2016 Price Index of Operating Costs

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2016 Price Index Of Operating Costs

What's New

- ✔ The Price Index of Operating Costs (PIOC) for Rent Stabilized Apartment Buildings decreased 1.2% this year.
- ✔ All costs in natural-gas heated buildings increased 0.5% and all costs in fuel-oil heated buildings declined 2.8%.
- ✔ The "core" PIOC, which excludes the changes in fuel oil prices, natural gas, and electricity costs, is useful for analyzing inflationary trends. The core rose by 4.2% this year.
- ✔ Fuel costs decreased 41.2%.
- ✔ Real estate taxes increased 7.5%, primarily due to a rise in assessments for Class Two properties.
- ✔ The Utilities component decreased by 0.3%, due to steep declines in electric and natural gas costs, but offset by an increase in water and sewer rates.
- ✔ Insurance Costs increased by 8.2%.
- ✔ The Price Index of Operating Costs for Rent Stabilized Apartment Buildings is projected to increase 5.5% next year.

Introduction

The Price Index of Operating Costs (PIOC) measures the price change in a market basket of goods and services used in the operation and maintenance of rent stabilized apartment buildings in New York City. The goods and services that make up the market basket were originally selected on the basis of the findings of a study of 1969 expenditure patterns by owners of rent stabilized apartment buildings. Changes in the specification of some of these goods and services have been carried out over time to maintain the representativeness of the market basket. The relative importance of the various goods and services in the market basket was updated in 1983 by means of a study of expenditure patterns of owners of rent stabilized apartment buildings. In the most notable change to the PIOC, in 2015, expenditure weights were switched to those found in the annual *Income and Expense (I&E) Study*, which allows for the annual updating of expenditure patterns based on what owners report to the Department of Finance as their actual costs. In addition an annual survey, part of the Owner Survey sent to the owners of 5,100 randomly selected buildings each year, allows for an update of the individual items within the components.[1]

The Price Index of Operating Costs for Rent Stabilized Apartment Buildings fell ...

The Price Index measures changes in the cost of purchasing a specified set of goods and services, which must remain constant both in terms of quantity and quality from one year to the next. The need to exclude the effect of any alterations in the quality of services provided requires that very careful specifications of the goods and services priced must be developed and applied. The pricing specifications must permit the measurement of changes in prices paid for carefully defined pricing units with specific terms of sale, such as cash, volume or trade discounts. For certain items, such as real estate taxes, the price paid is determined administratively, through information collected from City records.

Changes in the overall PIOC result from changes in the prices of individual goods and services, each weighted by its relative importance as a percentage of total operating and maintenance (O&M) expenditures. Because the market basket is fixed in the sense that the quantities of goods and services of each kind remain constant, the relative importance of the various goods and services will change when their prices increase either more quickly or more slowly than average. Thus, the relative importance, or weight, attached to each good or service changes from year to year to reflect the different rates of price change among the various index items. As already noted, the expenditure weights used in the construction of the *2016 Price Index* are based upon expenditure patterns reported in the I&E study.

Terms and Definitions

Price Index - the measure of price change in a market basket of goods and services.

Component - categories of goods and services, such as Labor Costs or Taxes, that comprise the market basket of a price index.

Item - representative individual goods and services within a component, such as Pushbroom, Plumbing, Faucet or Roof Repair.

Price Relative - the ratio of current and prior year's prices.

Expenditure Weight - the relative importance of the change in costs of different goods and services.

Specification - defined pricing units with specific terms of sale, such as cash, volume or trade discounts.

Apartments

Change In Costs for Rent Stabilized Apartment Buildings, March 2015 to March 2016

Taxes	7.5%
Labor Costs	3.2%
Fuel	-41.2%
Utilities	-0.3%
Maintenance	2.8%
Administrative Costs	2.7%
Insurance Costs	8.2%
All Costs	**-1.2%**

In turn, those weights are based on an analysis of expenses as reported by owners in Real Property Income and Expense (RPIE) statements (as required by Local Law 63, enacted in 1986). These statements are submitted annually to the NYC Department of Finance and represent reported expenses by building owners with stabilized units, based on the most recent complete calendar year at the time of filing.[2] Note that only the Apartment PIOC is weighted with data from RPIE reports. The Hotel and Loft PIOC continue to use the pre-2015 methodology.

The importance of each index component is shown by its "expenditure weight" (see Appendix 2). The measured 2015-16 price changes in each index component are also presented in Appendix 2. The expenditure weights and the 2015-16 price changes are then combined to provide the overall change in the PIOC over the period from 2015-16.

The PIOC consists of seven cost components, each designed to measure changes in a category of costs such as fuel, insurance and utilities. The methodology for each component is described in the final section of this report. For a full description of the methodological changes to the weights used in the current PIOC, please refer to the *2015 Price Index of Operating Costs* report.

Overview

This year, the PIOC for all rent stabilized apartment buildings decreased by 1.2%. Increases occurred in all PIOC components except Fuel and Utilities, which declined by 41.2% and 0.3%, respectively. The largest increase in any component was seen in Insurance Costs (8.2%), followed by Taxes (7.5%). More moderate increases occurred in Labor Costs (3.2%), Maintenance (2.8%), and Administrative Costs (2.7%). The growth in the Consumer Price Index (CPI) during this same time period was higher than the PIOC, rising 0.3%.[3] See the adjacent table and Appendix 2 for changes in costs and prices for all rent stabilized apartment buildings from 2015-16.

The "core" PIOC, which excludes changes in fuel oil, natural gas, and electricity costs used for heating buildings, is useful for analyzing long-term inflationary trends. The core PIOC rose by 4.2% this year and was higher than the overall PIOC due to the exclusion of the costs in the Fuel component, which declined 41.2%.

Price Index Components

Taxes

The Taxes component of the PIOC is based entirely on real estate taxes and accounts for over one-quarter of the overall price index. The change in tax cost is estimated by comparing aggregate taxes levied on rent stabilized apartment buildings in Fiscal Year (FY) 2015 and FY 2016.

Aggregate real estate taxes rose this year by 7.5%. The growth in taxes was due to a 8.0% rise in assessments and a slight rise in the Class 2 tax rate of 0.2%. The rise in assessments and tax rate was offset by a rise in the total value of exemptions, which had the effect of lowering the total rise in taxes by 0.8%.

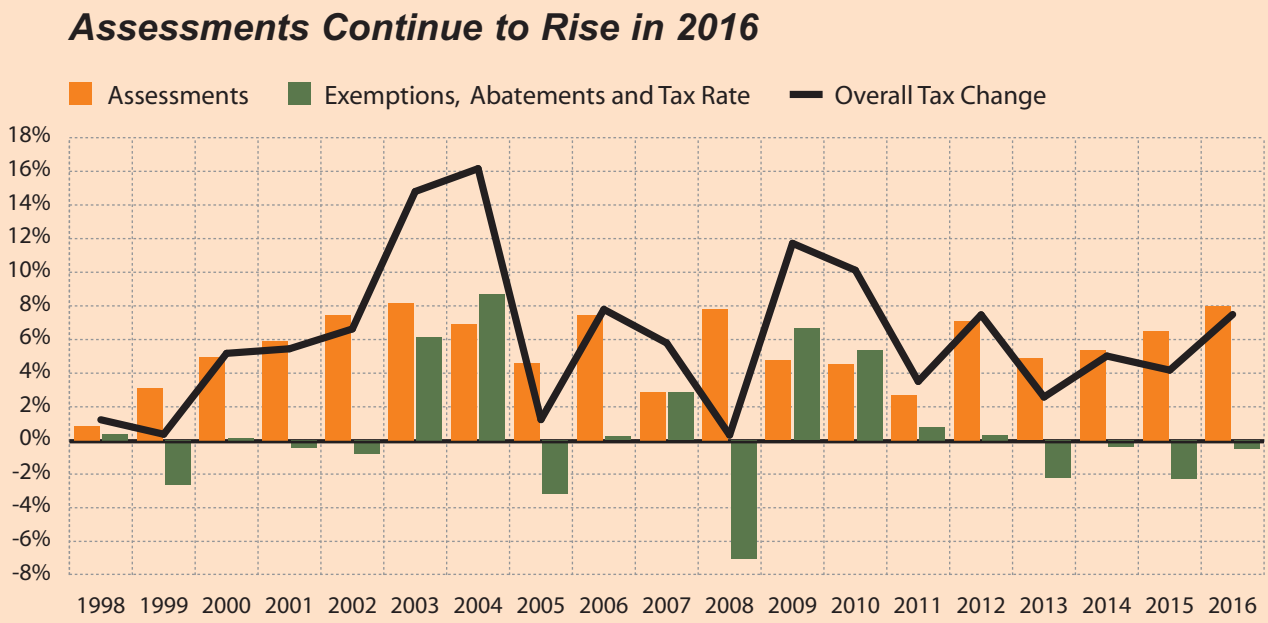
Tax Levy — The total tax levy for all properties in the City (commercial and residential) increased by 6.9% from FY 2015 to FY 2016. The total Class Two property levy rose at a faster pace than that of the City as a whole, at a rate of 8.0%. The distribution of the levy among property classes tends to shift from year to year. From FY 2015 to FY 2016, the levy share for Class Two properties increased by 0.3 percentage points, from 36.2% to 36.5% of the total tax burden. Although the Class Two levy share declined, it is still significantly higher than the 26.3% share that was established at the inception of the four-class tax system in 1983.

Tax Rate — The average annual FY 2015 Class Two tax rate of 12.855 increased by 0.2%, resulting in a new annualized rate of 12.883 for FY 2016. This is the first time in four years that the Class Two tax rate increased. For a historical perspective of changes in the tax rate, abatements, and exemptions, see the green bars on the graph on this page.

Assessments — Assessed valuations of properties containing rent stabilized units rose by 8.0% citywide in FY 2016. Assessments rose in all five boroughs, with Brooklyn witnessing the highest growth at 10.3%, followed by Queens and the Bronx at 8.6%, Manhattan at 7.4% and Staten Island at 6.0%. Buildings in Manhattan generally drive much of the change in assessed value Citywide. This was true in FY 2016, with 63% of all valuations emanating from this borough. For a historical perspective of changes in tax assessments, see the orange bars on the graph on this page.

Abatements and Exemptions — This year, the number of rent stabilized buildings receiving tax abatements declined by nearly 50% from the previous fiscal year. However, the average benefit value of the typical tax abatement increased, by 21.7%, from FY 2015 to FY 2016. The net impact of the decrease in the number of

Percent Change in Taxes due to Assessments and Exemptions/Abatements/Tax Rate 1998-2016



Source: New York City Department of Finance

abatements and the increase in the average abatement value was a negligible increase in the tax liability for rent stabilized buildings of 0.03%.

In FY 2016, 0.3% more rent stabilized buildings benefited from tax exemptions. In addition, the value of the average tax exemption increased by 4.5%. This combination of an increase in the average value of tax exemptions and the number of buildings receiving exemptions resulted in owners' tax bills decreasing by 0.8%. (See Appendices 5 and 6.)

Labor Costs

The Price Index measure of Labor Costs includes union and non-union salaries and benefits, in addition to Social Security and unemployment insurance. The cost of unionized labor makes up two-thirds of the Labor Costs component. The entire Labor Costs component comprises 16.2% of the overall Price Index.

Labor Costs rose 3.2%, compared to 3.8% in the previous year. The rise in Labor Costs was due to increases in union and non-union wages, as well as rises in healthcare and pension contributions.

Wages comprise three-quarters of the Labor Costs component. Non-union pay increased by 5.8%, 1.8 percentage points higher than the increase seen in the *2015 PIOC* (4.0%). Unionized wages also rose, rising by 3.0%, a 0.3 percentage point increase from last year. A moderate (0.7%) increase in health and welfare benefits, which comprises more than 21% of the component, kept the overall increase from being higher.

Fuel

The Fuel component comprises 12.0% of this year's Price Index. The change in cost measured in this component considers both the change in weather and the change in prices for heating multifamily buildings by fuel oil, natural gas, steam, and electricity.[4]

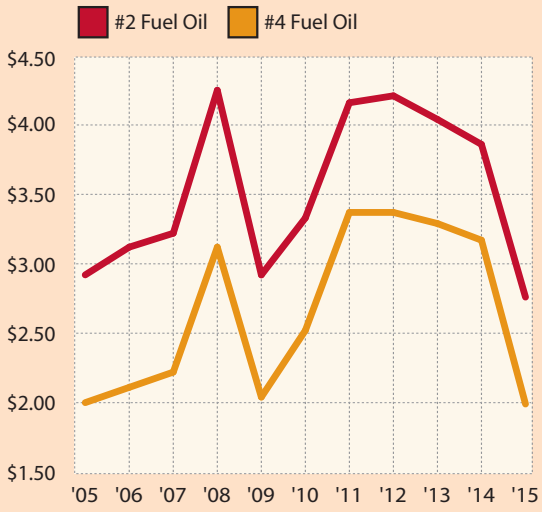
This year the Fuel component declined 41.2%, following a 21.0% decrease in the prior year. The cost for heating buildings by fuel oil makes up over two-thirds of this component. Fuel oil costs declined 45.5%. Natural gas costs, which account for 29% of this component, also declined, falling 31.6%. Steam costs fell 31.2%, but these costs only account for roughly three percent of the Fuel component.

As stated above, the fuel oil cost items carry the most weight in the Fuel component. The PIOC measured fuel oil prices from April to March and then compared them to the same months from the previous year. Over the past 12 months, fuel oil prices, which do not take weather into account, decreased by 30.9%. The price for #2 oil, which comprises about half of this component, fell by 27.4%. Prices for #4 heating oil, comprising 22% of this component, also declined, falling 38.6%. The cost of #6 oil, which has been phased out in New York City, was not calculated (see Methodology for more information).

The graph on this page demonstrates that inflation-adjusted fuel prices have both risen and fallen

Average Inflation-Adjusted Fuel Oil Prices per Gallon, 2005-2015

Average Fuel Oil Prices Have Fluctuated Over the Past Ten Years



Note: Prices are in constant 2015 dollars.
Source: NYC RGB Price Indices of Operating Costs, 2005-2016

Fuel Oil Cost Relatives vs. Change in Fuel Prices, 2007-2016

PIOC Year	Fuel Oil Cost Relative*	Change in Fuel Oil Price**
2016	-45.5%	-30.9%
2015	-23.4%	-22.5%
2014	7.8%	0.3%
2013	20.0%	2.9%
2012	1.6%	20.8%
2011	23.1%	20.3%
2010	0.5%	6.7%
2009	-10.1%	-16.9%
2008	37.4%	38.4%
2007	0.5%	-3.0%

* The Fuel Oil Cost Relative factors in the effect of weather on total fuel oil consumption. In months that are colder than the same month in the prior year, the weather factor will put upward pressure on the fuel oil relative. In months that are warmer than the same month in the prior year, downward pressure is placed on the Fuel Oil component.

** Weighted change in #2, #4 and #6 fuel oil prices. From 2016 forward, weighted change in #2 and #4 fuel only prices only.

Source: NYC RGB Price Indices of Operating Costs, 2007-2016

drastically over the past 10 years. Between calendar years 2014 and 2015, prices for #2 oil fell 28.5% in real terms, and prices for #4 oil fell 37.1%. The average price for all grades of fuel oil in calendar year 2015 was $2.57 a gallon, which is a pure price that does not factor in weather. Adjusted for inflation, the average price in 2005 was $2.75 a gallon. Prices for both #2 and #4 oil are at their lowest level in the past 10 years, with prices for all fuel grades 6.6% lower than 2005, and 36.2% lower than the 10-year high of $4.03 in 2008.

Along with measuring price, the PIOC also takes into account the effect of weather on the demand for fuel oil, especially during the heating season when the large majority of fuel is burned. Since the weather this year was much warmer than last year, the decline in fuel oil costs was pushed lower than the drop in fuel oil prices, with prices falling 30.9%, but costs falling 45.5%. In years where the weather does not vary much from the prior year, the change in the cost of fuel oil is roughly equal to that of the change in price, such as in 2015. See the table on this page for a comparison of the past ten years of fuel oil cost relatives to fuel oil prices.

Utilities

The Utilities component consists of non-heating natural gas and electricity costs, as well as water and sewer charges, and it comprises 11% of this year's Price Index. In the case of the gas and electricity items, changes in costs are measured using the PIOC specifications (e.g., the quantity of electricity and gas being purchased) and the changes in rate schedules. Water and sewer costs are based on rate adjustments set by the NYC Water Board and they account for over 70% of the Utilities component.

This year Utilities decreased 0.3%, compared to a 1.2% rise in the previous year. The decline in this component was driven by decreases in the cost of electricity and natural gas. Electricity costs, which account for more than 28% of the weight in this component, declined by 8.2%, while gas costs, which account for less than one percent of the Utilities component, fell 11.6%. But water and sewer charges, which account for more than 70% of the weight in the component, rose, by 3.0%.

Maintenance

The Maintenance component accounts for 16.7% of this year's Price Index. The Maintenance component rose 2.8%, slightly lower than last year's rise of 3.0%. Of the 39 expense items contained in this component, just three items account for more than half of its expenditure weight: Repainting, Plumbing (faucet), and Plumbing (stoppage). This year, painters' rates rose 3.4%. Combined plumbing rates increased at a slower pace, rising 1.6%. Painters and plumbers reported that increases in the cost of labor and materials were the primary factors that led to an increase in their rates.

Other price increases of note were boiler repairs (-0.3%), elevator contracts (6.7%) and roof repair (5.9%), which represent a total of six expense items

and account for 23% of this component. See Appendix 2 for the price relatives and expenditure weights for all Maintenance items.

Administrative Costs

Fees paid to management companies, accountants, and attorneys make up nearly this entire component. Following an expense survey in 2015, two new items, copy paper and post office boxes, were added to the component this year. This year, Administrative Costs rose 2.7%, lower than last year's rise of 3.9%. Administrative Costs comprise 12.7% of the PIOC.

A large portion of the growth in the Administrative Costs component can be attributed to a rise in management company fees (3.6%) that comprise just over half of this component (see Methodology for changes in the weighting of Administrative Costs items in 2016). Management fees are often tied to apartment rental income and are affected by changes in rents and vacancies. This year's growth is lower than last year's (4.2%), indicating that management companies decreased their fees and/or rents increased at a slower pace than last year. This smaller rise in management fees may also indicate that vacancies and/or collection losses in the buildings they manage increased compared to the previous year.

Accounting fees increased in this year's PIOC by 2.3%, lower than last year's rise of 3.1%. Attorney fees rose 2.4%, 1.6 percentage points lower than last year's growth of 4.0%.

Communications, which accounts for just over 6% of the Administrative Costs component, decreased 1.2%. The two new items, copy paper and P.O. boxes rose by 1.7% and 2.5%, respectively. (See Appendix 2.)

Insurance Costs

For the fifth consecutive year there was an increase in the Insurance Costs component, rising 8.2%, compared to last year's increase of 7.2%. Insurance Costs account for 4.9% of the PIOC.

Changes in insurance costs for owners varied by the amount of the policy. Policies that cost more than $5,513, which represent half of all verified insurance quotes, saw an average increase in cost of 8.5% upon renewal. Meanwhile, buildings with policies of $5,513 or less saw an increase of 6.8%.

PIOC by Building Type

The 1983 Expenditure Study provided a basis for calculating separate sets of expenditure weights for different types of buildings that contain rent stabilized units. In addition to the price index for apartments, the PIOC includes separate indices for buildings constructed before 1947 (pre-1947) and for buildings constructed in 1947 or later (post-1946), as well as gas-heated and oil-heated buildings. Although the expenditure weights for all rent stabilized buildings and for each of the four subcategories of buildings differ, the price changes are the same for each of the five indices. (See Appendices 2 and 3.)

Typically, buildings constructed before 1947 incur a lower percentage of operating and maintenance costs for property taxes and labor costs than post-1946 buildings, which rose 7.5% and 3.2%, respectively. However, their fuel costs for heating, which decreased by 41.2%, represent a significantly higher percentage of total operating and maintenance costs. As a result, costs in Pre-1947 buildings fell, with a PIOC of -2.2%, while cost rose in Post-1946 buildings, by 0.2%.

Indices were also calculated for different types of heating systems. These heating system indices differ from the price index for apartments because the expenditure weight for the Fuel component differs from index to index. Buildings heated with fuel oil witnessed a decline in overall costs, resulting in an Oil-Heated PIOC of -2.8%, primarily because cost of fuel oil dropped 45.5%. Similarly, Gas-heated buildings witnessed a significant decrease in natural gas costs of 31.6%, but the Fuel component carries less weight in the Gas-Heated index (10.1%) than the Oil-Heated index (14.2%). As a result the price index for Gas-Heated buildings witnessed a moderate increase of 0.5%.

Rent Stabilized Hotels

The Hotel Price Index includes separate indices for each of three categories of rent stabilized hotels (due to their dissimilar operating cost profiles) and a general index for all stabilized Hotels. The three categories of hotels are: 1) "traditional" hotels — a multiple dwelling that has amenities such as a front desk, maid or linen services; 2) Rooming Houses — a multiple dwelling other than a hotel with thirty or fewer sleeping rooms; and 3) single room occupancy hotels (SROs) — a multiple dwelling in which one or two persons reside separately and independently of other occupants in a single room.

The Price Index for all stabilized Hotels declined 3.8% this year, a 3.6 percentage point drop from the 0.2% fall in 2015. It is important to note that the Hotel PIOC was not re-weighted using the RPIE data. However, in order to maintain symmetry between indices, the expense items were aligned to the seven components now used in the Apartments PIOC. The realignment of the hotel expenditure items had no impact on the change in the overall PIOC, and would have still been -3.8% if the old components were used.

This year, the Hotel Fuel component declined 39.1%, due to significant declines in the cost of fuel oil and natural gas costs used for heating hotel buildings in NYC. The Fuel component accounts for nearly 20% of the entire Hotel Index. Five of the remaining six components witnessed cost increases, with Insurance having the highest rise of 8.2%, followed by Taxes at 7.3%. More moderate increases were seen in Labor Costs (4.3%), Maintenance (0.9%), and Administrative Costs (2.2%). Costs fell in the Utilities component, by 2.0%. See the table on this page for changes in costs and prices for all rent stabilized hotels from 2015-2016.

Among the different categories of Hotels, the index for "traditional" hotels decreased 1.1%, Rooming Houses fell 4.7%, and SROs fell by the greatest proportion, 11.7%. (See Appendices 4 and 7.)

Hotels

Change In Costs for Rent Stabilized Hotel Buildings, March 2015 to March 2016

Taxes	7.3%
Labor Costs	4.3%
Fuel	-39.1%
Utilities	-2.0%
Maintenance	0.9%
Administrative Costs	2.2%
Insurance Costs	8.2%
All Costs	**-3.8%**

Rent Stabilized Lofts

Similar to the Hotel Index, the Loft PIOC expenditure component weights were not reweighted using the RPIE data. However, the Loft expenditure items were placed into the seven components used in the Apartment PIOC, except for the Attorney Fees expense item, which has traditionally been its own, separate expense component. Therefore, the Loft Index has eight components. Because these items were not reweighted, just moved, the overall change in the Loft PIOC can be compared historically to past indices.

The decrease in the Loft Index this year was 0.3%, 0.7 percentage points lower than the 0.4% increase in 2015. Increases in costs were seen in seven of the eight components that make up this index. Insurance Costs witnessed the highest rise, increasing 8.2%, followed by increases in Taxes

Lofts

Change In Costs for Rent Stabilized Loft Buildings, March 2015 to March 2016

Taxes	7.5%
Labor Costs	3.7%
Fuel	-46.3%
Utilities	1.6%
Maintenance	2.7%
Admin Costs-Legal	2.4%
Admin Costs-Other	3.3%
Insurance Costs	8.2%
All Costs	**-0.3%**

of 7.5%. More moderate increases were seen in Utilities (1.6%) and Maintenance (2.7%). Labor Costs increased by 3.7%, Administrative Costs-Legal by 2.4%, and Administrative Costs-Other by 3.3%. These increases were offset by a decline in the Fuel component of 46.3%. See the table on the previous page and Appendix 8 for changes in costs and prices for all rent stabilized lofts from 2015-16.

The Core PIOC

The Core PIOC, which measures long-term local trends by factoring out shifts in fuel costs for heating rent stabilized buildings in NYC, rose 4.2% in 2016. The rise in the 2016 Core was 5.4 percentage points higher than the Apartment Index (-1.2%), and 0.6 percentage points higher than last year's core (3.6%). The Core PIOC rose at a higher pace than the overall PIOC because fuel costs, which were not used to calculate the Core, declined 41%.

PIOC Projections for 2017

Section 26-510 of the Rent Stabilization Law requires the Board to consider prevailing and projected operating and maintenance costs for buildings containing rent stabilized apartments. Projections for components of the PIOC are performed to provide the Rent Guidelines Board with an estimate of how much costs are expected to rise in the year following the current Price Index. The PIOC Projection is used in correlation with the old "traditional" commensurate rent adjustment formula only. Before the new commensurate formulas were devised, the projection was used to assist the Board in setting guidelines for tenants choosing two- or three-year leases.

It is important to note that changes in costs and prices after March 2016, the last month covered by this study, will be measured in next year's Price Index. The PIOC Projection is not used in the calculation of the 'Net Revenue' and 'CPI-Adjusted NOI' commensurate formulas (see the "Commensurate Rent Adjustments" section on the next page), which calculate one- and two-year guidelines that will compensate owners for the most recent change in costs measured by the Price Index. The PIOC Projection should not be considered in combination with these newer formulas in establishing guidelines.

2017 Projections

Projected Change In Costs for Rent Stabilized Apartment Buildings, March 2016 to March 2017

Taxes	6.1%
Labor Costs	2.5%
Fuel	16.2%
Utilities	2.1%
Maintenance	2.3%
Administrative Costs	4.9%
Insurance Costs	5.0%
All Projected Costs	**5.5%***

*See Endnote 5

Projecting changes in the PIOC has become more challenging in recent years. Energy prices — which represent about one-eighth of the market basket of operating costs measured in the index — have become increasingly volatile. Unpredictable geo-political events, recession and changing weather patterns are some of the forces behind large changes in fuel-related costs (heating fuel oil, electricity, gas and steam) that have in turn hindered the accuracy of the PIOC projections in recent studies. The tax component, which accounts for roughly a quarter of the entire Price Index, has also become harder to project due to changes in tax policy, such as tax rate reductions and changes to the City's tentative assessment roll, after the period covered in this Price Index.

This year, operating costs in rent stabilized apartment buildings decreased by 1.25%, versus last year's projected PIOC increase of 4.20%, a difference of 5.5 percentage points. The components that had the most impact in the disparity between actual changes in costs versus projected changes were Fuel and Utilities. Fuel prices were expected to be flat (0.0%), but actually fell 41.2% in 2016. Utilities, which were projected to rise by 2.6%, fell instead by 0.3%, a difference of 2.9 percentage points. The remaining 2016 projected components of the PIOC were all within 0.6 percentage points of the actual measured changes.

Overall, the PIOC is expected to grow by 5.5% from 2016 to 2017. Costs are predicted to rise in each component, with the largest growth, of 16.2%, projected to be in Fuel Costs. Taxes, which is the component that carries the most weight in the Index, is projected to increase 6.1%. Other projected increases include Insurance (5.0%), Labor Costs (2.5%), Maintenance (2.3%), Administrative Costs (4.9%) and Utilities (2.1%). The table on the previous page shows predicted changes in PIOC components for 2017. The core PIOC is projected to rise 4.0%, 1.5 percentage points lower than the overall projected Apartment PIOC.[5]

Commensurate Rent Adjustments

Throughout its history, the Rent Guidelines Board has used a formula, known as the commensurate rent adjustment, to help determine annual rent guidelines for rent stabilized apartments. In essence, the "commensurate" combines various data concerning operating costs, revenues, and inflation into a single measure indicating how much rents would have to change for net operating income (NOI) in stabilized buildings to remain constant. The different types of "commensurate" adjustments described below are primarily meant to provide a foundation for discussion concerning prospective guidelines.

In its simplest form, the commensurate rent adjustment is the amount of rent change needed to maintain owners' current dollar NOI at a constant level. In other words, the formula provides a set of one- and two-year renewal rent increases or guidelines that will compensate owners for the change in prices measured by the PIOC and keep net operating income "whole."

The first commensurate method is called the "Net Revenue" approach. While this formula takes into consideration the types of leases actually signed by tenants, it does not adjust owners' NOI for inflation. The "Net Revenue" formula is presented in two ways: First, adjusting for the mix of lease terms; and Second, adding an assumption for stabilized apartment turnover and the impact of revenue from vacancy increases. Under the "Net Revenue" formula, a guideline that would preserve NOI in the face of this year's 1.2% decrease in the PIOC is -1.9% for a one-year lease and 0% for a two-year lease. Using this formula, and adding assumptions for the impact of vacancy increases on revenues when apartments experience turnover, result in guidelines of -4.0% for one-year leases and -2.0% for two-year leases.

The second commensurate method considers the mix of lease terms while adjusting NOI upward to reflect general inflation, keeping both operating and maintenance (O&M) costs and NOI constant. This is commonly called the "CPI-Adjusted NOI" formula. A guideline that would preserve NOI in the face of the 0.3% increase in the Consumer Price Index (see Endnote 3) and the 1.2% decrease in the PIOC is -1.7% for a one-year lease and 0% for a two-year lease. Guidelines using this formula and adding the estimated impact of vacancy increases are -3.75% for one-year leases and -2.0% for two-year leases.[6]

The "traditional" commensurate adjustment is the formula that has been in use since the inception of the Rent Guidelines Board. The "traditional" commensurate yields -0.8% for a one-year lease and 1.0% for a two-year lease. This reflects the decrease in operating costs of 1.2% found in the 2016 PIOC and the projection of a 5.5% increase next year.[7]

As a means of compensating for cost changes, this "traditional" commensurate rent adjustment has two major flaws. First, although the formula is supposed to keep owners' current dollar income constant, the formula does not consider the mix of one- and two-year lease renewals. Since only about three-fifths of leases are renewed in any given year, with a preponderance of leases having a two-year duration, the formula does not necessarily accurately estimate the amount of income needed to compensate owners for O&M cost changes.

A second flaw of the "traditional" commensurate formula is that it does not consider the erosion of owners' income by inflation. By maintaining current dollar NOI at a constant level, adherence to the formula may cause profitability to decline over time. However, such degradation is not an inevitable consequence of using the "traditional" commensurate formula.[8]

All of these methods have their limitations. The "traditional" commensurate formula is artificial and

Commensurates

"Net Revenue" Commensurate Adjustment

1-Year Lease	2-Year Lease
-1.9%	0.0%

"Net Revenue" Commensurate Adjustment with Vacancy Increase

1-Year Lease	2-Year Lease
-4.0%	-2.0%

"CPI-Adjusted NOI" Commensurate Adjustment

1-Year Lease	2-Year Lease
-1.7%	0.0%

"CPI-Adjusted NOI" Commensurate Adjustment with Vacancy Increase

1-Year Lease	2-Year Lease
-3.75%	-2.0%

"Traditional" Commensurate Adjustment

1-Year Lease	2-Year Lease
-0.8%	1.0%

does not consider the impact of lease terms or inflation on owners' income. The "Net Revenue" formula does not attempt to adjust NOI based on changes in interest rates or deflation of owner profits. The "CPI-Adjusted NOI" formula inflates the debt service portion of NOI, even though interest rates have been generally falling, rather than rising, over recent years. Including a consideration of the amount of income owners receive on vacancy assumes that turnover rates are constant across the City.

Finally, it is important to note that only the "traditional" commensurate formula uses the PIOC projection and that this projection is not used in conjunction with or as part of the "Net Revenue" and "CPI-Adjusted NOI" formulas. As stated previously, all three formulas attempt to compensate owners for the adjustment in their operating and maintenance costs measured each year in the PIOC. The "Net Revenue" and the "CPI-Adjusted NOI" formulas attempt to compensate owners for the adjustment in O&M costs by using only the known PIOC change in costs (-1.2%). The traditional method differs from the other formulas in that it uses both the PIOC's actual change in costs as well as the projected change in costs (5.5%). If the change in projected costs, which may not be an accurate estimate of owner's costs, is added to the "Net Revenue" and "CPI-Adjusted NOI" formulas, the resulting guidelines will likely over- or under-compensate for the change in costs.

Each of these formulae may be best thought of as a starting point for deliberations. The other Rent Guidelines Board annual research reports (e.g., the *Income and Affordability Study* and the *Income and Expense Study*) and testimony to the Board can be used to modify the various estimates depending on these other considerations.

Methodology

Owner Survey

The Owner Survey gathers information on management fees, insurance, and non-union labor from building managers and owners. Survey questionnaires, accompanied by a letter describing the purpose of the PIOC, were mailed to the owners or managing agents of stabilized buildings. If the returned questionnaire was not complete, an interviewer contacted the owner/manager and gathered the missing information. Owners could complete the survey online. All of the price information given by the owner/managing agent was then confirmed by calling the relevant insurance and management companies and non-union employees.[9]

The sample frame for the Owner Survey included over 40,000 stabilized buildings registered with the New York State Division of Housing and Community Renewal (DHCR). A random sampling scheme was used to choose 5,100 addresses from this pool for the owner mailing. The number of buildings chosen in each borough was nearly proportional

to the share of stabilized buildings in that borough. Three successive mailings were sent at timed intervals to the owner or managing agent of each property selected in the survey sample.

Roughly 10.4% of the questionnaires mailed out received a response, a higher rate than last year (8.9%). A total of 485 returned surveys contained usable information, from which quotes of owners' annual insurance costs (412), non-union labor quotes (147) and management fees (60) were validated. The number of verified prices in 2015 and 2016 for the Owner Survey is shown in Appendix 1.

Taxes

The buildings used to compute the 2016 tax price relative was developed by providing a list of rent stabilized properties registered with DHCR to the NYC Department of Finance. Finance "matched" this list against its records to provide data on assessed value, tax exemptions, and tax abatements for almost 39,000 buildings in FY 2015 and FY 2016. This data was used to compute a tax bill for each stabilized building in each of these fiscal years. The change computed for the PIOC is simply the percentage difference in aggregate tax bills for these buildings from FY 2015 to FY 2016.

Labor Costs

Approximately two-thirds of the Labor Costs component consists of the cost of unionized labor. Rate increases for unionized labor, including wage increases and health benefits, come directly from the contracts of unions that represent workers in rent stabilized apartment buildings and hotels. The cost of Social Security and unemployment insurance is obtained from the NYS Department of Labor and the Internal Revenue Service (IRS). Wage increases for non-union labor are obtained from the Owner Survey (see methodology above).

Fuel

The Fuel component consists of all types of fuel used for heating buildings, including oil, natural gas, electricity and steam.

Over two-thirds of this component is the cost of fuel oil. Fuel oil price information is gathered on a monthly basis via a telephone survey. A monthly survey makes it possible to keep in touch with fuel oil vendors and to gather the data on a consistent basis (i.e., on the same day of the month for each vendor). Vendors are called each month to minimize the likelihood of misreporting and also to reduce the reporting burden for the companies that do not care to look up a year's worth of prices. The number of fuel oil quotes gathered this year for #2 and #4 oil is similar to last year and is contained in Appendix 1. Legislation passed in 2010 (Local Law 43) required building owners to phase out their use of #6 oil in favor of the relatively cleaner #2 and #4 oil, or natural gas, by June 30, 2015. As such, prices for #6 oil, although collected, were not used by staff and the weight of this item was redistributed to the other heating items (including gas and steam). To calculate changes in fuel oil costs, monthly price data is weighted using a degree-day formula to account for changes in the weather. The number of Heating Degree Days (see Endnote 4) is a measure of heating requirements.

The Fuel component includes not only the cost of fuel oil, but also the cost to heat buildings with natural gas, electricity and steam. For these items, RGB staff calculates a hypothetical monthly bill for utilities based in part on supply rates, fuel adjustments, delivery charges, taxes, and other surcharges and fees. Bills are calculated based on typical usage in a multi-family building in New York City, an amount that remains constant from year to year. Because these items represent prices to heat buildings, monthly price data is adjusted to account for changes in weather. The price relatives for all items in the Fuel component were calculated by comparing the most recent 12-month period from April-March with the prior April-March period.

Utilities

The Utilities component consists of costs for non-heating electricity and natural gas, as well as water and sewer charges. RGB staff calculates a hypothetical monthly bill for electricity and natural gas based in part on supply rates, fuel adjustments, delivery charges,

taxes, and other surcharges and fees. Bills are calculated based on typical usage in a multi-family building in New York City, an amount that remains constant from year to year. The price relatives for electricity and natural gas items in the Utilities component were calculated by comparing the most recent 12-month period from April-March with the prior April-March period.

Water and sewer price changes are based on annual rate adjustments set by the NYC Water Board.

Maintenance

All prices for items in this component are obtained via a vendor survey. This survey is used to gather price quotes for items such as painting and other services performed by contractors; hardware and cleaning items (e.g., mops and floor polish); and appliances that need periodic replacement (e.g., refrigerators and stoves). Each year the vendor database is updated by adding new vendors and by deleting those who no longer carry the products or perform the services outlined in the Vendor Survey item specifications. Vendor quotes were obtained over the telephone and for non-service based items from both the telephone and websites that carry items in the PIOC's market basket of goods. A total of 595 recorded price quotes were gathered. For a description of the items priced and the number of price quotations obtained for each item, refer to Appendix 1.

Administrative Costs

Management fees are obtained directly from building owners and managers, via the Owner Survey (see methodology above). Other expense items, such as accountant and attorney fees, are obtained via the Vendor Survey (see "Maintenance" section, above). For communications costs, because there are so many variations in types of plans for internet and phone service, staff relied on the national Consumer Price Index to obtain price changes for these items. Monthly price changes were obtained from the Bureau of Labor Statistics website and were calculated by comparing the most recent 12-month period from March-February with the prior March-February period. For a list of all the expense items contained in the Administrative Costs component, see Appendix 1.

In 2015, as part of the Owner Survey sent to owners and management companies, respondents were asked for detailed information on their administrative costs. Respondents noted how much they spent in 2014 for items such as management, accounting, and attorney fees, as well as office supplies, equipment costs, communication services, and advertising. Based on the results of this survey, individual items within the Administrative Costs component were reweighted, the item of "Leases" was removed from the component, and two new Administrative items, copy paper and P.O. Boxes were added. See Appendix 2 for the 2016 weights for each of these items.

Insurance Costs

The Owner Survey (discussed above) asks owners to provide information about their current and prior year's insurance policies. Temporary workers call the relevant insurance agents/brokers to verify this information. Only verified insurance costs are included in the PIOC.

Price Index Projections

The PIOC Projections are estimated by using data from federal, state and local agencies; estimates from industry experts; and trend forecasting using three-year or long-term averages. This year projections are based on the time period from April 2016 to March 2017.

Taxes were projected by using data from the Department of Finance's tentative assessment roll for FY 2017 along with estimates of how the final PIOC tax index has compared to the change in the tentative assessment roll over the last decade. These estimates produce a projected tax cost for the owners of rental properties. Labor costs are projected by calculating the average wage increase of the most recent labor contracts for apartment workers union Local 32-BJ and a ten-year geometric average of all other Labor items. Fuel oil costs are projected by using data and information from the U.S. Energy Information Administration's (EIA) current "Short-Term Energy

Outlook" report, which includes assumptions about changes in usage according to a projected return to the average temperature over the last five years. Utility costs are projected by obtaining rate projections for the coming year from the New York City Water Board and EIA projections. Natural gas rate projections are combined with assumptions about usage as if the coming year's weather had the five-year average number of Heating Degree Days.[10]

The other components — Administrative Costs, Insurance Costs, and Maintenance — are projected by using three-year geometric averages of the component price relatives.

Acknowledgments

The Rent Guidelines Board would like to acknowledge the following individuals for their assistance in preparing the Price Index of Operating Costs this year: Dr. James F. Hudson for technical assistance, expense component reweighting, methodology, and report review; and Michael Taylor and Thomas O'Rourke for collecting owner and vendor data. ❒

Endnotes

1. The I&E data provide a more current estimate of changes in O&M costs for all stabilized units than the PIOC data, with the PIOC diverging more from the I&E data over time. Evidence suggests that a major cause is old baseline data on expenditures. For a complete analysis, see *Comparing the Price Index of Operating Costs (PIOC) and the RGB Income and Expense Study* by Dr. James F. Hudson, dated March 21, 2014 under Special Reports and Briefs at http://nycrgb.org/html/research/cresearch.html

2. As with any data collection effort, there are some concerns with data quality and accuracy. However, these reported expenses are close to the actual O&M costs for the reporting buildings, and are more representative of owner expenditure patterns than the pattern used in the previous PIOCs, which were based on a survey conducted in 1983. In general, the I&E data is representative of actual expense changes from 2014, at least for the buildings with 11 or more units which must submit full RPIE reports annually.

3. The average CPI for All Urban Consumers, New York-Northeastern New Jersey for the year from March 2014 to February 2015 (260.1) compared to the average for the year from March 2015 to February 2016 (260.9) rose by 0.3%. This is the latest available CPI data and is roughly analogous to the 'PIOC year', which for the majority of components compare the most recent point-to-point figures from April to March, monthly cost-weighted figures from April to March, or the two most recent fiscal year bills.

4. The cost-weight relatives are calculated on an April to March time period. The April 2015 to March 2016 time period was 22.1% warmer than the previous April to March period. "Normal" weather refers to the typical number of Heating Degree Days measured at Central Park, New York City, over the 30-year period from 1981-2010. A Heating Degree Day is defined as, for one day, the number of degrees that the average temperature for that day is below 65 degrees Fahrenheit.

5. The initial release of this report, on April 14, 2016, reported a 2017 PIOC Projection of 4.5%. This projection has since been updated, to 5.5%. The discrepancy was due to an incorrect projection of the tax component of the PIOC, which was originally projected to rise 2.6%, but is now projected to rise 6.1%. The initial calculation of this component did not include taxable assessed valuations from Class 2 buildings in Brooklyn, which resulted in an artificially low projection. The incorrect projection of the tax component, which carries a quarter of the weight on the entire PIOC, resulted in an overall projection of costs that was one percentage point lower than the revised projection. In addition, the projected Core PIOC for 2017 also increased from what was originally reported, rising from 2.9% to 4.0%. Please note that all other projected change in costs for the remaining six components are the same as reported in the original report.

6. The following assumptions were used in the computation of the commensurates: (1) the required change in owner revenue is 66.0% of the 2016 PIOC decrease of -1.2%, or -0.8%. The 66.0% figure is the most recent ratio of average operating costs to average income in stabilized buildings; (2) for the "CPI-Adjusted NOI" commensurate, the increase in revenue due to the impact of inflation on NOI is 34.0% times the latest 12-month increase in the CPI ending February 2015 (0.3%), or 0.1%; (3) these lease terms are only illustrative—other combinations of one- and two-year guidelines could produce the adjustment in revenue; (4) assumptions regarding lease renewals and turnover were derived from the 2014 Housing and Vacancy Survey; (5) for the commensurate formulae, including a vacancy assumption, the 10.0% median increase in vacancy leases found in the rent stabilized apartments that reported a vacancy lease in the 2015 apartment registration file from the Division of Housing and Community Renewal was used; and (6) the collectability of these commensurate adjustments are assumed.

7. The "traditional" commensurate adjustment for two-year lease renewals has been revised since the initial release of this report on April 14, 2016. In the initial report, the 2017 PIOC projection of 4.5%, which was used in calculating the "traditional" commensurate, was calculated incorrectly. The corrected projection is 5.5% and it is used to calculate the "traditional" commensurate in this report. This has resulted in raising the "traditional" commensurate two-year lease renewal from 0.7% to 1.0%. The one-year lease renewal for the "traditional" commensurate was not impacted by this revision because the PIOC projection is not used to calculate the one-year adjustment. It remains at -0.8%. The collectability of legally authorized adjustments is assumed.

8. Whether profits will actually decline depends on the level of inflation, the composition of NOI (i.e., how much is debt service and how much is profit), and changes in tax law and interest rates.

9. In an attempt to update the PIOC, this year an expenditure survey for Fuel Costs was in included in the Owner Survey. The results of this survey were not used to reweight the expense items in the Fuel Costs this year but should be incorporated in next year's PIOC. Each year staff will try to update a different PIOC expense component via the Owner Survey.

10. Source: "Short-Term Energy Outlook," March 2016. U.S. Energy Information Administration, Department of Energy.

Appendices

1. PIOC Sample, Number of Price Quotes per Item, 2015 vs. 2016

Spec	Description	2015	2016
211	Apartment Value	87	110
212	Non-Union Super	82	93
216	Non-Union Janitor/Porter	39	54
	LABOR COSTS	**208**	**257**
301	Fuel Oil #2	31	31
302	Fuel Oil #4	10	10
303	Fuel Oil #6	9	N/A
	FUEL OIL	**50**	**41**
501	Repainting	123	121
502	Plumbing, Faucet	34	34
503	Plumbing, Stoppage	31	32
504	Elevator #1, 6 fl., 1 e.	11	10
505	Elevator #2, 13 fl., 2 e.	11	10
506	Elevator #3, 19 fl., 3 e.	11	10
507	Burner Repair	10	10
508	Boiler Repair, Tube	8	11
509	Boiler Repair, Weld	6	9
510	Refrigerator Repair	8	8
511	Range Repair	10	10
512	Roof Repair	24	22
513	Air Conditioner Repair	6	7
514	Floor Maint. #1, Studio	8	8
515	Floor Maint. #2, 1 Br.	8	8
516	Floor Maint. #3, 2 Br.	8	8
518	Linen/Laundry Service	5	6
801	Light Bulbs	7	6
802	Light Switch	6	7
803	Wet Mop	10	10
804	Floor Wax	7	10
805	Paint	11	11
806	Pushbroom	10	11
807	Detergent	7	8
808	Bucket	12	11
809	Washers	10	13

(CONTINUED, TOP RIGHT)

Spec	Description	2015	2016
810	Linens	11	11
811	Pine Disinfectant	9	10
812	Window/Glass Cleaner	8	10
813	Switch Plate	7	13
814	Duplex Receptacle	8	9
815	Toilet Seat	12	12
816	Deck Faucet	11	14
901	Refrigerator #1	9	13
902	Refrigerator #2	10	12
903	Air Conditioner #1	5	9
904	Air Conditioner #2	7	9
905	Floor Runner	10	6
906	Dishwasher	7	12
907	Range #1	10	12
908	Range #2	9	11
909	Carpet	8	10
910	Dresser	5	5
911	Mattress & Box Spring	5	6
	MAINTENANCE	**553**	**595**
601	Management Fees	71	60
602	Accountant Fees	25	25
603	Attorney Fees	21	21
604	Newspaper Ads	18	18
607	Bill Envelopes	10	12
608	P.O. Box	--	10
609	Copy Paper	--	12
	ADMINISTRATIVE COSTS	**150**	**158**
701	INSURANCE COSTS	**328**	**412**
	ALL ITEMS	**1,289**	**1,463**

NOTE: Specs 608 and 609 are newly added for 2016. Specs 303 (Fuel Oil #6) and 606 (Leases) were removed.

2. Expenditure Weights, Price Relatives, Percent Changes and Standard Errors, All Apartments, 2016

Spec #	Item Description	Expenditure Weights	Price Relative	% Change	Standard Error
101	TAXES	**0.2665**	**1.0749**	**7.49%**	**0.0409**
201	Payroll, Bronx, All (Union)	0.0954	1.0394	3.94%	0.0000
202	Payroll, Other, Union, Supts.	0.0996	1.0233	2.33%	0.0000
203	Payroll, Other, Union, Other	0.2482	1.0299	2.99%	0.0000
204	Payroll, Other, Non-Union, All	0.2913	1.0580	5.80%	0.0000
205	Social Security Insurance	0.0424	1.0337	3.37%	0.0000
206	Unemployment Insurance	0.0068	0.7728	-22.72%	0.0000
207	Private Health & Welfare	0.2164	1.0072	0.72%	0.0000
	LABOR COSTS	**0.1621**	**1.0318**	**3.18%**	**0.0000**
301	Fuel Oil #2	0.4707	0.5712	-42.88%	0.7680
302	Fuel Oil #4	0.2171	0.4876	-51.24%	1.1254
403	Electricity #3, 82,000 KWH	0.0000	0.6850	-31.50%	0.0000
405	Gas #2, 65,000 therms	0.0544	0.6904	-30.96%	0.0000
406	Gas #3, 214,000 therms	0.2324	0.6830	-31.70%	0.0000
407	Steam #1, 1.2m lbs	0.0193	0.6933	-30.67%	0.0000
408	Steam #2, 2.6m lbs	0.0060	0.6706	-32.94%	0.0000
	FUEL	**0.1198**	**0.5885**	**-41.15%**	**0.4363**
401	Electricity #1, 2,500 KWH	0.0243	0.8904	-10.96%	0.0000
402	Electricity #2, 15,000 KWH	0.2592	0.9208	-7.92%	0.0000
404	Gas #1, 12,000 therms	0.0076	0.8842	-11.58%	0.0000
410	Water & Sewer	0.7089	1.0297	2.97%	0.0000
	UTILITIES	**0.1087**	**0.9970**	**-0.30%**	**0.0000**
501	Repainting	0.3323	1.0339	3.39%	0.7321
502	Plumbing, Faucet	0.1180	1.0152	1.52%	0.6925
503	Plumbing, Stoppage	0.1044	1.0168	1.68%	0.7062
504	Elevator #1, 6 fl., 1 e.	0.0446	1.0821	8.21%	4.2661
505	Elevator #2, 13 fl., 2 e.	0.0284	1.0552	5.52%	2.6896
506	Elevator #3, 19 fl., 3 e.	0.0160	1.0460	4.60%	2.7769
507	Burner Repair	0.0334	1.0072	0.72%	0.7497
508	Boiler Repair, Tube	0.0424	0.9885	-1.15%	1.5324
509	Boiler Repair, Weld	0.0366	1.0079	0.79%	0.7564
510	Refrigerator Repair	0.0109	1.0305	3.05%	2.0303
511	Range Repair	0.0100	1.0169	1.69%	1.1437
512	Roof Repair	0.0650	1.0589	5.89%	1.9380
513	Air Conditioner Repair	0.0068	1.0025	0.25%	0.2471
514	Floor Maint. #1, Studio	0.0002	1.0000	0.00%	0.0000
515	Floor Maint. #2, 1 Br.	0.0004	1.0000	0.00%	0.0000
516	Floor Maint. #3, 2 Br.	0.0033	1.0000	0.00%	0.0000

(CONTINUED, TOP RIGHT)

Spec #	Item Description	Expenditure Weights	Price Relative	% Change	Standard Error
801	Light Bulbs	0.0038	0.9967	-0.33%	1.3089
802	Light Switch	0.0044	1.0965	9.65%	5.9324
803	Wet Mop	0.0036	1.0389	3.89%	3.1668
804	Floor Wax	0.0041	0.9681	-3.19%	1.6332
805	Paint	0.0266	1.0149	1.49%	0.9367
806	Pushbroom	0.0032	1.0551	5.51%	4.2417
807	Detergent	0.0034	1.0301	3.01%	4.4189
808	Bucket	0.0046	1.0693	6.93%	6.4439
809	Washers	0.0088	0.8674	-13.26%	12.7604
811	Pine Disinfectant	0.0059	1.2131	21.31%	9.1976
812	Window/Glass Cleaner	0.0054	0.9902	-0.98%	0.9584
813	Switch Plate	0.0048	1.0023	0.23%	1.0406
814	Duplex Receptacle	0.0031	0.9916	-0.84%	1.2358
815	Toilet Seat	0.0109	1.0042	0.42%	2.1406
816	Deck Faucet	0.0133	0.9880	-1.20%	1.1178
901	Refrigerator #1	0.0041	1.0044	0.44%	2.0567
902	Refrigerator #2	0.0192	1.0663	6.63%	3.4357
903	Air Conditioner #1	0.0007	1.0608	6.08%	2.6842
904	Air Conditioner #2	0.0009	1.0000	0.00%	0.0000
905	Floor Runner	0.0037	1.0197	1.97%	2.4283
906	Dishwasher	0.0021	1.0210	2.10%	1.5368
907	Range #1	0.0021	0.9929	-0.71%	1.0476
908	Range #2	0.0089	0.9975	-0.25%	0.8651
	MAINTENANCE	**0.1667**	**1.0278**	**2.78%**	**0.3887**
601	Management Fees	0.5209	1.0355	3.55%	0.9242
602	Accountant Fees	0.1254	1.0232	2.32%	0.8441
603	Attorney Fees	0.2154	1.0242	2.42%	1.6326
604	Newspaper Ads	0.0110	1.0142	1.42%	1.1865
607	Bill Envelopes	0.0224	0.9843	-1.57%	2.0842
608	P.O. Box	0.0224	1.0249	2.49%	0.7584
609	Copy Paper	0.0224	1.0166	1.66%	4.3845
409	Communications*	0.0603	0.9882	-1.18%	0.0000
	ADMINISTRATIVE COSTS	**0.1272**	**1.0266**	**2.66%**	**0.6155**
701	INSURANCE COSTS	**0.0489**	**1.0822**	**8.22%**	**2.1017**
	ALL ITEMS	**1.0000**	**0.98754**	**-1.25%**	**0.1541**

*Spec 409, "Communications," was labeled as "Telephone" in PIOCs prior to 2015, and included only the cost of landline telephone service. It now includes the cost of internet, cell, and landline phone service.

NOTE: Specs 608 and 609 are newly added for 2016. Specs 303 (Fuel Oil #6) and 606 (Leases) were removed.

3. Price Relative by Building Type, Apartments, 2016

Item Description	Pre-1947	Post-1946	Gas Heated	Oil Heated
TAXES	7.6%	7.3%	7.5%	7.5%
LABOR COSTS	3.6%	2.7%	3.3%	3.2%
FUEL	-41.8%	-38.5%	-32.9%	-44.6%
UTILITIES	0.1%	-1.1%	-0.5%	-0.3%
MAINTENANCE	2.8%	2.9%	2.7%	2.8%
ADMINISTRATIVE COSTS	2.6%	2.8%	2.7%	2.7%
INSURANCE COSTS	8.2%	8.2%	8.2%	8.2%
ALL ITEMS	**-2.2%**	**0.2%**	**0.5%**	**-2.8%**

4. Price Relative by Hotel Type, 2016

Item Description	Hotel	Rooming House	SRO
TAXES	7.8%	6.6%	7.0%
LABOR COSTS	4.1%	4.2%	4.6%
FUEL	-38.6%	-42.9%	-38.3%
UTILITIES	0.5%	-5.5%	-1.7%
MAINTENANCE	0.6%	1.0%	1.1%
ADMINISTRATIVE COSTS	2.0%	2.7%	2.7%
INSURANCE COSTS	8.2%	8.2%	8.2%
ALL ITEMS	**-1.1%**	**-4.7%**	**-11.7%**

5. Percentage Change in Real Estate Tax Sample by Borough and Source of Change, Apartments and Hotels, 2016

	% Change Due to Assessments	% Change Due to Exemptions	% Change Due to Abatements	% Change Due to Tax Rates	% Change Due to Interactions	Total % Change
APARTMENTS						
Manhattan	7.39%	-0.57%	-0.01%	0.21%	0.01%	7.03%
Bronx	8.62%	-2.22%	-0.15%	0.23%	0.01%	6.50%
Brooklyn	10.33%	-1.33%	0.06%	0.22%	0.02%	9.30%
Queens	8.63%	-0.44%	0.04%	0.22%	0.02%	8.47%
SI	5.99%	-1.02%	-0.26%	0.22%	0.01%	4.94%
All Apartments	**8.01%**	**-0.78%**	**0.03%**	**0.21%**	**0.02%**	**7.49%**
HOTELS						
Hotel	9.36%	-1.45%	0.00%	-0.15%	-0.01%	7.75%
Rooming House	6.38%	-0.01%	0.00%	0.23%	0.00%	6.60%
SRO	7.15%	-0.42%	0.16%	0.06%	0.01%	6.96%
All Hotels	**8.21%**	**-0.90%**	**0.05%**	**-0.03%**	**0.00%**	**7.33%**

Note: Totals may not add due to rounding.

6. Tax Change by Borough and Community Board, Apartments, 2016

Borough	Community Board	Number of Buildings	Tax Relative
Manhattan		**12,365**	**7.03%**
	1	81	12.87%
	2	1,101	8.12%
	3	1,582	7.33%
	4	944	5.11%
	5	273	8.57%
	6	821	5.97%
	7	1,709	7.56%
	8	1,916	6.29%
	9	752	8.51%
	10	1,005	6.00%
	11	712	6.56%
	12	1,462	8.72%
Lower		**7,966**	**6.83%**
Upper		**4,399**	**8.26%**
Bronx		**5,878**	**6.50%**
	1	433	4.53%
	2	286	-5.15%
	3	395	1.36%
	4	757	6.90%
	5	724	6.83%
	6	575	7.99%
	7	979	6.94%
	8	348	6.78%
	9	325	4.92%
	10	215	6.05%
	11	325	8.32%
	12	491	7.87%
Brooklyn		**13,082**	**9.30%**
	1	1,631	8.00%
	2	623	10.42%
	3	1,021	7.35%
	4	1,368	3.39%
	5	429	3.82%
	6	921	8.75%
	7	893	9.44%
	8	999	7.47%
	9	569	11.36%
	10	792	7.87%
	11	700	9.55%
	12	614	8.48%
	13	168	8.80%
	14	888	10.55%
	15	370	8.61%
	16	374	11.71%
	17	623	11.43%
	18	88	11.62%
Queens		**6,909**	**8.47%**
	1	1,981	8.62%
	2	887	8.82%
	3	473	9.24%
	4	447	8.99%
	5	1,202	6.46%
	6	321	7.68%
	7	463	9.67%
	8	228	8.68%
	9	224	9.08%
	10	51	5.85%
	11	126	9.41%
	12	190	9.09%
	13	58	3.52%
	14	185	8.38%
Staten Island		**173**	**4.94%**
	1	121	2.05%
	2	25	11.76%
	3	23	14.04%
ALL		**38,407**	**7.49%**

Note: No Community Board (CB) could be assigned to the following number of buildings for each borough: Manhattan (7), Bronx (25), Brooklyn (11), Queens (73), Staten Island (4). The number of buildings in the category "ALL" for each borough includes the buildings that could not be assigned a Community Board. In addition, one building in Manhattan is a part of Community Board 8 in the Bronx. This building is not included in the total for CB 8 in the Bronx, but is represented in the Manhattan total and the total for "ALL" buildings. Core and Upper Manhattan building totals are defined by block count and cannot be calculated by using Community Board numbers alone.

7. Expenditure Weights, Price Relatives, Percent Changes and Standard Errors, All Hotels, 2016

Spec #	Item Description	Expenditure Weights	Price Relative	% Change	Standard Error
101	TAXES	**0.3673**	**1.0733**	**7.33%**	**0.5251**
205	Social Security Insurance	0.0496	1.0337	3.37%	0.0000
206	Unemployment Insurance	0.0141	0.7728	-22.72%	0.0000
208	Hotel Private Health/Welfare	0.0551	1.0560	5.60%	0.0000
209	Hotel Union Labor	0.3194	1.0400	4.00%	0.0000
210	SRO Union Labor	0.0125	1.0400	4.00%	0.0000
211	Apartment Value	0.1185	1.0282	2.82%	0.5009
212	Non-Union Superintendent	0.3045	1.0631	6.31%	1.2326
213	Non-Union Maid	0.0000	0.0000	NA	0.0000
214	Non-Union Desk Clerk	0.0000	0.0000	NA	0.0000
215	Non-Union Maintenance Worker	0.0000	0.0000	NA	0.0000
216	Non-Union Janitor/Porter	0.1264	1.0470	4.70%	0.0000
	LABOR COSTS	**0.1403**	**1.0433**	**4.33%**	**0.3800**
301	Fuel Oil #2	0.6433	0.5712	-42.88%	0.7680
302	Fuel Oil #4	0.0162	0.4876	-51.24%	1.1254
403	Electricity #3, 82,000 KWH	0.2080	0.6850	-31.50%	0.0000
405	Gas #2, 65,000 therms	0.0244	0.6904	-30.96%	0.0000
406	Gas #3, 214,000 therms	0.1077	0.6830	-31.70%	0.0000
407	Steam #1, 1.2m lbs	0.0003	0.6933	-30.67%	0.0000
	FUEL	**0.1946**	**0.6085**	**-39.15%**	**0.4944**
401	Electricity #1, 2,500 KWH	0.1615	0.8904	-10.96%	0.0000
402	Electricity #2, 15,000 KWH	0.1457	0.9208	-7.92%	0.0000
404	Gas #1, 12,000 therms	0.0780	0.8842	-11.58%	0.0000
410	Water & Sewer	0.6148	1.0297	2.97%	0.0000
	UTILITIES	**0.0499**	**0.9800**	**-2.00%**	**0.0000**
501	Repainting	0.1305	1.0339	3.39%	0.7321
502	Plumbing, Faucet	0.0526	1.0152	1.52%	0.6925
503	Plumbing, Stoppage	0.0493	1.0168	1.68%	0.7062
504	Elevator #1, 6 fl., 1 e.	0.0215	1.0821	8.21%	4.2661
505	Elevator #2, 13 fl., 2 e.	0.0189	1.0552	5.52%	2.6896
506	Elevator #3, 19 fl., 3 e.	0.0174	1.0460	4.60%	2.7769
507	Burner Repair	0.0172	1.0072	0.72%	0.7497
508	Boiler Repair, Tube	0.0197	0.9885	-1.15%	1.5324
509	Boiler Repair, Weld	0.0201	1.0079	0.79%	2.0303
511	Range Repair	0.0826	1.0169	1.69%	1.1437
512	Roof Repair	0.0207	1.0589	5.89%	1.9380
513	Air Conditioner Repair	0.0246	1.0025	0.25%	0.2471
514	Floor Maint. #1, Studio	0.0005	1.0000	0.00%	0.0000
515	Floor Maint. #2, 1 Br.	0.0010	1.0000	0.00%	0.0000
516	Floor Maint. #3, 2 Br.	0.0088	1.0000	0.00%	0.0000

(CONTINUED, TOP RIGHT)

Spec #	Item Description	Expenditure Weights	Price Relative	% Change	Standard Error
518	Linen/Laundry Service	0.1172	1.0167	1.67%	1.7274
801	Light Bulbs	0.0047	1.0313	3.13%	3.1789
802	Light Switch	0.0050	0.9967	-0.33%	1.3089
803	Wet Mop	0.0128	1.0965	9.65%	5.9324
804	Floor Wax	0.0155	1.0389	3.89%	3.1668
805	Paint	0.0443	0.9681	-3.19%	1.6332
806	Pushbroom	0.0109	1.0149	1.49%	0.9367
807	Detergent	0.0138	1.0551	5.51%	4.2417
808	Bucket	0.0170	1.0301	3.01%	4.4189
809	Washers	0.0134	1.0693	6.93%	6.4439
810	Linens	0.0675	0.8674	-13.26%	12.7604
811	Pine Disinfectant	0.0070	1.1057	10.57%	7.3402
812	Window/Glass Cleaner	0.0064	1.2131	21.31%	9.1976
813	Switch Plate	0.0171	0.9902	-0.98%	0.9584
814	Duplex Receptacle	0.0114	1.0023	0.23%	1.0406
815	Toilet Seat	0.0164	0.9916	-0.84%	1.2358
816	Deck Faucet	0.0202	1.0042	0.42%	2.1406
901	Refrigerator #1	0.0025	0.9880	-1.20%	1.1178
902	Refrigerator #2	0.0119	1.0044	0.44%	2.0567
903	Air Conditioner #1	0.0069	1.0663	6.63%	3.4357
904	Air Conditioner #2	0.0085	1.0608	6.08%	2.6842
907	Range #1	0.0012	1.0210	2.10%	1.5368
908	Range #2	0.0050	0.9929	-0.71%	1.0476
909	Carpet	0.0402	0.9975	-0.25%	0.8651
910	Dresser	0.0191	1.0113	1.13%	2.9477
911	Mattress & Box Spring	0.0190	0.8648	-13.52%	7.4831
	MAINTENANCE	**0.1157**	**1.0087**	**0.87%**	**0.1619**
601	Management Fees	0.5434	1.0355	3.55%	0.9242
602	Accountant Fees	0.0602	1.0232	2.32%	0.8441
603	Attorney Fees	0.0859	1.0242	2.42%	1.6326
604	Newspaper Ads	0.0865	1.0142	1.42%	1.1865
607	Bill Envelopes	0.0057	0.9843	-1.57%	2.0842
608	P.O. Box	0.0057	1.0249	2.49%	0.7584
609	Copy Paper	0.0057	1.0166	1.66%	4.3845
409	Communications*	0.2069	0.9882	-1.18%	0.0000
	ADMINISTRATIVE COSTS	**0.0916**	**1.0217**	**2.17%**	**0.5346**
701	INSURANCE COSTS	**0.0407**	**1.0822**	**8.22%**	**2.1017**
	ALL ITEMS	**1.0000**	**0.9622**	**-3.78%**	**0.2662**

*Spec 409, "Communications," was labeled as "Telephone" in PIOCs prior to 2015, and included only the cost of landline telephone service. It now includes the cost of internet, cell, and landline phone service.

NOTE: Specs 608 and 609 are newly added for 2016. Specs 303 (Fuel Oil #6) and 606 (Leases) were removed.

8. Expenditure Weights and Price Relatives, Lofts, 2016

Spec #	Item Description	Weights	Price Relative
101	TAXES	**0.2942**	**7.49%**
201	Payroll, Bronx, All	0.0000	3.94%
202	Payroll, Other, Union, Supts.	0.2394	2.33%
203	Payroll, Other, Union, Other	0.0000	2.99%
204	Payroll, Other, Non-Union, All	0.5332	5.80%
205	Social Security Insurance	0.0403	3.37%
206	Unemployment Insurance	0.0073	-22.72%
207	Private Health & Welfare	0.1798	0.72%
	LABOR COSTS	**0.0861**	**3.7%**
301	Fuel Oil #2	0.2980	-42.88%
302	Fuel Oil #4	0.5782	-51.24%
403	Electricity #3, 82,000 KWH	0.0000	-31.50%
405	Gas #2, 65,000 therms	0.0281	-30.96%
406	Gas #3, 214,000 therms	0.0765	-31.70%
407	Steam #1, 1.2m lbs	0.0146	-30.67%
408	Steam #2, 2.6m lbs	0.0045	-32.94%
	FUEL	**0.1120**	**-46.3%**
401	Electricity #1, 2,500 KWH	0.0102	-10.96%
402	Electricity #2, 15,000 KWH	0.1093	-7.92%
404	Gas #1, 12,000 therms	0.0032	-11.58%
410	Water & Sewer - Frontage	0.8773	2.97%
	UTILITIES	**0.0699**	**1.59%**
501	Repainting	0.2749	3.39%
502	Plumbing, Faucet	0.0977	1.52%
503	Plumbing, Stoppage	0.0864	1.68%
504	Elevator #1, 6 fl., 1 e.	0.0369	8.21%
505	Elevator #2, 13 fl., 2 e.	0.0235	5.52%
506	Elevator #3, 19 fl., 3 e.	0.0132	4.60%
507	Burner Repair	0.0276	0.72%
508	Boiler Repair, Tube	0.0350	-1.15%
509	Boiler Repair, Weld	0.0304	0.79%
510	Refrigerator Repair	0.0090	3.05%
511	Range Repair	0.0083	1.69%
512	Roof Repair	0.0537	5.89%
513	Air Conditioner Repair	0.0056	0.25%
514	Floor Maint. #1, Studio	0.0002	0.00%
515	Floor Maint. #2, 1 Br.	0.0003	0.00%
516	Floor Maint. #3, 2 Br.	0.0027	0.00%

(CONTINUED, TOP RIGHT)

Spec #	Item Description	Weights	Price Relative
801	Light Bulbs	0.0061	-0.33%
802	Light Switch	0.0070	9.65%
803	Wet Mop	0.0058	3.89%
804	Floor Wax	0.0066	-3.19%
805	Paint	0.0428	1.49%
806	Pushbroom	0.0051	5.51%
807	Detergent	0.0055	3.01%
808	Bucket	0.0074	6.93%
809	Washers	0.0142	-13.26%
811	Pine Disinfectant	0.0094	21.31%
812	Window/Glass Cleaner	0.0087	-0.98%
813	Switch Plate	0.0076	0.23%
814	Duplex Receptacle	0.0050	-0.84%
815	Toilet Seat	0.0174	0.42%
816	Deck Faucet	0.0214	-1.20%
901	Refrigerator #1	0.0121	0.44%
902	Refrigerator #2	0.0575	6.63%
903	Air Conditioner #1	0.0020	6.08%
904	Air Conditioner #2	0.0026	0.00%
905	Floor Runner	0.0111	1.97%
906	Dishwasher	0.0062	2.10%
907	Range #1	0.0063	-0.71%
908	Range #2	0.0267	-0.25%
	MAINTENANCE	**0.0929**	**2.72%**
	ADMINISTRATIVE COSTS - LEGAL	**0.0618**	**2.42%**
601	Management Fees	0.8315	3.55%
602	Accountant Fees	0.1321	2.32%
604	Newspaper Ads	0.0098	1.42%
607	Bill Envelopes	0.0065	-1.57%
608	P.O. Box	0.0065	2.49%
609	Copy Paper	0.0065	1.66%
409	Communications*	0.0070	-1.18%
	ADMINISTRATIVE COSTS - OTHER	**0.0913**	**3.28%**
701	INSURANCE COSTS	**0.1919**	**8.22%**
	ALL ITEMS	**1.0000**	**-0.27%**

*Spec 409, "Communications," was labeled as "Telephone" in PIOCs prior to 2015, and included only the cost of landline telephone service. It now includes the cost of internet, cell, and landline phone service.

NOTE: Specs 608 and 609 are newly added for 2016. Specs 303 (Fuel Oil #6) and 606 (Leases) were removed.