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POVERTY AND PROGRESS IN NEW YORK X

Income Inequality Trends Under de Blasio

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Executive Summary

New York mayor Bill de Blasio assumed office in January 2014, promising to "take dead aim at the Tale of Two Cities . . . [and] put an end to economic and social inequalities that threaten to unravel the city we love."[1] As his administration nears the end of its third year, his promise remains unfulfilled. Moreover, his promise may be unfulfillable by any measures that can improve the life chances of lower-income New Yorkers.

Key Findings:

- Household income inequality, as measured by the Census Bureau's Gini coefficient, has risen moderately since the end of the Great Recession in June 2009, and since the beginning of the current mayor's term in January 2014.

- Earned income inequality has also risen moderately, as measured by Theil's Index, also called Theil's T. Unlike the Gini coefficient, Theil's Index allows researchers to more rapidly predict inequality in cities as measured by income-tax data, using the most recent wage and employment data.

- Earned income inequality in New York is driven almost entirely by the city's specialization in the financial sector. Finance employs 4% of the labor force but accounts for 19% of city wages and salaries.

New York is the global center of dollar-denominated financial activities, much as San Francisco specializes in tech and Houston specializes in energy. Compensation trends and the distribution of income reflect the reality that the most successful cities tend to have a specialized industry cluster at the heart of their labor market.

I. Introduction

The Gini coefficient is one of the better-known measures of income inequality. In simplified terms, the Gini coefficient, or index, measures income inequality in a country or other group. The coefficient ranges between 0 and 1, where 0 represents perfect equality (everyone has the same income) and 1 represents perfect inequality (one person has all the income).

There are other measures. One can compare, for example, the share of income received by the top 1% versus the rest; the ratio of the average incomes of the 1st percentile to the 99th percentile; or the evolution of the threshold required to enter each income quintile over time. All these comparisons describe income inequality at one point in time or changes in income inequality over time.

Another measure, known as "Theil's T" or "Theil's Index," is used in academic analyses but is not often reported or discussed in the news media. When individual income data are available, this index formulates a weighted number for each individual and then sums the numbers up into the final index number. Unlike the aggregative Gini coefficient, individual "Theil elements" can be defined for subgroups and then analyzed within and across subgroups.

Using Theil's Index, for example, one could determine whether national income inequality is driven more by inequality within states or across states; within counties or across counties; or within industries versus across industries. Considered this way, the total Theil's Index is computed by summing the "between-group" element with the "within-group" element of total inequality.[2]

Theil's Index enables researchers to estimate the "between-group" component of inequality even when they do not have access to individual income data. In other words, even if one cannot observe the "within-group" elements of inequality, one can observe the "across-group" elements.

High-quality individual income data are available only with a multiyear lag, especially for subnational geographies. But local-area Quarterly Census of Employment and Wages (QCEW) data by industry sector are available for New York City, with preliminary annual estimates available within a year.[3]

The ability to compare subgroups is an advantage that Theil's T has over other inequality measures.

Theil's T tells a much richer story about the labor market than is possible with quintile shares or the indivisible Gini coefficient. Traditional analysis simply shows that the rich are rich and the poor are poor, and by how much. Theil's T can show which industries (or any measurable subgroup) in a city contribute to measured overall inequality. Theil's T also makes it clear that, once migration is taken into account, boosting the income *share* of the local bottom quintile in a city is not synonymous with, or even necessarily consistent with, raising this group's income.

II. Income Inequality in New York City Is Rising

The Census Bureau's American Community Survey (ACS) reports a household Gini coefficient for various local geographies, including New York City.[4] ACS data are considered a less effective estimator of income than the national-level Current Population Survey (CPS), which asks a series of detailed income questions.[5] But CPS data tend to underreport incomes at both the top[6] and the bottom.[7] In any case, ACS data provide the only local-geography source of income inequality estimates from the census.

Figure 1 depicts the Gini coefficient for New York City over the past decade. It clearly shows rising household income inequality, as measured by the ACS since the end of the Great Recession (in mid-2009). Nonetheless, a full picture of trends in income inequality in the city requires a comprehensive evaluation using multiple methods and data sets,

FIGURE 1.

New York City's Household Gini Coefficient, 2006–15*
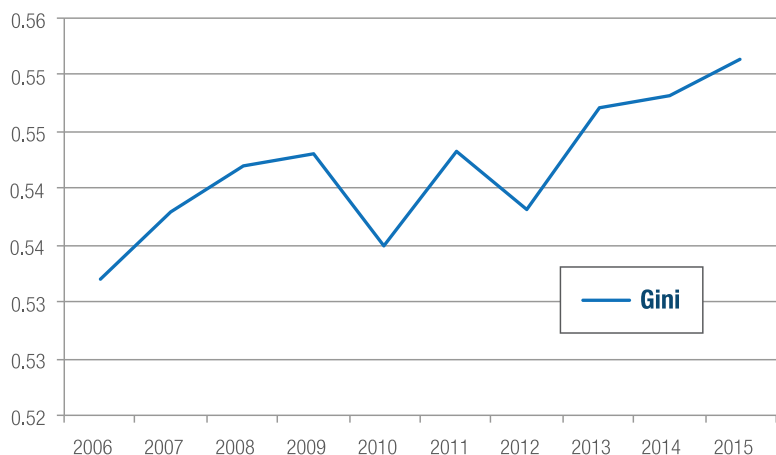
Source: U.S. Census Bureau, American Community Survey
*Note: The higher the fraction, the more unequal is the distribution of household income.

including Theil's T from QCEW data and some measure of the top 1% income share from income-tax data.

Figure 2 depicts a Theil's T for New York across the city's industry sectors (measured at the three-digit NAICS [North American Industry Classification System] code level) since 2000. It is constructed from wage and employment data and does not include income or gains from investments, or the value of noncash employee benefits. Nonetheless, if trends in nonwage income and household structure are stable, changes in this index of wage inequality should prove predictive of change in total household income inequality. Like the Gini coefficient, Theil's T has no units. Unlike the Gini Coefficient, which has a fixed limit and stable interpretation in English between 0 and 1, the limit of Theil's T depends on the number and size of groups, and so the level is not always comparable across contexts. Rather, it's most useful in showing changes over time at whatever level of aggregation is available.[8]

Figure 2 suggests that variation in Theil's T proves predictive of the key inequality metric in a 2012 analysis conducted by the New York State Comptroller's Office in New York City.[9] In addition to analysis of the general shape of the income distribution, that study focused on the ratio of the average income of the top 1% of filers vs. the average income of the bottom 99% of filers during 2000–2009. I call this the "Comptroller's Income Ratio," to distinguish it from the similar-sounding, but technically different, "top 1% share." **Figure 3** shows both measures on a two-axis scale, with the Comptroller's Income Ratio on the left scale and Theil's T on the right:

Figure 3 points to an important fact about income inequality in New York. Theil's Index is a synthetic measure that is very sensitive to the proportionality of income shares. When a group's average income substantially exceeds the population average, Theil's Index rises nonlinearly.[10] In 2015, the "Financial Investment & Related Ac-

FIGURE 2.

Theil's T for New York City, Cross-Sector Earned Income Inequality, 2000–15*
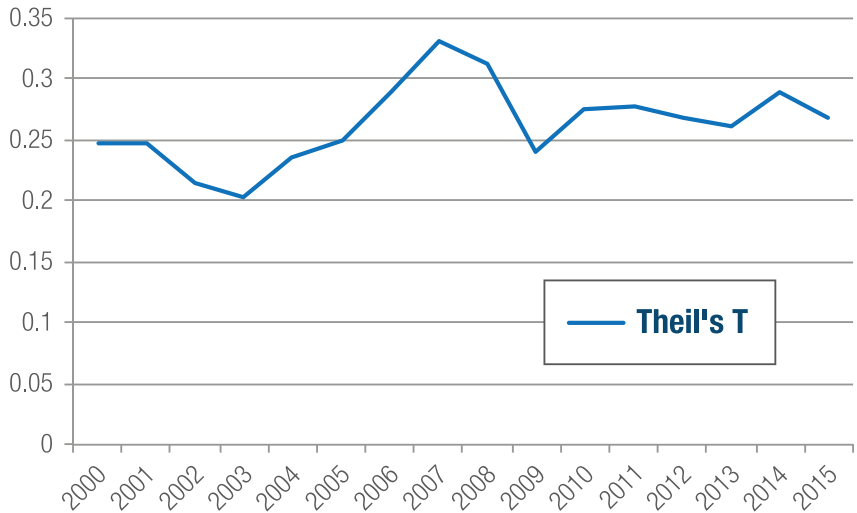
Source: Author's calculation from Quarterly Census of Employment and Wages
*Note: When Theil's T declines in the graph above, it means that overall inequality in the labor force has declined; when Theil's T rises, it means that overall inequality has increased.

FIGURE 3.

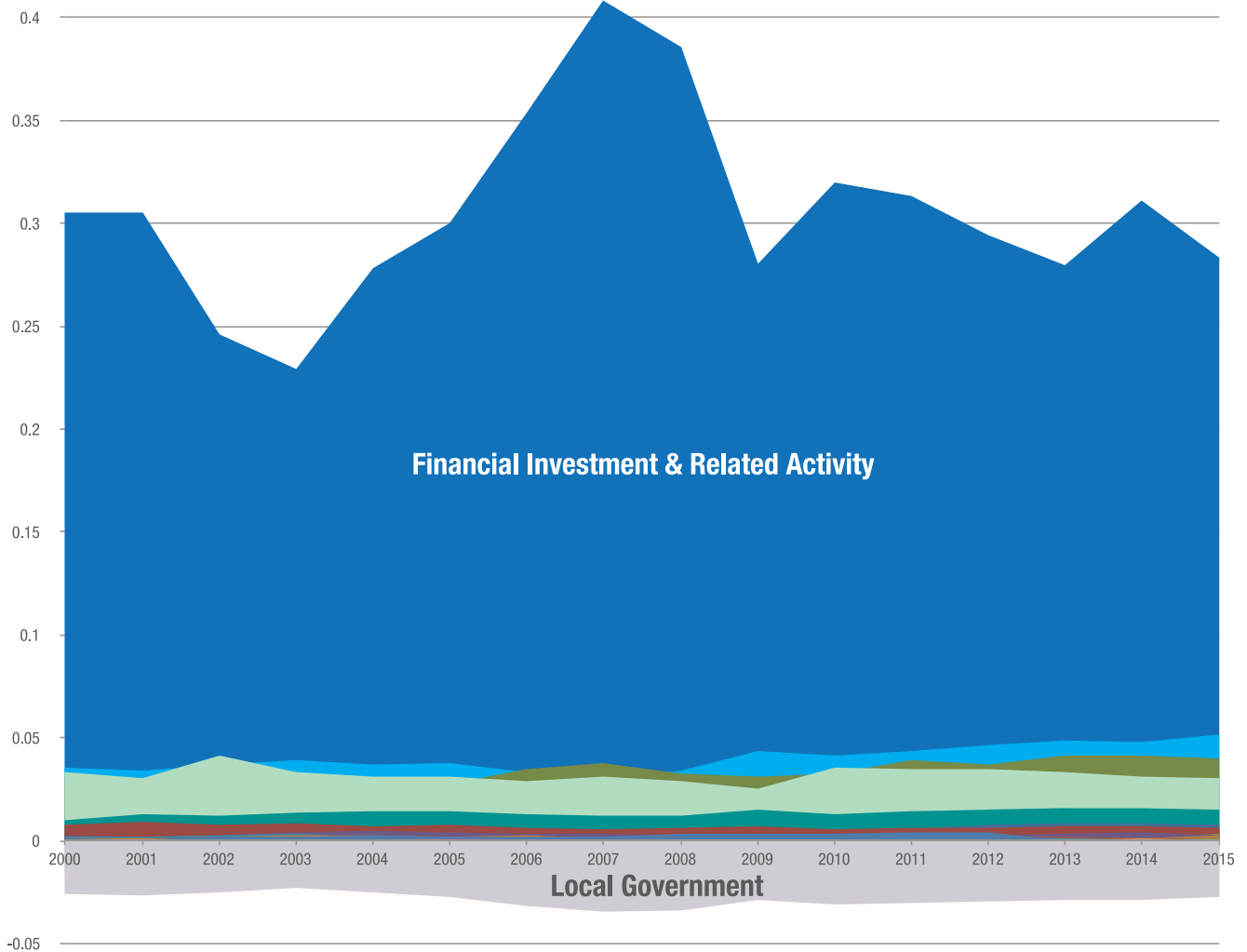## Cross-Sector Theil's T vs. Comptroller's Income Ratio in New York City*
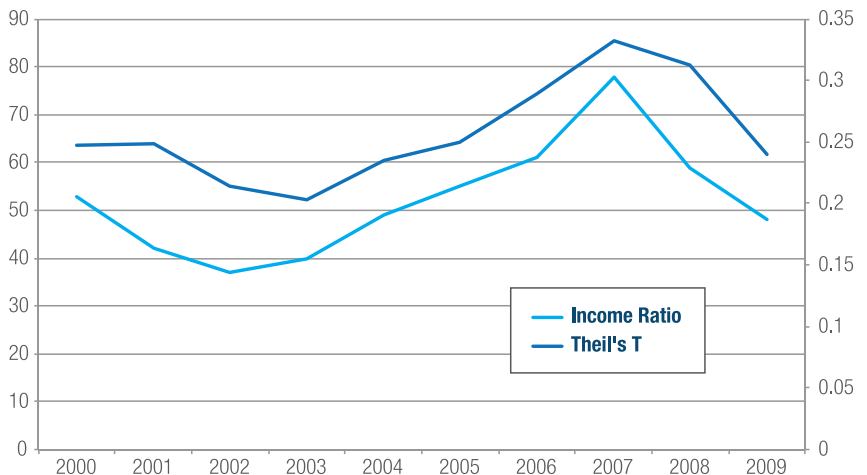
Source: New York City Comptroller's Office, "Inequality in New York City," May 2012, and author's calculation from QCEW data
*Note: To understand the numbers on the left y-axis: the average income of the top 1% of income-tax filers in 2000 was 53 times the average income of all other tax filers.

FIGURE 4.

Theil's Index: Breakdown by Industry Sector*

Financial Investment & Related Activity

Local Government

| Highest Income Concentration | Financial Investment & Related Activity | Professional and Technical Services | Credit Intermediation & Related Activity |
| | Management of Companies and Enterprises | Insurance Carriers & Related Activities | |

| Lowest Income Concentration | Administrative and Support Services | Social Assistance | Ambulatory Health Care Services |
| | Food Services and Drinking Places | Local Government | |

Source: Author's calculation from QCEW data

*Note: This chart shows the relative importance of various economic sectors in New York City based on salary and wages. Any sector with above-average wages contributes a positive Theil element, while any sector with below-average wages contributes a negative Theil element to the total index. Because local government workers receive nontaxable benefits equal to half or more of their money wages on average, their money wages appear deceptively low.

tivities" sector of the Census Bureau's NAICS had about 4% of New York City's employment but about 19% of the wages and salaries. Unsurprisingly, finance dominates the cross-sector Theil's Index in New York City. **Figure 4** reprised **Figure 2** but decomposed into each sector's "Theil element"—the individual sector's contribution to the total Theil's Index.

III. Conclusion

Earned income inequality in New York City is substantially driven by the labor-market health of its core industry cluster in financial services.

This fact leads to a paradox for policymakers, such as Mayor de Blasio, who put a priority on reducing inequality. New York's efforts to help the city's low-income residents—either directly, through services, or indirectly, through flexible zoning and extensive public transportation—make it easier for them to remain in the city, rather than moving elsewhere. This "retention effect," ceteris paribus, *raises* measured inequality.

Generally, a booming city might tighten its land-use regulations and wait for job growth to bid the fixed number of local housing units out of reach of lower-income residents, inducing them to leave. Or a city could regulate and tax its superstar businesses or industries enough to slow job growth or even drive them out. Both strategies would reduce income inequality. Both are obviously perverse.

More concretely: New York City *could* reduce the unequal distribution of income in the five boroughs by evicting the existing poor and refusing to ease zoning-induced housing scarcity (keeping out future low-income immigrants). Or the city *could* drive out the moneychangers (and its tax base) to Connecticut, New Jersey, and Florida. Falling local inequality, in other words, could be the sign of a less accessible city to migrants, on the one hand, or a less successful city, on the other hand—rather than a more inclusive city.

However unpalatable it might appear to some, perhaps New York's continued economic diversity—also known as income inequality—in the context of a strong local economy suggests that nothing is amiss. Perhaps good city governance should avoid the red herring of local inequality as a policy indicator, focusing instead on inclusive urban growth, efficient public services, and the alleviation of acute suffering.

Endnotes

1   See "Text of Bill de Blasio's Inauguration Speech," New York Times, Jan. 1, 2014.

2   See Travis Hale, "The Theoretical Basics of Popular Inequality Measures," University of Texas Inequality Project.

3   New York State NYS Department of Labor, "Quarterly Census of Employment and Wages," accessed July 7, 2016.

4   U.S. Bureau of the Census American Factfinder, "B19083: Gini Index of Income Inequality," 2015 American Community Survey 1-Year Estimates.

5   U.S. Bureau of the Census, "Fact Sheet: Differences Between the American Community Survey (ACS) and the Annual Social and Economic Supplement to the Current Population Survey (CPS ASEC)," May 16, 2016.

6   Scott Winship, "The Inequality Non-Explainer, Explained," Forbes.com, Oct. 3, 2014.

7   Jonathan L. Rothbaum, "Comparing Income Aggregates: How Do the CPS and ACS Match the National Income and Product Accounts, 2007–2012," U.S. Census Bureau, SEHSD Working Paper 2015-01, Jan. 14, 2015.

8   Hale, "The Theoretical Basics of Popular Inequality Measures."

9   New York City Comptroller's Office, "Inequality in New York City," May 2012.

10   In this form, restricted to cross-group analysis, Theil's Index asks two questions: What is the ratio of the group's income to the population average, and what share of the population is the group? It then weights the product of those two questions by the natural log of the group's income ratio.