except Metros) | 3.74 | 1.97 | 1.93 | 0.23 | 0.11 | 0.78 | 8.76 |
| Northern | 3.41 | 1.79 | 1.70 | 0.23 | 0.14 | 0.82 | 8.10 |
| Total Non-NYC | \$3.82 | \$1.89 | \$2.56 | \$0.34 | \$0.26 | \$0.57 | \$9.45 |
| Total State | \$3.09 | \$1.89 | \$2.92 | \$0.77 | \$0.51 | \$0.55 | \$9.73 |
| NYC +/- Non-NYC | \$(1.56) | \$(0.00) | \$0.78 | \$0.90 | \$0.53 | \$(0.05) | \$0.60 |
| Percent +/- | -40.9\% | 0.0\% | 30.4\% | 261.5\% | 204.4\% | -8.5\% | 6.3\% |
| Largest Counties |  |  |  |  |  |  |  |
| Kings (NYC) | \$1.82 | \$1.91 | \$2.61 | \$0.43 | \$0.87 | \$0.58 | \$8.23 |
| Queens (NYC) | 2.14 | 1.86 | 2.45 | 0.54 | 0.83 | 0.56 | 8.38 |
| New York (NYC) | 2.50 | 1.90 | 4.05 | 1.93 | 0.77 | 0.47 | 11.61 |
| Suffolk (Downstate) | 4.21 | 2.10 | 2.66 | 0.33 | 0.43 | 0.57 | 10.30 |
| Bronx (NYC) | 1.82 | 1.94 | 1.79 | 0.47 | 0.56 | 0.67 | 7.26 |
| Nassau (Downstate) | 4.56 | 1.87 | 3.04 | 0.38 | 0.28 | 0.44 | 10.56 |
| Westchester (Downstate) | 3.73 | 1.69 | 3.66 | 0.34 | 0.37 | 0.43 | 10.22 |
| Erie (West. Metro) | 2.76 | 1.89 | 2.06 | 0.44 | 0.14 | 0.53 | 7.82 |
| Monroe (West. Metro) | 3.04 | 1.80 | 1.98 | 0.43 | 0.11 | 0.51 | 7.87 |
| Richmond (NYC) | 2.22 | 1.82 | 3.66 | 0.29 | 1.02 | 0.49 | 9.49 |
| Onondaga (West. Metro) | 2.88 | 1.78 | 1.95 | 0.46 | 0.12 | 0.63 | 7.82 |
| Orange (Mid-Hud./Cat.) | 4.65 | 1.98 | 2.39 | 0.30 | 0.37 | 0.64 | 10.32 |
| Albany (Capital District) | 3.12 | 1.96 | 2.06 | 0.56 | 0.17 | 0.66 | 8.53 |
| Rockland (Downstate) | 4.42 | 1.82 | 2.30 | 0.33 | 0.31 | 0.32 | 9.51 |
| Dutchess (Mid-Hud./Cat.) | 3.82 | 2.03 | 2.60 | 0.23 | 0.37 | 0.61 | 9.66 |

SOURCE: IBO

## Tax Effort Relative to Per Capita Taxable Resources.

As can be seen in the figure on page 7 , there was an underlying pattern to these variances. The wealthier counties (measured by per capita GTR) tended to have higher overall tax effort (taxes per \$100 GTR), with the progressivity somewhat more pronounced for state effort than local effort. Note that spatial tax progressivity across counties does not automatically imply vertical progressivity (tax effort rising with income) within counties. State taxes clearly are progressive in the latter sense; this follows from the state's reliance on personal and business income taxes for 90 percent of its tax revenues. With local taxes we can be less sure, as most local governments outside New York City draw on a mixture of sales taxes (somewhat
regressive) and property taxes (ultimately, but not in every local instance, progressive). ${ }^{9}$ Vertical local tax progressivity is more likely within New York City, due again to the degree to which the city relies on personal and business income taxes as well as commercial property taxes. But this is not the focus of the present analysis. ${ }^{10}$

Taxes and Tax Effort by Type of Tax. There are striking differences between New York City and the rest of the state in terms of tax mix (Table 4 here) and tax effort by type of tax (table above and figure on pae 9). ${ }^{11}$ In the city, property taxes accounted for less than a quarter of total state and local reported taxes while personal and business income taxes made up close to half. Outside the city, conversely,

property taxes comprised two-fifths of total taxes and were considerably more important than income taxes. State and local sales taxes also contributed less to the tax mix in New York City than in the rest of the state, but real estate related taxes played a much more significant role in the city.

These city/rest-of-state differences are largely driven by the imposition of local personal and business income taxes within New York City, the latter including taxes on unincorporated businesses as well as general and banking corporation taxes. The only local income taxes levied outside the city in 2004-2005 were the Metropolitan Commuter Transportation District surcharges on state business taxes (which of course are collected within the city as well), the (very small) Yonkers personal income tax, and the income tax paid by city employees residing outside the five boroughs. ${ }^{12}$ Likewise there were only small local government counterparts to New York City's real estaterelated taxes.

These differences are reflected in the tax effort data (table on page 8), where we find New York City's relatively high personal income tax effort (\$3.33 per \$100 GTR
in the city versus $\$ 2.56$ in the rest of state), business income tax effort ( $\$ 1.25$ versus $\$ 0.34$ ), and real estaterelated tax effort ( $\$ 0.79$ versus $\$ 0.26$ )-all of this due to local government taxes-offset by low property tax effort. Property taxes in the city were $\$ 2.19$ per $\$ 100$ GTR, in addition to which city households paid an estimated net $\$ 0.06$ in other regions' property taxes, bringing the total load to $\$ 2.26$. Property taxes in the rest of the state came to $\$ 3.88$ per $\$ 100$ GTR, out of which (as just noted) a net $\$ 0.06$ was paid by New York City rather than local resident households, reducing the load to $\$ 3.82 .{ }^{13}$

General sales tax effort also initially looks lower in New York City, but the gap disappears after adjusting for intrastate shifts. Adjusted overall sales tax effort was $\$ 1.89$ for both New York City households and businesses (that is, $\$ 1.59$ within the city plus an estimated $\$ 0.30$ in net rest-of-state sales taxes paid by city households) and for households and businesses in the rest of the state ( $\$ 2.16$ reported less $\$ 0.27$ paid net by New York City households).

However, the personal and business income tax effort comparisons, in particular, are also affected by the varying shares of household income (PI) and capital value added (VA) in total GTR within the state, and indeed within New York City. We disentangle these effects in the next section.

Household and Business Tax Effort. Individuals ultimately bear all taxes, including those levied on the income, assets, purchases, transfers and other activities of business entities. But there is still a meaningful distinction between taxes that are (mostly) a function of where households locate and taxes that are (mostly) a function of where businesses locate. This is yet another dimension on which New York City-and especially Manhattan (New York County)-differs sharply from the rest of the state.

We lack data on the household and business shares of all the state and local taxes in New York, but we are able to obtain or, to a reasonable approximation, estimate these shares for the 'major' taxes: property, general sales, and personal and business income; combined these account for nearly 90 percent of New York's reported taxes. Note that for this comparison only, we lumped the New York City commercial rent tax (CRT, now imposed in Manhattan only) with business property taxes; though classified in our other tables with the real estate transaction taxes, the CRT is in effect a disguised commercial property tax. We also allocated a portion of personal income taxes to

the business side, namely the share estimated to have been paid on proprietors' income. Again this follows from the fact that proprietors' income is included in the VA component of GTR but (to avoid double-counting) excluded from the PI component.

For the general sales tax, we allocated taxes on intermediary product sales (roughly, taxes on nonresidential energy and on sales in the construction, manufacturing, wholesale, information, and professional and business services sectors) to the business side, and taxes on sales of retail, health care, arts and recreation, food services, personal services, and residential utility establishments to the household side. An exception was the portion attributed to household demand stemming from proprietors' income, which we assigned to the business side since, as discussed above, that is where that income itself is counted.

The resulting major tax and tax effort breakdowns are shown in Tables 6 and 7, available here and summarized in the figure above. On the household side, the combined weight of city personal income tax effort (\$1.72 per \$100 PI) plus residential property tax effort (\$1.10) in New York City was exceeded by the average residential property tax effort (\$3.56) alone in the rest of the state. In other words, for households the city's unique personal income taxes were basically substitutes for property taxes, and overall major local household tax effort was actually lower in the city (\$3.72) than in the rest of the state (\$4.34 per \$100 PI).

On the business side, conversely, the local income tax effort in New York City (\$2.89 per \$100 VA) came on top of commercial property tax effort that was itself higher in the city (\$4.89) than across the rest of the state (\$4.71). ${ }^{14}$ Though there is some local business income taxation outside the city (the Metropolitan Transportation Authority regional surcharges), overall major local business tax effort was far higher in the city (\$8.95) than across the rest of the state (\$6.28).

It was a somewhat different story at the state level. Major state tax effort was again lower for New York City households (\$3.66 per \$100 PI) than for households across the rest of the state (\$3.92). But major state business tax effort was also lower in New York City-just $\$ 2.78$ per $\$ 100$ VA in the city compared to $\$ 3.53$ in the rest of New York. Both state sales taxes and state business income taxes per \$100 VA were lower in the city. The low business sales tax effort may reflect the large shares of value added generated in the city by finance, real estate, and business services, which yield very little taxable sales. The relatively low state business income tax effort points to a higher share of VA coming from 'flow-through' businesses (S-corporations, limited liability companies, and partnerships) whose profits are not subject to the state's entity-level income taxes, but are taxed at the personal income tax level instead. Conversely, these business forms are subject to the city's income taxes at both the entity and personal levels.

As can be seen in the figure on page 11, state, local, and combined household tax effort showed a pronounced progressive trend, rising across counties as per capita PI rose.

## Spending and Spending Effort

We have seen that tax effort across New York State tended to increase with per capita taxable resources (figure page 7). This could simply reflect a higher capacity and preference for discretionary government spending within wealthier communities-though (as we shall see) more of that capacity might be absorbed by mandatory spending in a community combining great wealth and great poverty. But tax effort could also be relatively high in part because some of the taxes paid by a region's households and businesses are funding spending in other regions. This happens when residents of a region pay part of another region's taxes (for example, property taxes on second homes). It also happens when the amount of taxes the

state collects from a region is greater than the amount of state expenditures (intergovernmental and direct) disbursed to the region. In what follows, therefore, we
examine levels and composition of spending and spending effort (expenditures in a region from nonexported taxes divided by the region's GTR) across New York State.

It needs to be stressed that finding that some region used an exceptionally high or low portion of its tax capacity on some program is not the same as showing that too much or too little tax effort was expended for that program. Moreover, finding that part of a region's tax effort was effectively funding other regions' program spending-or conversely, finding that a region's spending was being partly supported by outside tax effort-is not the same as showing that a region was "unfairly" burdened or benefitted by the distribution of spending relative to taxes. Such judgments lie beyond the scope of this study.

The Composition of Spending. There were differences in both the levels and composition of state and local government spending between New York City and the rest of the state and between the more urban and more rural regions within the rest of the state. These differences are traced in Table 8 (dollar amounts), Table 9 (spending per \$100 GTR), and Table 10 (spending shares), These tables, available here, depict state and local spending from taxes on GTR for the three largest major service functions, education, Medicaid, and public safety and judicial, as well as for selected smaller expenditure categories (higher education, temporary assistance, and regional transit district) and "all other."

The figure on page 12 summarizes these data, comparing the scale and composition of spending effort in New York City and the rest of the state. In brief, total spending effort in the city (\$9.81) exceeded spending effort outside the city (\$9.65), with higher local spending effort (\$6.07 in the city versus $\$ 5.17$ in the rest of the state) offsetting lower state effort (\$3.74 versus \$4.48).

The figure on page 12 also shows roughly comparable overall amounts of public safety and "other" spending effort, though in both cases these were supported more through local taxes in New York City. But the really striking difference between the city and the rest of the state was in the shares of spending effort absorbed by the two largest spending areas, education and Medicaid. Both state and local education effort were much lower in New York City than outside the city, while conversely both state and local Medicaid effort were sharply higher.

Turning to the table on page 13 , we see that there was notably higher education and overall effort in the

## Major Components of State and Local Spending Effort, 2004-2005

|  | State |
| :--- | :--- |
| $\square$ Education $\quad \square$ Medicaid $\quad \square$ Public Safety |  |
| $\square$ Other | $\square$ Transit District |

Spending Per $\$ 100$ GTR



Spending Per $\$ 100$ GTR


SOURCE: IBO
NOTES: Spending funded by exported taxes not included. Higher Education and public assistance are included in "Other."

Downstate and Mid-Hudson/Catskills regions than in the more northern parts of the state.

## Spending Effort Relative to Per Capita Taxable

Resources. An examination of spending effort relative to per capita gross taxable resources reveals strong patterns in those regional spending differences. For this analysis we focus on Medicaid, education, and public safety (figures on pages 14,15 , and 16), which together accounted for twothirds of the state and local tax funded spending in New York. (In these figures, except for New York City, each data point is a county.)

Medicaid. We can see in the figure on page 14 that both state and local Medicaid spending effort fell as per capita GTR rose across counties. The slope of the state Medicaid spending effort curve was steeper, meaning that the state was assuming more of the Medicaid costs in the poorer counties. However, both state and local Medicaid effort were clearly higher in New York City than could be expected based on per capita GTR. Part of the difference can be explained by the city's unusual socioeconomic complexion, which combines a overall high per capita GTR with a large concentrations of poverty: in 2004-2005 the official poverty rate was 19.7 percent in the city compared with 6.1 percent in the Downstate region and 12.1 percent across the remainder of the state.

But there was an additional factor skewing the distribution of Medicaid spending towards New York City: outside of the city the number of adult Medicaid enrollees in 2004-2005 (around 711,000 ) was about 18 percent larger than the number of adults under the federal poverty level $(600,000)-$ but inside the city the number of adult enrollees ( 1.4 million) was 70 percent larger than the number of adults in poverty $(825,000) .{ }^{15}$ New York City also had more children and aged Medicaid enrollees relative to poverty than the rest of the state, but the differences were relatively small. ${ }^{16}$

As recently as 2000-2001, there were about the same number of adults enrolled in Medicaid as under the poverty level in the city, and 20 percent fewer adults enrolled than in poverty in the rest of the state. The subsequent launch of the Family Health Plus program, with its higher income eligibility levels, contributed to the rapid growth of adult enrollment across the state (but especially in New York City), as did the implementation of Disaster Relief Medicaid, which eased the enrollment process in the city following 9/11. ${ }^{17}$

New York State and Local Tax and Expenditure Effort by Major Program and Region, 2004-2005
Taxes and Expenditures per $\$ 100$ Gross Taxable Resources

| Region | NYC | Downstate | Mid- <br> Hudson/ Catskills | Capital District | Central <br> Leatherstocking | Western <br> Metros |  | Northern | Total Non-NYC | Total State |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Local |  |  |  |  |  |  |  |  |  |  |
| Taxes |  |  |  |  |  |  |  |  |  |  |
| Reported | \$6.08 | \$5.55 | \$6.18 | \$4.51 | \$4.71 | \$4.04 | \$5.10 | \$4.93 | \$5.17 | \$5.59 |
| Intrastate Shifted | 0.21 | (0.03) | (0.47) | (0.25) | (0.36) | (0.18) | (0.33) | (0.63) | (0.17) | 0.01 |
| Total Taxes | \$6.28 | \$5.52 | \$5.71 | \$4.26 | \$4.35 | \$3.86 | \$4.77 | \$4.29 | \$4.99 | \$5.60 |
| Expenditures |  |  |  |  |  |  |  |  |  |  |
| Education | \$1.30 | \$2.60 | \$2.84 | \$1.99 | \$1.71 | \$1.67 | \$1.89 | \$1.82 | \$2.28 | \$1.82 |
| Medicaid | 1.03 | 0.33 | 0.52 | 0.41 | 0.63 | 0.56 | 0.57 | 0.65 | 0.44 | 0.72 |
| Public Safety | 1.08 | 0.88 | 0.89 | 0.79 | 0.82 | 0.83 | 0.88 | 0.84 | 0.86 | 0.96 |
| Higher Education | 0.03 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.02 |
| Temporary Assistance | 0.10 | 0.03 | 0.04 | 0.04 | 0.05 | 0.07 | 0.05 | 0.04 | 0.04 | 0.07 |
| Transit District | 0.39 | 0.23 | 0.08 | 0.03 | 0.00 | 0.04 | 0.02 | 0.00 | 0.14 | 0.26 |
| Other | 2.14 | 1.48 | 1.82 | 1.25 | 1.51 | 0.87 | 1.69 | 1.58 | 1.41 | 1.75 |
| Total Expenditures | \$6.07 | \$5.55 | \$6.18 | \$4.51 | \$4.72 | \$4.05 | \$5.10 | \$4.93 | \$5.17 | \$5.59 |
| Intrastate Subsidy | \$(0.21) | \$0.04 | \$0.47 | \$0.25 | \$0.37 | \$0.19 | \$0.33 | \$0.64 | \$0.18 | \$(0.01) |
| State |  |  |  |  |  |  |  |  |  |  |
| Taxes |  |  |  |  |  |  |  |  |  |  |
| Reported | \$3.61 | \$4.84 | \$4.74 | \$4.56 | \$4.36 | \$4.18 | \$4.23 | \$4.15 | \$4.59 | \$4.13 |
| Intrastate Shifted | 0.16 | (0.03) | (0.29) | (0.23) | (0.31) | (0.21) | (0.24) | (0.35) | (0.14) |  |
| Total Taxes | \$3.76 | \$4.81 | \$4.44 | \$4.33 | \$4.05 | \$3.98 | \$3.99 | \$3.80 | \$4.46 | \$4.13 |
| Expenditures |  |  |  |  |  |  |  |  |  |  |
| Education | \$1.01 | \$1.03 | \$2.03 | \$1.55 | \$2.95 | \$1.95 | \$3.15 | \$3.27 | \$1.66 | \$1.36 |
| Medicaid | 1.43 | 0.49 | 0.85 | 0.70 | 1.15 | 0.83 | 0.97 | 1.12 | 0.69 | 1.03 |
| Public Safety | 0.15 | 0.12 | 1.61 | 1.07 | 1.33 | 0.27 | 0.96 | 1.96 | 0.53 | 0.35 |
| Higher Education | 0.16 | 0.11 | 0.11 | 0.31 | 0.70 | 0.50 | 0.66 | 0.34 | 0.27 | 0.22 |
| Temporary Assistance | 0.15 | 0.05 | 0.09 | 0.08 | 0.12 | 0.12 | 0.12 | 0.11 | 0.08 | 0.11 |
| Transit District | 0.12 | 0.05 | 0.02 | 0.05 | 0.02 | 0.05 | 0.02 | 0.01 | 0.04 | 0.08 |
| Other | 0.72 | 0.69 | 1.54 | 3.34 | 1.85 | 1.18 | 1.74 | 1.87 | 1.21 | 0.98 |
| Total Expenditures | \$3.74 | \$2.54 | \$6.24 | \$7.09 | \$8.13 | \$4.91 | \$7.62 | \$8.68 | \$4.48 | \$4.13 |
| Intrastate Subsidy | \$(0.03) | \$(2.27) | 1.79 | 2.77 | 4.07 | 0.93 | 3.63 | 4.88 | 0.02 | - |
| Total |  |  |  |  |  |  |  |  |  |  |
| Taxes |  |  |  |  |  |  |  |  |  |  |
| Reported | \$9.68 | \$10.39 | \$10.92 | \$9.07 | \$9.07 | \$8.23 | \$9.34 | \$9.08 | \$9.76 | \$9.72 |
| Intrastate Shifted | 0.36 | (0.06) | (0.76) | (0.48) | (0.67) | (0.39) | (0.58) | (0.98) | (0.31) | 0.01 |
| Total Taxes | \$10.05 | \$10.32 | \$10.16 | \$8.59 | \$8.40 | \$7.84 | \$8.76 | \$8.10 | \$9.45 | \$9.73 |
| Expenditures |  |  |  |  |  |  |  |  |  |  |
| Education | \$2.31 | \$3.63 | \$4.87 | \$3.54 | \$4.65 | \$3.62 | \$5.03 | \$5.09 | \$3.94 | \$3.18 |
| Medicaid | 2.46 | 0.82 | 1.36 | 1.11 | 1.78 | 1.40 | 1.54 | 1.76 | 1.13 | 1.75 |
| Public Safety | 1.22 | 1.01 | 2.50 | 1.86 | 2.15 | 1.10 | 1.84 | 2.80 | 1.39 | 1.31 |
| Higher Education | 0.19 | 0.11 | 0.11 | 0.31 | 0.70 | 0.50 | 0.66 | 0.34 | 0.27 | 0.23 |
| Temporary Assistance | 0.25 | 0.07 | 0.13 | 0.11 | 0.17 | 0.19 | 0.17 | 0.15 | 0.11 | 0.18 |
| Transit District | 0.51 | 0.28 | 0.10 | 0.09 | 0.02 | 0.09 | 0.04 | 0.01 | 0.18 | 0.34 |
| Other | 2.86 | 2.18 | 3.36 | 4.59 | 3.37 | 2.05 | 3.44 | 3.44 | 2.62 | 2.73 |
| Total Expenditures | \$9.81 | \$8.09 | \$12.42 | \$11.61 | \$12.84 | \$8.95 | \$12.72 | \$13.61 | \$9.65 | \$9.72 |
| Intrastate Subsidy | \$(0.24) | \$(2.23) | 2.26 | 3.02 | 4.44 | 1.12 | 3.96 | 5.51 | 0.20 | \$(0.01) |

SOURCE: IBO
NOTE: Taxes allocated by location of payer: intrastate tax shifts allocate property and sales taxes by primary place of residence; out-of-state tax exports plus expenditures funded by tax exports excluded.

## Medicaid Spending Effort by County Relative to Per Capita Gross Taxable Resources, 2004-2005

|  | State |
| :---: | :---: |
| - NYC <br> - Central | Downstate $\Delta$ Mid-Hudson/Catskills $\approx$ Capital District <br> -Western Metros + Western $\Delta$ Northern |
| Spending Per \$100 GTR |  |
| \$10.00 |  |
| 8.00 |  |
|  |  |
| 6.00 |  |
|  |  |
| 4.00 |  |
|  |  |
| 2.00 |  |
|  |  |
| 0.00 |  |
| $\varepsilon_{2} 2^{0^{0^{0}}}$ |  |
| Per Capita Gross Taxable Resources (GTR) |  |
|  | Local |

Spending Per $\$ 100$ GTR


Per Capita Gross Taxable Resources (GTR)
State and Local
Spending Per $\$ 100$ GTR


Per Capita Gross Taxable Resources (GTR)

SOURCE: IBO
VOTE: Spending funded by exported taxes not included. Per county
Spending on adult Medicaid enrollees in New York City did not grow as fast as enrollment itself, indicating that the city's additional adult enrollees were less expensive
than the 'core' adult Medicaid population. Taking this into account, we estimate that the city's higher enrollee/ poverty ratios accounted for about $\$ 2.5$ billion of the state and local Medicaid costs in New York City in 2004-2005. Paying for this absorbed $\$ 1.0$ billion of the local taxes and $\$ 600$ million of the state taxes paid by New York City households and businesses-and also close to $\$ 800$ million of the nonexported state taxes paid in the rest of the New York. ${ }^{18}$ This translates into $\$ 0.19$ per $\$ 100$ GTR added to local tax effort and over $\$ 0.10$ added to state tax effort in the city ( $\$ 0.30$ total),plus $\$ 0.13$ added to state tax effort across the rest of New York. ${ }^{19}$

Education. State education effort was relatively low in the localities with the highest per capita taxable resources (the Downstate counties and New York City) and rose smoothly and steeply as per capita GTR declined (top panel, figure on page 15). State education effort ranged from $\$ 0.76$ in Nassau and $\$ 0.83$ in Westchester which (when New York City is treated as one unit), held the top two spots in per capita taxable resources (\$76,393 and \$89,075 respectively), up to $\$ 5.53$ in Allegany, which stood last $(\$ 25,297)$. The state's education aid formulae of the time effected a very pronounced redistribution of resources from the wealthier, downstate, urban parts of New York to the poorer, upstate, rural parts.

New York City, with $\$ 63,760$ in per capita GTR and $\$ 1.01$ in state education effort, fell exactly on the close-fitting curve inscribed by the local wealth/state effort tradeoff. (Note the virtually identical coordinates of Rockland, with $\$ 63,765$ in per capita GTR and also $\$ 1.01$ in state education effort.) Arguably, though, New York City should have been somewhat above the curve, due to its concentration of both wealth and poverty discussed above.

The relationship between local education effort and per capita GTR (figure page 15 , middle panel) was generally the reverse of the above, with effort increasing slightly with per capita resources rather than falling steeply as it did with state effort. But the relationship was not as tight, mainly because the Mid-Hudson/Catskill counties supported high local education efforts with relatively modest taxable resources, and because New York City provided notably less education effort than its high per capita GTR would have led us to expect. This result was all the more striking because the city's mix of poverty and wealth indicated high educational need, along with capacity to address that need-that is to say, the city might have been expected to provide more local education

## Education Effort by County Relative to Per Capita Gross Taxable Resources, 2004-2005



Per Capita Gross Taxable Resources (GTR)


Per Capita Gross Taxable Resources (GTR)
State and Local
Spending Per \$100 GTR


Per Capita Gross Taxable Resources (GTR)
SOURCE: IBO
NOTE: Spending funded by exported taxes not included. Per county spending breakdown within New York City not available.
effort than per capita GTR alone predicted. One possible explanation for why the city's local education was not higher is that the city's exceptionally high Medicaid spending absorbed a large portion of the capacity. (Other local spending effort was also relatively high in the city, but there
was no other large local spending category with as extreme a contrast between city and rest-of-state spending effort.)

Public Safety. The state public safety and judicial spending effort pattern (figure page 16) was similar to the education spending pattern, though more L-shaped: above \$45,000 per capita GTR, public safety was generally very low; below that kink, state effort rose sharply as gross tax capacity declined. The resource shift was from the more urban parts of the state to the relatively more rural parts, from the New York City, Downstate, and Western Metros regions, where state public safety effort averaged $\$ 0.15$ per $\$ 100$ GTR, to the Mid-Hudson/Catskills, Central, Northern, and Western regions, where effort averaged \$1.41, almost 10 times as high. (The Capital District was a special case, with central administrative and judiciary spending generating most of the $\$ 1.07$ of state effort.)

The differences in the weights of state public safety spending in the urban and rural regions were very large. Thus in the aforementioned urban regions (the Capital District again exempted), state public safety spending from taxes on GTR (\$1.4 billion) was only a fraction of state Medicaid spending (\$9.8 billion) and was in the same ballpark as spending on higher education and public assistance (see Table 8 here). In these regions public safety made up only 4.4 percent of state tax-funded spending. But in the rural regions, state expenditures on public safety (\$2.1 billion) were 18.8 percent of total state spending and far exceeded expenditures on Medicaid ( $\$ 1.4$ billion). (Spending on higher education and public assistance were also much lower. ${ }^{20}$

Driving all this was spending on state correctional facilities, with the benefits of that spending attributed to the places where the prisons are sited. This is where the direct economic impacts of the spending-the impacts on employment, income, and output-are felt. Alternatively, the benefits of prison expenditures could be assigned to the places where the prisoners came from-those are after all the communities made safer by the incarceration of their criminals. Were we to do this, New York City's share of 2004-2005 Department of Corrections spending would have gone from under 4 percent to 55 percent-shifting over $\$ 1.1$ billion dollars of state spending into the city column. The Western Metros region would also gain some spending share. That still would leave higher public safety spending effort in the rural regions, but the contrast with the urban regions would be much less marked (on the order of $\$ 0.48$ versus $\$ 0.30) .{ }^{21}$

## Public Safety Spending Effort by County Relative to Per Capita Gross Taxable Resources, 2004-2005



At the local level, public safety effort is mainly a function of police spending, followed by fire protection, corrections, and judicial activities. Overall effort did not vary a great deal across the state, and did not vary much with respect to per capita GTR.

Total Spending Effort. In the figure on page 17, we relate total spending effort to per capita GTR. In keeping with what we saw above, there is a steep drop in overall state spending effort as per capita GTR increases, while local spending effort varies more among the poorer counties than between poor and wealthy counties. Combined state and local spending effort tracks a similar downward sloping path vis-à-vis per capita GTR as does state effort alone. ${ }^{22}$

We observe that New York City was on both the local and state spending effort trend lines, indicating that the city's positions in Medicaid effort (above the trend lines) and education effort (well below the local trend line) tended to cancel out.

## Net Fiscal Effort

Net fiscal effort is simply spending effort less tax effort. Where it is positive-that is, spending is greater than taxes-a county's or region's spending is being subsidized by taxes paid from the taxable resources of the rest of the state; where it is negative (spending is less than taxes), the taxes supported by a county's or region's taxable resources are subsidizing spending in the rest of the state.

First consider net fiscal effort at the local level. Local governments are conventionally thought of as just spending what they collect, all within one jurisdiction. But we have already shown that some local governments also spend what they can capture from resources (household incomes) domiciled in other jurisdictions, while others spend less than the local tax effort raises. In the latter, total local tax effort is necessarily supporting both 'home’ and 'outside' local spending effort. Hence we find differences-positive and negative-between local spending effort and local tax effort. Turning to the tables on pages 13 and 19, we see that local tax funded spending in New York City fell short of local taxes on city GTR by $\$ 1.1$ billion, a net local fiscal effort subsidy of -\$0.21 per \$100 GTR. The difference was almost entirely a function of the estimated net local sales and property taxes paid in other parts of the state by New York City households. In all the other regions the local intrastate subsidy was positive.

## State and Local Total Spending Effort by County Relative To Per Capita Gross Taxable Resources, 2004-2005



Per Capita Gross Taxable Resources (GTR)

Local
Spending Per $\$ 100$ GTR


State and Local
Spending Per \$100 GTR


Per Capita Gross Taxable Resources (GTR)

SOURCE: IBO
NOTE: Spending funded by exported taxes not included. Per county spending breakdown within New York City not available.

We turn next to New York State spending and taxes. State spending in New York City was only $\$ 142$ million less than state taxes on city GTR, yielding a modest negative intrastate subsidy of $-\$ 0.03$ per $\$ 100$ GTR. Indeed, it was
the estimated $\$ 814$ million in net state sales taxes paid by New York City households outside the city that pushed the city's net state fiscal balance into the red. Putting those taxes aside, the intrastate subsidy was positive; that is, state tax effort in the city (\$3.61) was less than state spending effort in the city (\$3.74).

It was a very different story in the Downstate region, where the $\$ 7.6$ billion in state tax funded spending was little more than half the $\$ 14.5$ billion in state taxes on GTR in the region, an intrastate subsidy of $-\$ 2.27$. In contrast, intrastate subsidies were positive in the state's six other regions, which were all beneficiaries of tax revenues collected from but not spent on Downstate and (to a considerably smaller degree) New York City. The impact on the mostly rural Central, Northern, and Western regions was most dramatic: here, in a mirror image of the Downstate situation, the combined $\$ 8.1$ billion in spending from state taxes on GTR was more than double the total of $\$ 4.0$ billion in state taxes collected from households and businesses in those three regions. That is to say, the intrastate subsidy transmitted by Albany to these regions ( $\$ 4.07$ ) was actually greater than the state spending supported by the regions themselves (\$3.95).

Putting all the numbers together, state and local spending funded out of New York taxable resources fell $\$ 1.2$ billion short of taxes in New York City and $\$ 6.7$ billion short in the Downstate region, while conversely spending exceeded taxes on New York resources in each of the other six regions. Net state and local fiscal effort ranged from -\$2.23 per \$100 GTR in the Downstate region and -\$0.24 in New York City to $+\$ 3.96,+\$ 4.44$, and $+\$ 5.51$ in the Western, Central, and Northern regions, with positive but smaller net fiscal efforts in the remaining regions (Western Metros, Mid-Hudson/Catskills, and Capital District).

## Net Fiscal Effort Relative to Per Capita Taxable

Resources. Plotting net fiscal effort against per capita taxable resources (page 18), we see again that there are patterns to all this. We find that net fiscal effort-in particular state fiscal effort-was negative in the wealthier counties and positive and rising in the poorer counties in the state. New York City, with its slightly above average per capita GTR and slightly negative net effort, sat on or near the trend lines for state, local, and overall net fiscal effort.

The lines traced for local net effort-relatively flat against per capita GTR and positively sloped for state and overall net effort-closely track what we previously saw for


SOURCE: IBO
NOTE: Spending effort net of tax effort. Per county spending breakdown within New York City not available.
spending effort. This reminds us how important it is not to just look at the tax side when considering the distribution impacts of government.

Net Fiscal Balance Measured Two Ways. In the previous section, we measure only state and local taxes on New York gross taxable resources and the spending funded by these taxes. Exported taxes-that is, taxes paid from other states' taxable resources-have been excluded, along with the expenditures supported by those taxes. What does net fiscal balance look like when we count all state and local taxes and related expenditures?

To bring all New York taxes (and related spending) into the picture we have to switch from a tax by place of payer perspective to a tax by place of liability perspective. The former excludes out of state tax exports and includes intrastate shifts of sales and property taxes. The latter approach, conversely, drops the intrastate sales and property tax shifts, but at the same time shifts both in-state and out of state commuter taxes to the counties where the incomes were earned, that is, where the tax liabilities were incurred. Hotel-related taxes are also brought back in, likewise counted where the liabilities were incurred.

Commensurate with shifting to place-of-liability on the tax side, we would want to shift spending to the places where costs are generated. This has its largest impact on the allocation of state corrections spending, where as noted above the bulk of the prison facilities are located upstate, but a very large share of the prison population comes from New York City. Higher education spending is also affected.

The two measures of fiscal balance are compared in in the table on page 19. (Note that this summarizes the data in Table 8 here.) In the tax by place of payer (or tax on GTR) approach, we have seen, local taxes paid by New York City households and businesses (including shifted sales and property taxes) were $\$ 1.1$ billion greater than related local tax funded expenditures, while state taxes on city GTR were $\$ 142$ million greater than state expenditures in the city. New York City's total state and local fiscal balance was - $\$ 1.2$ billion. Put another way: total state and local spending in New York City fell $\$ 1.2$ billion short of total state and local taxes generated from city GTR.

In moving to the tax by place of liability approach (crosswalk shown in Table 12), the local sales and property tax shifts (\$1.1 billion) come out, while local hotel sales and occupancy taxes and related spending (\$543 million)
Net Fiscal Balance Measured Two Ways, 2004-2005 Dollars in millions

| Region | Taxes on GTR and Related Expenditures* |  |  |  | All Taxes by Place Incurred \& Related Expenditures** |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | NYC | Downstate | Rest of State | Total <br> State | NYC | Downstate | Rest of State | Total <br> State |
| LOCAL |  |  |  |  |  |  |  |  |
| Taxes |  |  |  |  |  |  |  |  |
| Reported | \$31,735.2 | \$16,721.3 | \$13,727.4 | \$62,183.9 | \$32,278.1 | \$16,750.0 | \$13,785.9 | \$62,814.0 |
| Intrastate ShiftedTotal Taxes | 1,088.9 | (100.6) | (920.0) | 68.2 |  |  |  |  |
|  | \$32,824.1 | \$16,620.7 | \$12,807.3 | \$62,252.1 | \$32,278.1 | \$16,750.0 | \$13,785.9 | \$62,814.0 |
| Total Expenditures | \$31,721.6 | \$16,726.6 | \$13,735.7 | \$62,183.9 | \$32,264.5 | \$16,755.3 | \$13,794.2 | \$62,814.0 |
| Intrastate Subsidy | \$(1,102.51) | \$105.9 | \$928.3 | \$(68.24) | \$(13.64) | \$5.3 | \$8.3 |  |
| STATE |  |  |  |  |  |  |  |  |
| Taxes |  |  |  |  |  |  |  |  |
| Reported Intrastate Shifted | \$18,839.2 | \$14,566.0 | \$12,517.4 | \$45,922.7 | \$22,910.5 | \$14,888.7 | \$12,666.8 | \$50,466.0 |
|  | 813.9 | (85.6) | (728.3) | - | 2,805.7 | (2,275.1) | (530.6) |  |
| Total Taxes | \$19,653.1 | \$14,480.5 | \$11,789.1 | \$45,922.7 | \$25,716.1 | \$12,613.6 | \$12,136.2 | \$50,466.0 |
| Total Expenditures | \$19,511.1 | \$7,645.7 | \$18,765.9 | \$45,922.7 | \$22,555.7 | \$8,577.9 | \$19,332.3 | \$50,466.0 |
| Intrastate subsidy | \$(141.98) | \$(6,834.79) | 6,976.8 |  | \$(3,160.40) | \$(4,035.67) | 7,196.1 | - |
| TOTAL |  |  |  |  |  |  |  |  |
| Taxes |  |  |  |  |  |  |  |  |
| Reported <br> Intrastate Shifted <br> Total Taxes | \$50,574.4 | \$31,287.3 | \$26,244.8 | \$108,106.6 | \$55,188.6 | \$31,638.7 | \$26,452.7 | \$113,280.0 |
|  | 1,902.8 | (186.2) | $(1,648.3)$ | 68.2 | 2,805.7 | (2,275.1) | (530.6) |  |
|  | \$52,477.2 | \$31,101.2 | \$24,596.4 | \$108,174.8 | \$57,994.3 | \$29,363.6 | \$25,922.1 | \$113,280.0 |
| Total Expenditures | \$51,232.7 | \$24,372.3 | \$32,501.5 | \$108,106.6 | \$54,820.2 | \$25,333.3 | \$33,126.5 | \$113,280.0 |
| Intrastate Subsidy | \$(1,244.48) | \$(6,728.85) | \$7,905.1 | (68.2) | \$(3,174.04) | \$(4,030.33) | \$7,204.4 | - |
| State Corrections expenditures reallocation included above |  |  |  |  | 1,148.5 | 174.0 | \$(1,322.51) | - |
| SOURCE: IBO |  |  |  |  |  |  |  |  |
| NOTES: * Taxes allocated by location of payer: intrastate tax shifts allocate property and sales taxes by primary place of residence; out-of-state tax exports plus expenditures funded by tax exports excluded. <br> ** Taxes allocated by where liability incurred: intrastate tax shifts allocate personal income taxes by place of work; out-of-state tax exports (also allocated by place of work) plus expenditures funded by tax exports included. <br> State Corrections spending allocated to where costs incurred. |  |  |  |  |  |  |  |  |

come in. ${ }^{23}$ Consequently local taxes virtually equal local tax funded expenditures in the city (the small remaining difference is mostly due to Metropolitan Transportation Authority taxes and spending).

On the state level, the intrastate sales tax shift (\$814 million) is removed, but the personal income taxes paid by in-state commuters to the city ( $\$ 2.8$ billion) are added, resulting in a net addition of $\$ 2.0$ billion to state taxes counted as "coming from" the city. Against this, though, we add $\$ 1.1$ billion in state expenditures that are credited to the city when corrections spending is allocated to the locations that generate the prisoner populations (and benefit from having their criminals incarcerated) instead of to the locations where the correctional facilities are sited. (Note that some additional millions in state spending would be added to the city's fiscal balance sheet if we similarly reallocated higher education spending from where the colleges are sited to where the students came from. But we do not have sufficient data for this adjustment.)

Finally, we bring in state tax exports and the expenditures they fund. Statewide this amounted to $\$ 4.5$ billion, with New York City accounting for nearly 90 percent of the revenues ( $\$ 3.9$ billion in income taxes paid by out-of-state commuters to the city plus $\$ 178$ million in hotel sales taxes levied in the city) while receiving 43 percent of the export-funded expenditures (\$1.9 billion).

The upshot of all these adjustments is that on a place-ofliability metric, the state-and total state and local-fiscal balance in New York City fell to- $\$ 3.2$ billion. Note that in the place-of-liability approach, we can obtain a net fiscal balance based on all taxes and related spending, but we can no longer calculate tax or net fiscal effort, because taxes are no longer being lined up with the taxable resources out of which they are paid. (For example, as the personal income taxes of commuters are assigned to New York City, the incomes of those commuters remain in the taxable resource bases of Nassau, Westchester, New Jersey, etc.)

## Conclusion

Although New York City tax effort surpasses that of any other large U.S. city by a wide margin, the city itself is exceeded in tax effort by some other counties in the surrounding metropolitan area (Downstate and MidHudson/Catskill regions). Tax effort across the state as a whole tended to vary with wealth, ranging lower in the
mostly upstate regions with smaller per capita GTR.

Individuals and businesses in New York City pay substantial municipal as well as state income taxes. On the household side, the city's high personal income tax effort was offset by low residential property tax effort, such that overall local household tax effort was actually slightly lower in New York City than in the rest of the state. On the business side, however, the city's high business income tax effort came on top of high commercial property tax effort; as a result, overall local business tax effort was much higher in the city than in the rest of the state.

State (and overall) spending effort was much higher in poorer upstate regions. Along with education aid, correctional spending was an important component of the high state spending effort in the poorer rural regions of New York. But if this spending was allocated according to where the prisoners came from rather than where the prisons were sited, New York City would be credited with a much larger share.

New York City was an outlier in terms of both low local education spending effort and high state and local Medicaid spending effort. New York City’s high Medicaid effort reflected its large poverty population, but was also due in part to an exceptionally high ratio of beneficiaries to numbers in poverty.

With tax effort rising and spending effort falling with per capita GTR across New York State, net fiscal effort (spending less tax effort) was strongly positive in the poorer regions and negative in the wealthier regions. Net state fiscal effort was almost even in New York City: that is, state taxes on city GTR were only slightly greater than related state spending in the city. The city's net fiscal balance was negative when taxes are measured on a place-of-liability rather than place-of-payer basis, but the gap remained considerably smaller than previous studies have reported (the more so when, in the case of corrections spending, costs too are likewise counted on a 'place incurred' rather than 'place spent’ basis).

In some respects 2004-2005 was a propitious year to use to analyze tax effort, as New York's economy was then poised about midway between the recession of 2001-2002 and the pinnacle of 2006-2007, with all the impacts these busts and booms had on taxes, in particular the city's and state's cyclically sensitive income and transaction taxes.

However, there have been several important changes to New York's fiscal landscape since 2004-2005. Beginning in 2007, the state has capped the local share of Medicaid funding to an annual growth rate of 3 percent, with most of the local government savings accruing outside of New York City. But, as the state took on responsibility for a larger share of the nonfederal portion of Medicaid expenses, the state effort required of taxpayers increased as well. For taxpayers outside the city, it appears that the higher state effort largely offsets the local government savings. Thus, it is likely that the Medicaid cap has not significantly altered our findings regarding net fiscal balance.

This was also to be a period when the state implemented court-mandated education financing reforms, increasing state aid to New York City and other high needs districts. Substantially greater city spending on education was also required. But these plans (except for the increased city spending) were largely overwhelmed by the crisis and recession of 2008-2009 and the state's ensuing fiscal difficulties. The state has largely avoided the scheduled increases in education aid even as the city has met its requirements to increase local spending.

The recession and its aftermath was marked by plunging state and local government revenue collections, tax increases (some temporary, some open-ended), transient
boosts in federal aid (a higher federal Medicaid funding share and more education aid), retrenchments in state aid (particularly to New York City), and much local government fiscal duress.

As this report is going to press longer-range responses are beginning to unfold, including a restructuring of Medicaid, plans for closing redundant correctional facilities, a property tax cap (outside New York City), and potential efforts to curb the growth of state and local pension and retiree health care costs. To this we may add the mounting impact of regulatory changes and restructuring in New York City's financial services sector, and the long-term consequences this may have for the city and state taxes levied on the incomes and profits of that sector.

Thus far these developments appear to have modified but not radically redrawn the broad outlines of tax and spending effort in New York City as we found them in 2005. It remains to be seen how much all that has happened in the past few years, and all that is now contemplated, will ultimately alter the scale and balance of New York state and local tax and spending effort analyzed in this study.

This report prepared by David Belkin.

## Appendix

Big City Tax Effort Comparison Revised. In our February 2007 report, IBO estimated New York City's 2003-2004 tax effort at $\$ 9.02$ per $\$ 100$ GTR, 47 percent higher than the \$6.16 average for the other largest U.S. cities. In the course of our current analysis, we have used updated data and revised the 2003-2004 New York City estimate to $\$ 9.35$, 42 percent above the (revised) $\$ 6.59$ other city average. (See Table A1 here.) This does not include adjustments for intrastate tax shifting, the data for which are not available for the other large cities. (Based on preliminary appraisals of the city shares of county PI and taxable sales, however, it does not appear that tax shifting would raise tax effort in the other large cities as much as it does in New York City.)

The table also shows that the relatively "low" (by New York standards) tax efforts in the Western Metro counties that include the cities of Buffalo, Rochester, and Syracuse nevertheless exceeded that of all the big cities (except New York City) studied in Taxing Metropolis.

Measuring Household Tax Effort. In estimating household and business tax effort, we classified the property taxes collected on residential rentals as business rather than household taxes. This was dictated by the inclusion of the capital value added from residential rental properties in the industry side of gross taxable resources. Of course this class of property and corresponding taxes are much more prominent in New York City than in the rest of the state.

It has been a commonplace, however, to consider residential rental property taxes-or some portion thereof-as being taxes on the tenants rather than the owners of rental housing. Even in terms of our distinction between tax liabilities that are a function of where households locate and liabilities that are a function of where businesses locate, it might seem reasonable to view residential rental property taxes as being to some degree household taxes.

But to what degree? There have been competing views as to who ultimately bears the tax on residential rental properties (that is, its 'final incidence'). The Traditional View decomposes the property tax into a tax on land and a tax on capital 'improvements' and argues that the tax raises rents by an amount sufficient to maintain the rate of return on (mobile) capital; as a practical rule of thumb this
suggests that something like two-thirds of the tax is passed on to tenants.

The Benefit View asserts that local differences in property taxes largely correspond to (preferred) differences in local public services, so that the tax is ultimately a user charge for these services. In this view the property tax is fully reflected in the rent, but only because the value of the rental is raised by the services the tax pays for. The burden on the renter is thus effectively zero.

Finally, the New View (now some five decades old) is that differences in effective residential rental tax rates lead to reduced investment, a diminished housing supply, and higher rents (thereby, a positive excise tax burden) for tenants in relatively high-tax areas-this so far is also consistent with the Traditional View-but at the same time increased investment, an augmented housing supply, and lower rents (thus, in effect, a negative excise tax burden) for tenants in relatively low-tax areas. The overall impact on housing supply and rents (and thus the overall tenant share of the property tax) nets out to (approximately) zero. Those shifts in investment (which continue until the aftertax rate of return is equalized) spread the burden of the tax to all owners of capital. ${ }^{24}$

In an empirical test, Carroll \& Yinger ("Is the Property Tax a Benefit Tax? The Case of Rental Housing," National Tax Journal 47:2, June 1994, 295-316) found that rent increases compensated only about 15 percent of property tax increases, and that "rents offset only 55 percent of the tax differences paid by landlords"-findings supporting the New View over the alternatives. In conjunction with Goodman's estimate that effective apartment tax rates in New York are just under a third higher than the national average (Jack Goodman, "Houses, Apartments, and the Incidence of Property Taxes," Housing Policy Debate 17:1, 2006), this implies that on average about 17.5 percent of the rental unit taxes paid in the state are passed forward in higher rents and thus borne by households.

Applying this estimate (which of course does not capture intrastate differences in effective apartment tax rates), we find that counting the excise tax effect of residential rental taxes on the household side would raise household tax effort by $\$ 0.12$ per \$100 Pl in New York City versus an average of $\$ 0.02$ across the rest of the state.

These impacts are not large enough to appreciably change our overall story about household tax effort-namely,
that high personal income tax effort in New York City is offset by low (relative to the rest of the state) residential property tax effort. Indeed, even if we assumed that all of the taxes on residential rental properties (excepting the taxes on land values) were "passed through" to tenants, household property tax effort would still be well over twice as high in the rest of the state as in New York City, and average overall household tax effort would still be higher outside the city.

Tax Effort Within New York City. Our analysis identified substantial variances in tax effort within New York City. These remained large even after factoring in the estimated $\$ 0.61$ to $\$ 0.76$ added by intrastate tax shifting to the tax efforts in Queens, Kings, the Bronx, and Richmond (the net impact of intrastate shifts on tax effort in Manhattan was only \$0.09). ${ }^{25}$ Even following these adjustments state and local tax effort within the city stretched from $\$ 11.61$ in Manhattan, the highest in the state, to $\$ 7.26$ in the Bronx. In between Richmond (\$9.49), Queens (\$8.38), and Kings (\$8.23) were all below the statewide average-though still well above the levels found in other large U.S. cities.

In terms of local tax effort, the range ran from highest (by far) in the state in Manhattan (\$7.23) to somewhat above the statewide average in Richmond (\$5.85) and somewhat below the average in Queens (\$5.35), Kings (\$5.14), and the Bronx (\$4.61). For state tax effort, on the other hand Manhattan (\$4.38) was just somewhat above-average and ranked $15^{\text {th }}$ among all New York counties, while Richmond (\$3.64), Kings (\$3.10), Queens (\$3.04), and the Bronx (\$2.64) ranged well below.

The pattern asserts itself again when we disaggregate household tax effort. Household taxes per \$100 of PI were low by state standards in Queens (\$5.92), Kings (\$5.70), and Bronx (\$4.55) counties. At the other end of the scale, Manhattan (\$9.78) had the highest household tax effort in the state.

These results all flow pretty straightforwardly from city and state tax composition (city: large personal and business income taxes in conjunction with low residential and high commercial property taxes; state: heavy reliance on personal income taxes and various corporation taxes; both: less than 10 percent of tax revenues from general sales taxes) as this interfaces with the extremes of intracity base composition (the large differences in per capita Pl among the boroughs as well as the concentration of VA in Manhattan).

GTR, Income Distribution, and Ability to Pay. As a broad measure of tax capacity, gross taxable resources does not capture the impacts that income distribution might have on an area's ability to support taxes. The argument here is that if two areas have equal aggregate personal incomes, the area with the higher per capita PI would (all else being equal) be likely to have a greater tax capacity, because wealthier people can set aside a larger share of their income for taxes. Thus Rockland County, with an aggregate PI of $\$ 14.3$ billion in 2004-05 and a per capita PI of $\$ 48,588$, should be deemed to have (setting aside any differences on the value added side of GTR) a greater tax capacity than Onondaga, with an aggregate PI of $\$ 15.3$ billion but a per capita PI of only $\$ 33,522$. Unless, that is, the basic cost of living was so much higher in Rockland that it more than accounted for the additional per capita income.

This issue could be addressed by moving to something closer to a net taxable resources (NTR) base. On the personal income side, this would involve netting out selected income-elastic personal consumption expenditures-that is, spending on "basics" such as food, shelter, and medical care-to yield a measure of beforetax "discretionary income" (DI). The Bureau of Economic Analysis (BEA) has been developing such a yardstick and from recent reports we can glean that deducted consumption expenditure accounts for about 40 percent of personal income in their measure. ${ }^{26}$

Discretionary income is still an experimental conceptBEA has yet to publish an actual series-and is based on data that are available only at the national level, namely personal consumption expenditures (PCE). Local area Census Bureau consumer expenditure survey (CEX) data are available, but only for larger regions. The Census Bureau's five-year American Community Survey does provide county and place level data on rent and homeownership costs, which could perhaps serve as a rough starting point for estimating relative county differences in shares of income claimed by "basics." But definitional differences and substantial underreporting complicate the work of synching up any of the Census Bureau survey results to PCE and thence PI .

There are also hurdles in moving to a net base on the business value added side of taxable resources. There is no precise analogy here to "discretionary" on the household side (note that capital value added and GDP as a whole already net out costs of energy, materials, and purchased services inputs). We could, though, remove
private nonresidential (or domestic business) consumption of fixed capital (CFC) to derive net private capital value added. At the national level, this reduces private value added, as we measure it, by about 30 percent. (Note that since we have moved value added from owner-occupied housing to the PI side, we would not net out residential or household CFC on the VA side. And since shelter costs are already deducted in discretionary income, this appears to preempt deduction of residential CFC here.)

Again, though, the challenge would be getting from national to local calculations of consumption of fixed capital. Here we do at least have the advantage of having CFC industry detail for the U.S. as a whole-though there are impediments to matching these data with industry gross operating surplus (GOS). Insofar as these problems could be solved, this would allow us to share down capital consumption via industry GOS ratios, thus capturing the impact of local differences in industry mix. Local differences in capital consumption rates within industries would still remain out of reach.

A very preliminary run-through of these adjustments suggests that overall modifications to taxable resources would be larger in New York City's outer boroughs, the Downstate region, and parts of the Mid-Hudson-Catskills region than in Manhattan and the upstate regions. (It turns out that the basic cost of living is substantially higher in Rockland than in Onondaga.)

The upshot of all this suggests that on a net taxable resources basis, tax effort in New York City would remain just slightly higher than tax effort in the rest of the state, just as presently calculated. But Downstate tax effort would somewhat increase and tax effort in the more northern and western parts of the state (in the Capital, Central, Northern, Western, and Western Metros regions) would somewhat decrease relative to New York City tax effort.

Among the major counties, New York (Manhattan) would no longer boast of the highest tax effort in the state: Nassau, Suffolk, and Orange county tax efforts would be higher. Conversely, tax efforts in Albany, Monroe, Erie, and Onondaga-the upstate urban counties-would now be lower than tax effort in the Bronx.

Within New York City, progressive tax effort differentials would be flattened but not eliminated by moving to an NTR basis. As currently calculated, tax effort in the Bronx is less
than two-thirds of tax effort in Manhattan. In a provisional net resources base reestimate, Bronx tax effort moves closer to four-fifths of Manhattan tax effort. Kings, Queens, and Richmond tax efforts also squeeze up closer to tax effort in Manhattan.

For the state overall, tax effort would exhibit slightly greater progressivity when plotted against per capita NTR than when plotted against per capita GTR. (This just follows from the relative upward movement of tax effort in the wealthier Downstate region versus relative downward movement of tax effort in the poorer upstate regions. The reduced spread in per capita net resources is also taken into account.) Conversely, spending effort would be a bit less progressive (again, effort is relatively higher in the wealthier regions and relatively lower in the poorer regions, but on the spending side this denotes less progressivity). The degree of net resource shifting from the wealthier to the poorer regions of the state-net fiscal effort-would be broadly the same on a NTR base as on a GTR base.

Adjusting for Regional Price Parities. A different, perhaps complementary, approach is to adjust GTR for regional price parities (RPPs). These are spatial price indexes that BEA has been developing to adjust income and output for differences in the purchasing power of the dollar across states, metropolitan statistical areas (MSAs), and primary sampling units (PSUs). ${ }^{27}$ A region with an above-average RPP (greater than 100) has lower price-adjusted income than nominal income, while conversely a region with a below-average RPP (less than 100 ) has higher priceadjusted income than nominal income.

Regional price parities have been estimated for areas covering 95 percent of New York State (by income), and can be interpolated for the remaining areas. The highest regional price parities in the country, it turns out, are in New York City (136.2) and the MSA encompassing the Downstate region (135.7). RPPs are also relatively high as we move northward into the Mid-Hudson/Catskills region (112.5), but then fall well below 100 across the rest of the state (94.1).

This means that the great nominal GTR differences between the New York City metropolitan area and the upstate regions in part represent differences in prices rather than differences in real income and outputdifferences in the cost of living rather than the standard of living. In nominal dollars, there was a $\$ 37,713$ spread in per capita GTR between the wealthiest region (Downstate)
and the poorest region (Northern). Adjusted for regional price parities, the high-low range was just \$16,293.

As for New York City itself, we saw that without adjusting for price parities, the city's nominal per capita GTR was 10.8 percent higher than the statewide average. After adjusting for RPP, real per capita GTR in the city $(\$ 46,895)$ barely equaled the statewide average.

Where a regional price parity adjustment diminishes GTR, it necessarily raises our measure of tax effort, and vice versa where RPPs boost GTR. Consequently, as RPPs compress the GTR range within New York State, they amplify the disparities we already found between tax efforts in the lower and upper parts of the state. State and local tax effort adjusts up to $\$ 13.66$ in New York City, $\$ 13.98$ in the Downstate region, and $\$ 11.41$ in MidHudson/Catskills (the latter now below rather than above New York City), while adjusting down to $\$ 7.73$ across the other five regions.

## Methodology

Taxable Resources. The household and business components of gross taxable resources are based on or derived from data provided by the Bureau of Economic Analysis (BEA), but with several adjustments. The private business component, capital value added, is basically total private industry output less compensation of employees (COE). VA includes corporate capital charges (comprising distributed and undistributed profits, net interest payments, and the rental income of persons) and proprietors' income (current production income of sole proprietorships, partnerships, and cooperatives), as well as taxes on production and imports (property and excise taxes) net of government subsidies. ${ }^{28}$ In our accounting, however, business VA does not include the value added imputed to owner-occupied housing, which we have shifted to the household income side of the ledger.

In calculating corporate capital charges at the state level BEA relies on Census Bureau value added data for goods producing industries and on receipts and payroll data from the bureau's quinquennial economic census for service industries, with adjustments to align the latter with its own industry wage and salary numbers. Additional sources are brought in to estimate state utility, transportation, insurance, banking, and real estate sector capital charges. We shared down private industry VA from the state to county levels via industry compensation ratios, the latter
derived from BEA's state and county CA06 Compensation by Industry tables, whose data are nearly identical to COE.

For the real estate industry, this share down applied only to the nonhousing portion of value added. Housing value added was allocated to the counties using full value data from the New York State Office of Real Property Services for residential rentals and owner-occupied houses. (IBOadjusted full market value data were used for New York City.) The county shares of residential rental value added were included in business VA, while the shares of owneroccupied housing value added were, as noted, shifted to the personal income side.

Personal income, the resident household component of GTR, is adapted from BEA's measure of PI. BEA personal income comprises employee compensation by place of residence, proprietors' income, personal current transfer receipts, and interest, dividends, and rental income of persons. IBO's measure of Pl adds the value added of owner-occupied housing and realized capital gains, and-to avoid double-counting-removes rental income and proprietors' income. (A small portion of dividends and interest income in PI is also a flow from local VA, but it is not practical to estimate and exclude this.) Rental income is included in owner-occupied housing value added (imputed rent) or in the real estate industry portion of VA (monetary rent). Proprietors' income is similar (though not identical) to the measure of proprietors' income counted in the business side of the base. (Note also that the proprietors' income in BEA's Personal Income series is actually income by place of work; thus it makes more sense to exclude it on the PI side than on the business income side.)

Significant portions of PI (about 20 percent statewide, but close to 30 percent in Richmond, Queens, Kings, and the Bronx) consist of noncash income, mainly medical benefits (which are the bulk of personal transfer receipts), housing value added, and imputed interest. These are included in personal income because (like cash income) they provide for the acquisition of goods and services. It might be thought that these components should not be included in gross taxable resources, either because it is not possible to tax them or because they cannot be used to pay taxes. But residential property taxes do effectively tax owneroccupied housing value added (property value is the stock of wealth associated with the flow of value added), and this and other noncash items (such as health benefits) could also be disbursed or recognized in ways that would allow
inclusion in the bases of income or consumption taxes. The critical point is that the form in which income is paid out should not affect overall capacity.

Overlapping Government Tax Share Downs. The state itself provides county level collections data for sales, mortgage recording, real property transfer, and estate taxes, as well as tax year adjusted gross income and personal income tax liability by county, which was combined with overall personal income tax collection data (adjusted from state fiscal year to city fiscal year) to estimate collections by county. New York State Energy Research and Development Authority estimates of county gasoline consumption were the basis for state motor fuel tax share downs. The state's general, banking, and insurance corporation taxes (and Metropolitan Transportation Authority surcharges) were shared down using weighted industry VA ratios.
'Hidden' Taxes. New York City collects revenue from E-911 and cell phone/wireless surcharges and from fire insurance premium fees. These are taxes in fact though not in name, and (as noted in the text) we have included the revenues in our tax effort calculations. The communications surcharges are counted in Other Taxes, while the fire insurance fees, because they are levied on "foreign and alien insurers," are classified as exported taxes. Other counties' wireless surcharges are also included in our calculations, as are the state's surcharges (which were in any case added to the state's own tax tables as of 2005).

On the other hand, we have not included surcharges and assessments on private health providers, which are also taxes in all but name. This choice was dictated by the difficulty of getting a complete time series for these data. (Thus a tax effort analysis including health provider taxes in 2005 might not be comparable to subsequently computed future or historical tax effort estimates.) In 2005, these surcharges yielded over $\$ 1.3$ billion, including $\$ 590$ million from New York City providers. As can be seen on Table A2, including these taxes would add about \$0.12 to tax effort statewide, but would not appreciably impact the regional tax effort standings.

The outlays funded by these taxes would also add to Medicaid (and other health services) spending effort, but these again without having much impact on the distribution of Medicaid effort.

Also not included were payroll levies for state unemployment insurance and workers' compensation programs. In New York these summed to over $\$ 4.7$ billion in 2005, including an estimated $\$ 4.2$ billion from private entities. We estimate that $\$ 2.4$ billion of the latter was levied in New York City, $\$ 1.9$ billion in Manhattan alone. Including these levies (also labeled "taxes" in Census of Government documentation) in our analysis would increase tax effort by $\$ 0.46$ in New York City (including $\$ 0.68$ added in Manhattan) and $\$ 0.30$ in the rest of the state (see Table A2).

Exported Taxes. The exclusions we make for taxes that are not paid out of New York taxable resources are by no means complete or precise. As noted in the text, our exclusions are limited to taxes that are "wholly or largely paid by out-of-state visitors and commuters"-namely, hotel taxes (including general sales taxes on hotel occupancy), nonresident income taxes, and nonresident estate taxes. But visitors and commuter also pay significant chunks of New York taxes on retail and eating establishment sales. Some estimates exist for these tax impacts, but these were too rough and spotty for use in our analysis.

Offsetting this, however, we likewise do not capture tax imports from other states, that is, taxes levied by other states on incomes or expenditures of New Yorkers when they visit or commute.

We estimate that something less than 5 percent of state and local taxes on hotel occupancy in New York Citysomewhere on the order of $\$ 25$ million in 2004-2005was paid by visitors from other parts of the state rather than from out of state. Probably a similar dollar amount of visitor taxes in the rest of the state were paid by intrastate visitors. But we do not have enough detail on visitor flows to add the intrastate portions of hotel tax exports back in as county-level tax imports.

We can make that adjustment, however, for the city income taxes paid by New York City government employees living outside the city (known as Waiver 1127). Of the $\$ 76.0$ million paid in 2004-2005-and recorded as exported taxes for the city- $\$ 68.2$ million was paid by residents of other New York counties, and was added as intrastate tax imports to these counties (and netted from New York City gross tax exports).

Intrastate Shifted Sales Taxes. The geographic distribution of the taxable sales of sectors selling primarily
to households (that is, retail trade, arts, entertainment and recreation, and health, food, repair, and other personal services) varies significantly from the distribution of household income within New York State. We see for example particularly high taxable sales relative to resident household income in areas with major outlet shopping centers (such as Orange County, with Woodbury Common) or large seasonal populations (the Adirondacks region). Conversely, taxable sales are very low relative to resident household income in New York City's outer boroughs, and are only about proportional to resident income in Manhattan despite the considerable sales accounted for not by residents but by commuters and national and international visitors.

All this is evidence that purchases by nonresidents (rather than local tax effort) account for significant portions of sales tax revenues in some areas, while payments of nonlocal sales taxes add significantly to the tax effort of residents of other areas. We have estimated net intrastate sales tax shifts as the differences between taxes paid per county and taxes that would be paid with sales of retail et
al sectors proportional to personal income. Note that here we have added back proprietors' income but subtracted capital gains from our standard measure of PI. Gains were removed to reflect the greater marginal propensity to save out of higher incomes.

This is obviously an imperfect measure of intrastate sales tax shifts, as it does not account for the impact of interstate or international travel (as well as e-commerce) on sales in New York and purchases by New Yorkers. It also does not account for sales taxes paid by businesses whose value added is denominated in other parts of the state (or out of state). But nonetheless it improves our understanding of the distribution of sales tax effort within New York relative to the unadjusted measure.

Other Intrastate Tax Shifts. Payments by nonresidents and by nonlocal businesses also account for sometimes significant shares of real estate transaction tax effort and other (utility, automobile-related, and so on) tax effort, but we have not been able to adjust our estimates for these impacts.

## Endnotes

${ }^{1}$ We likewise exclude non-New York state and local taxes paid by local households and businesses (that is, New York tax 'imports'). It would be very desirable to account for the non-New York taxes, but the data aren't there. ${ }^{2}$ Excludes owner-occupied housing services, as explained in the appendix. ${ }^{3}$ This may be indicative of tax burden but is not the same as burden, as it does not reflect the final incidence of all taxes (that is, the ultimate impact on real incomes, accounting for the behavioral responses to taxes).
${ }^{4}$ It was not however feasible to include all 'auxiliary' taxes. Missing are state unemployment insurance and workers' compensation program taxes, taxes collected by Business Improvement Districts (BIDs), and surcharges and assessments on private health providers. See Table A2 and the accompanying text in the Appendix for tax effort inclusive of the health provider and UI/WC taxes.
${ }^{5}$ The New York State writes 'refund' checks for (state and city) earned income and (then state only) child care credits in excess of tax liabilities, and these are counted towards the state's Maintenance of Effort (MOE) expenditures for Temporary Assistance to Needy Families (TANF). These refundable credits are government outlays in everything but name, but to count them as such the income taxes gross of credits that pay for them must be counted on the revenue side.
${ }^{6}$ In addition, there were $\$ 5.1$ billion in (mostly state) tax exports, 89 percent of which were generated by New York City, including 86 percent by Manhattan alone. The exported taxes are shown in the expanded spreadsheet versions of our tables but are not referred to further in the report except in the discussion of alternative measures of tax effort
${ }^{7}$ Comparing State and Local Taxes in Large U.S. Cities (IBO, February 2007). ${ }^{8}$ Intracity tax effort variances are reviewed in the Appendix.
${ }^{9}$ See the discussion of the 'New View' of property tax incidence in the appendix section on "Measuring Household Tax Effort."
${ }^{10}$ See however the discussion of distributional factors in the appendix section on "GTR, Income Distribution, and Ability to Pay."
${ }^{11}$ Additional detail-local tax mix and state mix broken out separately - s provided in the expanded spreadsheet versions of Tables 4 and 5. ${ }^{12}$ This last is the Waiver 1127 tax paid by city government employees commuting from (for the most part) the surrounding New York counties and New Jersey. In our accounting, the portion borne by the in-state commuters was netted out of New York City exported taxes rather than out of reported taxes on GTR. Note that New York City's general commuter (or nonresident income) tax was phased out in 1999. In 2010, a Mobility payroll tax was introduced in the Metropolitan Commuter Transit District.
${ }^{13} \mathrm{By}$ far the highest level of property taxes relative to taxable resources-\$9.05-was in Hamilton County, in the heart of the Adirondacks. But an extraordinary large share of Hamilton's housing stock is owned and seasonally occupied by nonresidents After shifting out the estimated taxes on those properties, Hamilton's adjusted property tax effort was \$4.16.
${ }^{14}$ This included $\$ 2.48$ in business income taxes and $\$ 0.41$ in personal income taxes paid by proprietors, counted on the business side because proprietors' income is included in VA rather than PI.
${ }^{15}$ Adult is defined as aged 19-64 for Medicaid enrollment, aged 18-64 for the poverty count.
${ }^{16}$ In 2004-2005 the ratio of children enrolled in Medicaid to children in poverty was 1.96 in New York City versus 1.78 outside the city. For the elderly, the enrollment/poverty ratio was 1.26 in the city and 1.15 in the rest of the state.
${ }^{17}$ This may, like the city's above-average Medicare costs, be in part supplydriven, that is, a consequence of the density of health care providers. See Congressional Budget Office, Geographic Variation in Health care Spending (February 2008), pp. 15-19.
${ }^{18}$ This assumes an across-the-board proportional effect on state and local taxes. Under this assumption, the city's high Medicaid enrollees/poverty ratio also absorbed some $\$ 160$ million in exported taxes.
${ }^{19}$ This takes into account the $\$ 5.5$ billion added to personal income and hence to GTR in the city by the Medicaid payments (including the federally funded portion) received by the disproportionately high share of enrollees.
${ }^{20}$ These spending relationships were the same when including spending from exported state taxes.
${ }^{21}$ The distribution of Higher Education spending would also change if benefits were allocated by original residence of student rather than by location of school, but without as pronounced an impact on upstate versus downstate or rural region versus urban region spending effort.
${ }^{22}$ The Central District Region (Albany) is an outlier, due to portions of central administrative spending that cannot be allocated around the state.
${ }^{23}$ Alien fire insurance premium taxes are included as well
${ }^{24}$ This is a simplified description of the New View. Where regional tax rate differentials extend to commercial property, there will be raised housing and commodity prices and lowered wages and land prices in the high tax regions, and the reverse (lowered housing and commodity prices and raised wages and land prices) in the lower tax regions. Moreover, these excise tax effects - both negative and positive - are attenuated insofar as greater household or labor mobility is allowed in the picture. But none of this changes the basic story of offsetting distributional impacts in what is both proximately and finally a tax on capital. For a good review and overview, see George Zodrow, "The Property Tax as a Capital Tax: A Room With Three Views" (2007). ${ }^{25}$ We are unable to adjust here for the considerable amount of shopping by Richmond residents in New Jersey, and as a result overstate the net
intrastate (but not so much overall) sales taxes imported by Richmond.
${ }^{26}$ See Landefield, Moulton, Platt, and Villones, "GDP and Beyond: Measuring Economic Progress and Sustainability," (BEA, Survey of Current Business, April 2010). The authors report average real per capita deductions between 2000 and 2007 of $\$ 14,437$ (now revised to $\$ 14,433$ ). Average real per capita PI was $\$ 34,875$. BEA first removes personal current taxes $(\$ 4,114)$ to get to disposable personal income (\$30,761), then deducts the consumption expenditures on "basics" to arrive at discretionary income (revised $\$ 16,328$ ), But in a before-tax measure of DI, we would not remove personal current taxes. Nor would we deduct the portion of the consumption expenditures going to excise taxes on "basics."
${ }^{27}$ See Aten, Figueroa, and Martin, "Regional Price Parities by Expenditure Class, 2005-2009" (BEA, Survey of Current Business, May 2011).
${ }^{28}$ In our previous report the business component of GTR was labeled "Gross Operating Surplus" (GOS), but this required bending BEA's definition of GOS, which does not include the net taxes on production and imports (TOPI). Capital value added (equivalently, "Capital Charges" or CC) is the more technically accurate term for the identity: V CC GOS + TOPI GSP - COE (where COE is Compensation of Employees).

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