
2017 Price Index of Operating Costs

April 13, 2017

Board Members

Chair:

Hon. Kathleen A. Roberts (Ret.)

Public Members:

Hilary Botein

Cecilia Joza

David Reiss

Helen Schaub

Owner Members:

Mary Serafy

Scott Walsh

Tenant Members:

Harvey Epstein

Sheila Garcia

Staff Members

Executive Director:

Andrew McLaughlin

Research Director:

Brian Hoberman

Sr. Research Associate:

Danielle Burger

Office Manager:

Charmaine Superville

2017 Price Index Of Operating Costs

What's New

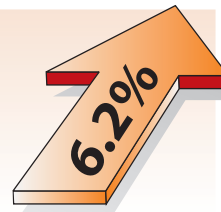
- ◆ The Price Index of Operating Costs (PIOC) for Rent Stabilized Apartment Buildings increased 6.2% this year.
- ◆ All costs in natural-gas heated buildings increased 6.0% and all costs in fuel-oil heated buildings increased 6.5%.
- ◆ The “Core” PIOC, which excludes the changes in fuel oil prices, natural gas, and steam costs, is useful for analyzing inflationary trends. The Core PIOC rose by 4.5% this year.
- ◆ Fuel costs increased 24.6%.
- ◆ Real estate taxes increased 7.8%, primarily due to a rise in assessments for Class Two properties.
- ◆ The Utilities component decreased by 0.8%, due to declines in electric costs, and flat water and sewer rates.
- ◆ Insurance Costs increased by 8.0%.
- ◆ The Price Index of Operating Costs for Rent Stabilized Apartment Buildings is projected to increase 4.4% next year.

Introduction

The *Price Index of Operating Costs* (PIOC) measures changes in the cost of purchasing a specified set of goods and services (market basket) used in the operation and maintenance of rent stabilized apartment buildings in New York City. The PIOC consists of seven cost components: Taxes, Labor Costs, Fuel, Utilities, Maintenance, Administrative Costs and Insurance Costs. The specific goods and services (items) within each component were originally selected based on a study of 1969 expenditure patterns by owners of rent stabilized apartment buildings. The specific items included in each component have changed over time in order to reflect changes in owner expenditure patterns. The methodology for determining the costs for each component is described in the final section of this report. The measured price changes (price relatives), in each index component are presented in Appendix 2. The relative importance of each index component as a percentage of total operating and maintenance expenditures is

shown by its “expenditure weight” (see Appendix 2). The 2016-2017 price changes and expenditure weights are then combined to provide the overall change in the PIOC for 2016-2017.¹

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



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.

Overview

This year, the PIOC for all rent stabilized apartment buildings increased by 6.2%. Increases occurred in all PIOC components except Utilities, which declined by 0.8%. The largest increase in any component was seen in Fuel (24.6%), followed by Insurance Costs (8.0%) and Taxes (7.8%). More moderate increases occurred in Labor Costs (4.1%), Administrative Costs (3.5%), and Maintenance (2.5%). The growth in the Consumer Price Index (CPI) during this same time period was lower than the PIOC, rising 1.4%.² See the table on this

Apartments

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

Taxes	7.8%
Labor Costs	4.1%
Fuel	24.6%
Utilities	-0.8%
Maintenance	2.5%
Administrative Costs	3.5%
Insurance Costs	8.0%
All Costs	6.2%

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 change 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.

page and Appendix 2 for changes in costs and prices for all rent stabilized apartment buildings from 2016-2017.

The "Core" PIOC, which excludes changes in fuel oil, natural gas, and steam costs used for heating buildings, is useful for analyzing long-term inflationary trends. The Core PIOC rose by 4.5% this year and was lower than the overall PIOC due to the exclusion of costs in the Fuel component, which rose 24.6%.

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) 2016 and FY 2017.

Aggregate real estate taxes rose this year by 7.8%. The growth in taxes was primarily due to an 8.4% rise in assessments. The rise in assessments was offset by a rise in the total value of exemptions, which had the effect of lowering the total rise in taxes by 0.65%. Change in tax rates (0.06%) and tax abatements had little impact on the change in Taxes for 2017.

Tax Levy — The total tax levy for all properties in the City (commercial and residential) increased by 6.8% from FY 2016 to FY 2017. The large majority of rent stabilized apartments are contained in multi-family buildings that are in Tax Class Two. The total Class Two property levy rose at a faster pace than that of the City as a whole, at a rate of 8.9%. The distribution of the levy among property classes tends to shift from year to year. From FY 2016 to FY 2017, the levy share for Class Two properties increased by 0.71 percentage points, from 36.55% to 37.26% of the total tax burden. This is 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 2016 Class Two tax rate of 12.883 increased by 0.07%, resulting in a new annualized rate of 12.892 for FY 2017. This is the second time in the past five years that the Class Two tax rate increased. For a historical perspective on changes in the tax rate, abatements, and exemptions, see the green bars on the graph on the following page.

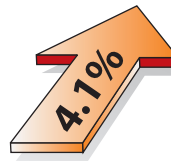
Assessments — Assessed valuations of properties containing rent stabilized units rose by 8.4% Citywide in FY 2017. Assessments rose in all five boroughs, with Brooklyn witnessing the highest growth at 12.5%, followed by Staten Island at 8.8%, the Bronx at 8.7%, Queens at 8.5% and Manhattan at 7.4%. Buildings in Manhattan account for much of the change in assessed value Citywide. This was true in FY 2017, with 63%

of all valuations emanating from this borough. For a historical perspective on changes in tax assessments, see the orange bars on the graph below.

Abatements and Exemptions — This year, the number of rent stabilized buildings receiving tax abatements declined by 5.3% from the previous fiscal year. However the average benefit value of the typical tax abatement increased, by 11.5% from FY 2016 to FY 2017. The net impact of the decrease in the number of buildings receiving abatements and the increase in the average abatement value was a negligible decrease in the overall change in Taxes of just 0.07%.

In FY 2017, 0.6% fewer rent stabilized buildings benefited from tax exemptions. However, the value of the average tax exemption increased by 4.2%. This combination of an increase in the average value of tax exemptions and the decrease in the number of buildings receiving exemptions resulted in reducing the increase in the overall change in Taxes by 0.65%. (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 16.5% of the overall Price Index.

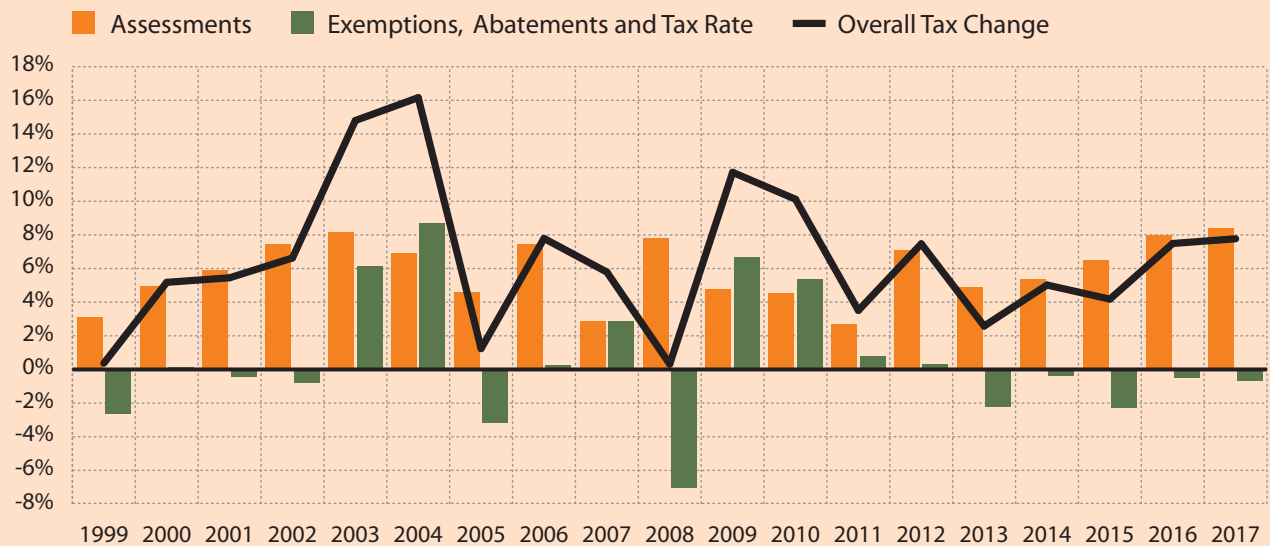
Labor Costs rose 4.1%, compared to 3.2% in the previous year. The rise in Labor Costs was due to increases in union and non-union wages, as well as rising costs in healthcare and pension contributions.

Wages comprise three-quarters of the Labor Costs component. Non-union pay increased by 5.6%, 0.2 percentage points lower than the increase seen in the 2016 PIOC (5.8%). Unionized wages also rose, rising by 2.4%, a slower rise than the 3.0% increase witnessed last year.

Health and welfare benefits, which comprises more than 21% of the Labor Costs component, increased 5.8%.

Percent Change in Taxes due to Assessments and Exemptions/Abatements/Tax Rate 1999-2017

Assessments for Rent Stabilized Buildings Continue to Rise in 2017



Source: New York City Department of Finance

Fuel



The Fuel component comprises 8.6% 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, and steam.³

This year the Fuel component increased 24.6%, following a 41.2% decrease in the prior year. Natural gas costs, which account for 48% of the overall costs in this component, rose, increasing 27.8%. The cost for heating buildings by fuel oil makes up 44% of this component, and increased 22.1%. Steam costs rose 20.5%, but these costs account for only nine percent of the Fuel component.

Fuel oil cost carries the second 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, increased by 7.3%. The price for #2 oil, which comprises 29% of this component, increased by 3.4%. Prices for #4 heating oil, comprising just under 15% of this component, also rose, increasing 14.9%.

Along with measuring price, the PIOC also takes into account the effect of weather on the demand for fuel, especially during the heating season when the large majority of fuel is burned. Since the weather this year was significantly colder than last year, the increase in fuel cost was greater than it would have been if prices alone were considered. For instance, the increase in fuel oil costs was greater than the rise in fuel oil prices, with prices increasing 7.3%, but costs rising 22.1%. 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.

Fuel Oil Cost Relatives vs. Change in Fuel Prices, 2008-2017

<i>PIOC Year</i>	<i>Fuel Oil Cost Relative*</i>	<i>Change in Fuel Oil Price**</i>
2017	22.1%	7.3%
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%

* 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 Cost Relative.

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

Source: NYC RGB Price Indices of Operating Costs, 2008-2017

Utilities



The Utilities component consists of non-heating natural gas and electricity costs, as well as water and sewer charges, and it comprises 10.8% 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 71% of the Utilities component.

This year Utilities decreased 0.8%, compared to a 0.3% decrease in the previous year. The decline in this component was driven by decreases in the cost of electricity, as well as flat water and sewer rates. Electricity costs, which account for almost 28% of this component, declined by 3.2%, while gas costs, which account for less than one percent of the Utilities component, rose 6.0%. But water and sewer charges, which account for more than 71% of this component, were flat following a lawsuit that successfully challenged a planned 2.1% increase by the NYC Water Board.

Maintenance



The Maintenance component accounts for 17.5% of this year's Price Index. The Maintenance component rose 2.5%, less than last year's rise of 2.8%. 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 2.3%, less than the 3.4% recorded last year. Combined plumbing rates increased at a faster pace, rising 5.0%, more than last year's rise of 1.6%. Painters and plumbers reported that increases in the cost of labor and materials were the primary factors causing an increase in their rates.

Other price increases of note were boiler repairs (1.0%), elevator contracts (3.4%), and roof repair (1.1%), 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 85% of this component. This year, Administrative Costs rose 3.5%, 0.8 percentage points more than last year's rise of 2.7%. Administrative Costs comprise 13.2% of the PIOC.

A large portion of the growth in the Administrative Costs component can be attributed to a rise in management company fees (4.1%) that comprise just over half of this component.⁴ Management fees are often tied to apartment rental income and are affected by changes in rents and vacancies. This year's growth is greater than last year's (3.6%), indicating that management companies increased their fees and/or rents increased at a faster pace than last year. This greater rise in management fees may also indicate that vacancies and/or collection losses in managed buildings decreased compared to the previous year.

Accounting fees increased in this year's PIOC by 3.5%, greater than last year's rise of 2.3%. Attorney

fees rose 4.0%, 1.6 percentage points more than last year's growth of 2.4%.

Communications, which accounts for almost 6% of the Administrative Costs component, decreased 1.2%. There were rises in the two components newly added last year, copy paper and P.O. boxes, which rose by 0.4% and 2.1%, respectively. (See Appendix 2.)

Insurance Costs



For the sixth consecutive year there was an increase in the Insurance Costs component, rising 8.0%, compared to last year's increase of 8.2%. Insurance Costs account for 5.1% of the PIOC.

Changes in insurance costs for owners varied by the amount of the policy. Policies that cost more than \$6,325, which represent half of all verified insurance quotes, saw an average increase in cost of 8.9% upon renewal. Buildings with policies that cost \$6,325 or less saw an increase of 4.1%.

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 all rent stabilized 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 for gas-heated and oil-heated buildings. (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. However, fuel costs for heating pre-1947 buildings, which increased by 25.0%, represent a significantly higher percentage of total operating and maintenance costs. As a result, total costs in the Pre-1947 Index rose by 6.7%, while costs in the Post-1946 Index rose by a lesser amount, 5.7%.

Indices were also calculated for different types of heating systems. These heating system indices differ from the price index for all apartments because the expenditure weight for the Fuel component differs from

Hotels

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

Taxes	6.4%
Labor Costs	4.7%
Fuel	18.1%
Utilities	-1.7%
Maintenance	1.3%
Administrative Costs	2.6%
Insurance Costs	8.0%
All Costs	6.3%

Lofts

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

Taxes	7.8%
Labor Costs	4.7%
Fuel	25.9%
Utilities	-0.3%
Maintenance	2.1%
Admin Costs-Legal	4.0%
Admin Costs-Other	3.9%
Insurance Costs	8.0%
All Costs	6.9%

index to index. Because the Fuel component carries more weight in oil-heated buildings versus those heated by gas, the Oil-Heated Index (6.5%) rose more than the Gas-Heated Index (6.0%).

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 rent 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 rent stabilized Hotels increased 6.3% this year, a 10.2 percentage point increase from the 3.8% decline in 2016. It is important to note that the Hotel PIOC was not reweighted using the most current Real Property Income and Expense (RPIE) data (see Endnote 1). However, in order to maintain symmetry between indices, the expense items were aligned to the seven components now used in the Apartment PIOC. The realignment of the hotel expenditure items had no impact on the change in the overall PIOC, which would have remained 6.3% if the old alignments were used.

This year, the Hotel Fuel component rose 18.1%, due to significant increases in the cost of fuel oil and natural gas used for heating hotel buildings in NYC. The Fuel component accounts for over 12% of the entire Hotel Index. Five of the remaining six components witnessed cost increases, with Insurance Costs having the highest rise of 8.0%, followed by Taxes at 6.4%. More moderate increases were seen in Labor Costs (4.7%), Administrative Costs (2.6%), and Maintenance (1.3%). Costs fell in the Utilities component, by 1.7%. See the table on this page for changes in costs and prices for all rent stabilized hotels from 2016-2017.

Among the different categories of Hotels, the index for “traditional” hotels increased 6.2%, Rooming Houses by 5.2%, and SROs by 7.0%. (See Appendices 4 and 7.)

Rent Stabilized Lofts

Similar to the Hotel Index, the Loft PIOC expenditure component weights were not reweighted using the most current RPIE data (see Endnote 1). 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 increase in the Loft Index this year was 6.9%, 7.2 percentage points higher than the 0.3% decrease in 2016. Increases in costs were seen in seven of the eight components that make up this index. Fuel Costs witnessed the highest rise, increasing 25.9%, followed by increases in Insurance Costs of 8.0% and in Taxes of 7.8%. More moderate increases were seen in Maintenance (2.1%), Labor Costs (4.7%), and Administrative Costs-Legal (4.0%) as well as Administrative Costs-Other (3.9%). These increases were marginally offset by a decline in Utilities of 0.3%. See the table on the previous page and Appendix 8 for changes in costs and prices for all rent stabilized lofts from 2016-2017.

The Core PIOC

The Core PIOC, which measures long-term trends by factoring out shifts in fuel costs for heating rent stabilized buildings in NYC, rose 4.5% in 2017. The rise in the 2017 Core PIOC was 1.7 percentage points lower than the Apartment Index (6.2%), and 0.3 percentage points higher than last year's Core (4.2%). This year's Core PIOC rose at a slower pace than the overall PIOC because fuel costs, which were not used to calculate the Core, increased 24.6%.

PIOC Projections for 2018

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.

Projecting changes in the PIOC has become more challenging in recent years. Energy prices — which represent roughly one-tenth 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 costs

2018 Projections	
<i>Projected Change In Costs for Rent Stabilized Apartment Buildings, March 2017 to March 2018</i>	
Taxes	5.7%
Labor Costs	3.5%
Fuel	5.8%
Utilities	3.5%
Maintenance	2.7%
Administrative Costs	3.3%
Insurance Costs	7.8%
All Projected Costs	4.4%

that have in turn limited the accuracy of the PIOC projections in recent studies. The tax component, which accounts for more than 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 increased by 6.2%, versus last year's projected PIOC increase of 5.5%, a difference of 0.7 percentage points. The component that had the most impact in the difference between actual and projected changes in costs was Fuel. Fuel cost was projected to rise 16.2%, but actually rose 24.6% in 2017. Other notable differences were found in the Utilities and Insurance Costs components. Utilities, which were projected to rise by 2.1%, fell instead by 0.8%, a difference of nearly 3.0 percentage points. Insurance Costs, which were projected to increase by 5.0%, rose instead by 8.0%, a 3.0 percentage point difference. The remaining 2017 projected components of the PIOC were all within 1.7 percentage points of the actual measured changes.

Overall, the PIOC is expected to grow by 4.4% from 2017 to 2018. Costs are predicted to rise in each component, with the largest growth, of 7.8%, projected to be in Insurance Costs. Taxes, which is the component that carries the most weight in the Index, is projected to increase 5.7%. Other projected increases include Fuel (5.8%), Labor Costs (3.5%),

Maintenance (2.7%), Administrative Costs (3.3%) and Utilities (3.5%). The table on the previous page shows projected changes in PIOC components for 2018. The core PIOC is projected to rise 4.3%, 0.1 percentage points less than the overall projected Apartment PIOC.

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 to determine how much rents would have to change for net operating income (NOI) in rent 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 commensurate provides a set of one- and two-year renewal rent adjustments 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 term 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 rent 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 6.2% increase in the PIOC is 5.0% for a one-year lease and 8.0% 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 3.0% for one-year leases and 6.0% 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 1.4% increase in the Consumer Price Index (see Endnote 3) and the 6.2% increase in the PIOC is 6.0% for a one-year lease and 8.5% 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 6.75% for two-year leases.⁵

The third commensurate method, the “traditional” commensurate adjustment, is the formula that has been in use since the inception of the Rent Guidelines Board and is the only method that relies on the PIOC projection. The “traditional” commensurate yields 4.0% for a one-year lease and 5.5% for a two-year lease. This reflects the increase in operating costs of 6.2% found in the 2017 PIOC and the projection of a 4.4% increase next year.

All of these commensurate methods have limitations. The “Net Revenue” formula does not attempt to adjust NOI based on changes in interest rates or the effect of inflation. The “CPI-Adjusted NOI” formula inflates the debt service portion of NOI, even though interest rates have been historically low over recent years. For both of these commensurate methods, including a consideration of the amount of income owners receive on vacancy assumes that turnover rates are constant across the City.

As a means of compensating for cost changes, the “traditional” commensurate rent adjustment has two major flaws. First, although the formula is designed to keep owners’ current dollar income constant, the formula does not consider the mix of one- and two-year lease renewals. Since only about two-thirds of leases are renewed in any given year, with a majority of leases being renewed having a one-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.⁶

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 (6.2%). 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 (4.4%).

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 public testimony received by the Board can be used to modify the various commensurates depending on other considerations.

Methodology

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.

The Methodology section of this report outlines the methods used to calculate each component of the 2017 PIOC, as well as the PIOC projection for 2018.

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 rent 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 or by mail. 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. The data gathered by the Owner Survey is the only

Commensurates	
<i>"Net Revenue" Commensurate Adjustment</i>	
<u>1-Year Lease</u>	<u>2-Year Lease</u>
5.0%	8.0%
<i>"Net Revenue" Commensurate Adjustment with Vacancy Increase</i>	
<u>1-Year Lease</u>	<u>2-Year Lease</u>
3.0%	6.0%
<i>"CPI-Adjusted NOI" Commensurate Adjustment</i>	
<u>1-Year Lease</u>	<u>2-Year Lease</u>
6.0%	8.5%
<i>"CPI-Adjusted NOI" Commensurate Adjustment with Vacancy Increase</i>	
<u>1-Year Lease</u>	<u>2-Year Lease</u>
3.75%	6.75%
<i>"Traditional" Commensurate Adjustment</i>	
<u>1-Year Lease</u>	<u>2-Year Lease</u>
4.0%	5.5%

owner-reported data used in the PIOC, representing 17% of the total costs measured in the Price Index.

In order to keep the PIOC relevant, the Owner Survey is also used to update the individual items within the PIOC components. Each year, one component is included as part of the Survey, with the results of the gathered expenditure data used to reweight the chosen component's items in the next year's PIOC.⁷

The sample frame for the Owner Survey included over 40,000 rent 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 Survey. The number of buildings chosen in each borough was nearly proportional to the share of rent 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 7.1% of the questionnaires mailed out received a response, a lower rate than last year (10.4%). A total of 337 returned surveys contained usable information, from which reports of owners' annual insurance costs (294), non-union labor costs (96) and management fees (51) were validated. The number of verified prices in 2016 and 2017 for the Owner Survey is shown in Appendix 1.

Taxes

The buildings used to compute the 2017 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 2016 and FY 2017. This data was used to compute a tax bill for each rent 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 2016 to FY 2017.

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 on previous page).

Fuel

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

Almost 44% of this component is the cost of fuel oil. Fuel oil price information is gathered on a monthly basis using 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 by eliminating the need 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. 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.

Following an owner survey of heating costs in 2016, the weights for the different fuel types in this component were updated in 2017. Notably, more weight was given to heating by natural gas (rising from 29% of the Fuel component in 2016 to 48% in 2017). There was also more weight given to heating by steam, which rose from 3% of Fuel costs in 2016 to 9% in 2017. Correspondingly, the weight of both #2 and #4 fuel oil fell.

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 using 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 by telephone and from websites that carry items in the PIOC's market basket of goods. A total of 620 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, using the Owner Survey (see "Owner Survey" section on page 11). Other expense items, such as accountant and attorney fees, are obtained using 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 U.S. 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.

Insurance Costs

The Owner Survey 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. The projections in this report are based on the time period from April 2017 to March 2018.

Taxes were projected by using data from the Department of Finance's tentative assessment roll for FY 2018 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 Costs 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 also combined with assumptions about usage as if the coming year’s weather had the five-year average number of Heating Degree Days.⁸

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. Prior to 2015, the relative importance of the various goods and services in the market basket was based on a 1983 study of expenditure patterns of owners of rent stabilized apartment buildings. In 2015, the PIOC component expenditure weights for apartment buildings were changed to the expenditure patterns found in the RGB’s annual Income and Expense (I&E) Study, which allows for the annual updating of expenditure patterns based on what owners report to the NYC Department of Finance as their actual costs on Real Property Income and Expense (RPIE) statements required by Local Law 63 (enacted in 1986). Note that only the Apartment PIOC is weighted with data from RPIE reports. The Hotel and Loft PIOC’s continue to use the 1983 study. For a full description of the methodological changes to the expenditure weights used in the current PIOC, please refer to the RGB 2015 *Price Index of Operating Costs* report at <http://nycrgb.org/html/research/cresearch.html>
2. The average CPI for All Urban Consumers, New York-Northeastern New Jersey for the year from March 2015 to February 2016 (260.9) compared to the average for the year from March 2016 to February 2017 (264.5) rose by 1.4%. 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 PIOC year bills.

3. The cost-weight relatives are calculated on an April to March time period. The April 2016 to March 2017 time period was 18.3% colder 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 falls below 65 degrees Fahrenheit.
4. See Methodology section of the 2016 *Price Index of Operating Costs* report for changes in the weighting of Administrative Costs items in 2016 at <http://nycrgb.org/html/research/cresearch.html>
5. The following assumptions were used in the computation of the commensurates: (1) the required change in owner revenue is 64.0% of the 2017 PIOC increase of 6.2%, or 4.0%. The 64.0% figure is the most recent ratio of average operating costs to average income in rent stabilized buildings; (2) for the “CPI-Adjusted NOI” commensurate, the increase in revenue due to the impact of inflation on NOI is 36.0% times the latest 12-month increase in the CPI ending February 2017 (1.4%), or 0.5%; (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 10.71% median increase in vacancy leases found in the rent stabilized apartments that reported a vacancy lease in the 2016 apartment registration file from the Division of Housing and Community Renewal was used; and (6) the collectability of these commensurate adjustments are assumed.
6. 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.
7. In order to update the PIOC, this year an expenditure survey for Maintenance Costs was included in the Owner Survey. The results of this survey were not used to reweight the expense items in Maintenance this year but may be incorporated in next year’s PIOC.
8. Source: “Short-Term Energy Outlook,” March 2017. U.S. Energy Information Administration, Department of Energy.

Appendices

1. PIOC Sample, Number of Price Quotes per Item, 2016 vs. 2017

Spec	Description	2016	2017	Spec	Description	2016	2017
211	Apartment Value	110	63	810	Linens	11	10
212	Non-Union Super	93	59	811	Pine Disinfectant	10	13
216	Non-Union Janitor/Porter	54	37	812	Window/Glass Cleaner	10	13
	LABOR COSTS	257	159	813	Switch Plate	13	11
301	Fuel Oil #2	31	32	814	Duplex Receptacle	9	12
302	Fuel Oil #4	10	11	815	Toilet Seat	12	15
	FUEL OIL	41	43	816	Deck Faucet	14	15
501	Repainting	121	126	901	Refrigerator #1	13	13
502	Plumbing, Faucet	34	32	902	Refrigerator #2	12	12
503	Plumbing, Stoppage	32	29	903	Air Conditioner #1	9	8
504	Elevator #1, 6 fl., 1 e.	10	10	904	Air Conditioner #2	9	9
505	Elevator #2, 13 fl., 2 e.	10	10	905	Floor Runner	6	7
506	Elevator #3, 19 fl., 3 e.	10	10	906	Dishwasher	12	12
507	Burner Repair	10	10	907	Range #1	12	11
508	Boiler Repair, Tube	11	11	908	Range #2	11	12
509	Boiler Repair, Weld	9	9	909	Carpet	10	10
510	Refrigerator Repair	8	8	910	Dresser	5	6
511	Range Repair	10	10	911	Mattress & Box Spring	6	5
512	Roof Repair	22	22		MAINTENANCE	595	620
513	Air Conditioner Repair	7	8	601	Management Fees	60	51
514	Floor Maint. #1, Studio	8	6	602	Accountant Fees	25	29
515	Floor Maint. #2, 1 Br.	8	6	603	Attorney Fees	21	21
516	Floor Maint. #3, 2 Br.	8	6	604	Newspaper Ads	18	20
518	Linen/Laundry Service	6	6	607	Bill Envelopes	12	11
801	Light Bulbs	6	13	608	P.O. Box	10	10
802	Light Switch	7	10	609	Copy Paper	12	11
803	Wet Mop	10	14		ADMINISTRATIVE COSTS	158	153
804	Floor Wax	10	16	701	INSURANCE COSTS	412	294
805	Paint	11	11		ALL ITEMS	1,463	1,269
806	Pushbroom	11	11				
807	Detergent	8	13				
808	Bucket	11	13				
809	Washers	13	6				

(CONTINUED, TOP RIGHT)

2. Expenditure Weights, Price Relatives, Percent Changes and Standard Errors, All Apartments, 2017

Spec #	Item Description	Expenditure Weights	Price Relative	% Change	Standard Error	Spec #	Item Description	Expenditure Weights	Price Relative	% Change	Standard Error
101	TAXES	0.2831	1.0777	7.77%	0.0440	801	Light Bulbs	0.0038	1.0303	3.03%	1.8700
201	Payroll, Bronx, All (Union)	0.0961	1.0252	2.52%	0.0000	802	Light Switch	0.0042	0.9887	-1.13%	3.5342
202	Payroll, Other, Union, Supts.	0.0988	1.0237	2.37%	0.0000	803	Wet Mop	0.0038	1.0477	4.77%	2.6503
203	Payroll, Other, Union, Other	0.2477	1.0244	2.44%	0.0000	804	Floor Wax	0.0041	0.9822	-1.78%	1.8541
204	Payroll, Other, Non-Union, All	0.2987	1.0559	5.59%	0.5624	805	Paint	0.0251	1.0354	3.54%	6.2914
205	Social Security Insurance	0.0425	1.0371	3.71%	0.0000	806	Pushbroom	0.0031	1.0105	1.05%	2.4528
206	Unemployment Insurance	0.0051	0.8560	-14.40%	0.0000	807	Detergent	0.0035	1.0045	0.45%	2.6427
207	Private Health & Welfare	0.2112	1.0579	5.79%	0.0000	808	Bucket	0.0046	0.9813	-1.87%	3.3134
	LABOR COSTS	0.1651	1.0406	4.06%	0.1680	809	Washers	0.0092	0.9787	-2.13%	3.7493
301	Fuel Oil #2	0.2902	1.1762	17.62%	0.9141	811	Pine Disinfectant	0.0063	1.0431	4.31%	6.6292
302	Fuel Oil #4	0.1472	1.3079	30.79%	1.6332	812	Window/Glass Cleaner	0.0064	0.9824	-1.76%	2.2897
403	Electricity #3, 82,000 KWH	0.0000	1.1233	12.33%	0.0000	813	Switch Plate	0.0046	1.0076	0.76%	1.1962
405	Gas #2, 65,000 therms	0.0903	1.2639	26.39%	0.0000	814	Duplex Receptacle	0.0030	0.9890	-1.10%	2.1810
406	Gas #3, 214,000 therms	0.3856	1.2808	28.08%	0.0000	815	Toilet Seat	0.0105	1.0024	0.24%	2.2358
407	Steam #1, 1.2m lbs	0.0660	1.1995	19.95%	0.0000	816	Deck Faucet	0.0130	0.9902	-0.98%	0.8080
408	Steam #2, 2.6m lbs	0.0207	1.2216	22.16%	0.0000	901	Refrigerator #1	0.0039	1.0177	1.77%	1.2389
	FUEL	0.0861	1.2463	24.63%	0.3580	902	Refrigerator #2	0.0188	0.9923	-0.77%	0.4462
401	Electricity #1, 2,500 KWH	0.0232	0.8754	-12.46%	0.0000	903	Air Conditioner #1	0.0007	0.9988	-0.12%	0.6848
402	Electricity #2, 15,000 KWH	0.2558	0.9765	-2.35%	0.0000	904	Air Conditioner #2	0.0009	1.0069	0.69%	0.7040
404	Gas #1, 12,000 therms	0.0072	1.0603	6.03%	0.0000	905	Floor Runner	0.0036	0.9808	-1.92%	2.2434
410	Water & Sewer	0.7138	1.0000	0.00%	0.0000	906	Dishwasher	0.0021	1.0160	1.60%	1.2285
	UTILITIES	0.1075	0.9915	-0.85%	0.0000	907	Range #1	0.0021	1.0332	3.32%	1.3912
501	Repainting	0.3343	1.0228	2.28%	0.5178	908	Range #2	0.0086	0.9798	-2.02%	1.7390
502	Plumbing, Faucet	0.1166	1.0351	3.51%	1.3833		MAINTENANCE	0.1755	1.0252	2.52%	0.3551
503	Plumbing, Stoppage	0.1033	1.0673	6.73%	2.1684	601	Management Fees	0.5254	1.0409	4.09%	1.1585
504	Elevator #1, 6 fl., 1 e.	0.0470	1.0333	3.33%	0.7999	602	Accountant Fees	0.1249	1.0351	3.51%	1.3516
505	Elevator #2, 13 fl., 2 e.	0.0291	1.0336	3.36%	0.8451	603	Attorney Fees	0.2149	1.0397	3.97%	1.7111
506	Elevator #3, 19 fl., 3 e.	0.0162	1.0339	3.39%	0.9415	604	Newspaper Ads	0.0108	1.0026	0.26%	0.2429
507	Burner Repair	0.0327	1.0289	2.89%	1.5007	607	Bill Envelopes	0.0214	1.0174	1.74%	0.9897
508	Boiler Repair, Tube	0.0407	1.0104	1.04%	1.0383	608	P.O. Box	0.0223	1.0207	2.07%	0.2286
509	Boiler Repair, Weld	0.0359	1.0105	1.05%	1.0714	609	Copy Paper	0.0221	1.0040	0.40%	4.7799
510	Refrigerator Repair	0.0110	1.0187	1.87%	1.2965	409	Communications*	0.0581	0.9882	-1.18%	0.0000
511	Range Repair	0.0099	1.0058	0.58%	0.4505		ADMINISTRATIVE COSTS	0.1316	1.0347	3.47%	0.7388
512	Roof Repair	0.0670	1.0105	1.05%	0.6163	701	INSURANCE COSTS	0.0512	1.0800	8.00%	1.4666
513	Air Conditioner Repair	0.0066	1.0043	0.43%	0.2917		ALL ITEMS	1.0000	1.06207	6.21%	0.1444
514	Floor Maint. #1, Studio	0.0002	1.0287	2.87%	1.6040						
515	Floor Maint. #2, 1 Br.	0.0004	1.0288	2.88%	1.6079						
516	Floor Maint. #3, 2 Br.	0.0032	1.0297	2.97%	1.6729						

(CONTINUED, TOP RIGHT)

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

3. Price Relative by Building Type, Apartments, 2017

Item Description	Pre-1947	Post-1946	Gas Heated	Oil Heated
TAXES	7.8%	7.7%	7.8%	7.8%
LABOR COSTS	4.3%	3.8%	4.1%	4.1%
FUEL	25.0%	23.4%	27.8%	22.1%
UTILITIES	-0.5%	-0.8%	-1.2%	-0.7%
MAINTENANCE	2.6%	2.3%	2.5%	2.5%
ADMINISTRATIVE COSTS	3.4%	3.6%	3.5%	3.5%
INSURANCE COSTS	8.0%	8.0%	8.0%	8.0%
ALL ITEMS	6.7%	5.7%	6.0%	6.5%

4. Price Relative by Hotel Type, 2017

Item Description	Hotel	Rooming House	SRO
TAXES	6.3%	6.0%	6.9%
LABOR COSTS	4.2%	5.0%	5.1%
FUEL	17.5%	17.6%	20.9%
UTILITIES	-0.5%	-3.3%	-1.9%
MAINTENANCE	1.1%	1.9%	0.6%
ADMINISTRATIVE COSTS	2.4%	3.3%	3.2%
INSURANCE COSTS	8.0%	8.0%	8.0%
ALL ITEMS	6.2%	5.2%	7.0%

5. Percentage Change in Real Estate Tax Sample by Borough and Source of Change, Apartments and Hotels, 2017

	% Change Due to Assessments	% Change Due to Exemptions	% Change Due to Tax Rates	% Change Due to Abatements	% Change Due to Interactions	Total % Change
APARTMENTS						
Manhattan	7.36%	-0.05%	0.06%	0.01%	0.00%	7.38%
Bronx	8.73%	-1.92%	0.07%	0.42%	0.00%	7.31%
Brooklyn	12.47%	-3.06%	0.07%	-0.05%	0.01%	9.43%
Queens	8.53%	-0.27%	0.07%	-0.15%	0.01%	8.19%
Staten Island	8.79%	-1.46%	0.07%	0.05%	0.01%	7.46%
All Apartments	8.43%	-0.65%	0.06%	-0.07%	0.00%	7.77%
HOTELS						
Hotel	7.57%	-0.72%	-0.57%	0.00%	-0.04%	6.25%
Rooming House	5.98%	-0.05%	0.09%	0.00%	0.01%	6.02%
SRO	8.19%	-0.98%	-0.19%	-0.14%	-0.01%	6.87%
All Hotels	7.56%	-0.71%	-0.36%	-0.04%	-0.02%	6.42%

Note: Totals may not add due to rounding.

6. Tax Change by Borough and Community Board, Apartments, 2017

Borough	Community Board	Number of Buildings	Tax Relative	Borough	Community Board	Number of Buildings	Tax Relative	Borough	Community Board	Number of Buildings	Tax Relative
Manhattan		12,291	7.38%	7		967	7.15%		17	629	12.00%
				8		344	6.65%		18	81	10.05%
1		89	13.94%	9		307	9.33%	Queens		6,908	8.19%
2		1,101	7.60%	10		213	7.83%		1	1,967	10.62%
3		1,561	7.06%	11		321	6.49%		2	887	9.42%
4		938	8.33%	12		494	2.88%		3	483	8.81%
5		254	11.90%	Brooklyn		13,306	9.43%		4	471	9.16%
6		808	7.27%		1	1,658	6.42%		5	1204	3.64%
7		1,694	8.40%		2	620	7.77%		6	326	7.04%
8		1,903	5.00%		3	1,048	14.16%		7	453	8.09%
9		742	8.86%		4	1,443	2.24%		8	222	7.24%
10		1,012	6.66%		5	469	12.28%		9	240	7.06%
11		739	0.92%		6	903	9.38%		10	50	7.15%
12		1,439	8.19%		7	899	9.92%		11	122	10.04%
Lower		7,890	7.39%		8	1,027	9.50%		12	191	8.75%
Upper		4,401	7.31%		9	579	13.07%		13	54	5.42%
Bronx		5,813	7.31%		10	803	8.38%		14	169	6.84%
	1	445	8.80%		11	701	8.77%	Staten Island		175	7.46%
	2	280	9.53%		12	622	9.54%		1	130	6.04%
	3	399	4.51%		13	174	5.99%		2	25	5.78%
	4	748	9.62%		14	890	10.59%		3	20	13.70%
	5	714	7.59%		15	367	8.46%	ALL		38,493	7.77%
	6	558	7.52%		16	382	22.42%				

Note: No Community Board (CB) could be assigned to the following number of buildings for each borough: Manhattan (10), Bronx (23), Brooklyn (11), Queens (69). 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, 2017

Spec #	Item Description	Expenditure Weights	Price Relative	% Change	Standard Error	Spec #	Item Description	Expenditure Weights	Price Relative	% Change	Standard Error
101	TAXES	0.4098	1.0642	6.42%	0.8034	518	Linen/Laundry Service	0.1182	1.0164	1.64%	1.7485
205	Social Security Insurance	0.0491	1.0371	3.71%	0.0000	801	Light Bulbs	0.0048	0.9640	-3.60%	4.3704
206	Unemployment Insurance	0.0104	0.8560	-14.40%	0.0000	802	Light Switch	0.0049	1.0303	3.03%	1.8700
208	Hotel Private Health/Welfare	0.0557	1.0599	5.99%	0.0000	803	Wet Mop	0.0139	0.9887	-1.13%	3.5342
209	Hotel Union Labor	0.3184	1.0381	3.81%	0.0000	804	Floor Wax	0.0159	1.0477	4.77%	2.6503
210	SRO Union Labor	0.0124	1.0400	4.00%	0.0000	805	Paint	0.0426	0.9822	-1.78%	1.8541
211	Apartment Value	0.1168	1.0440	4.40%	0.7753	806	Pushbroom	0.0110	1.0354	3.54%	6.2914
212	Non-Union Superintendent	0.3102	1.0622	6.22%	1.4915	807	Detergent	0.0145	1.0105	1.05%	2.4528
213	Non-Union Maid	0.0000	0.0000	NA	0.0000	808	Bucket	0.0174	1.0045	0.45%	2.6427
214	Non-Union Desk Clerk	0.0000	0.0000	NA	0.0000	809	Washers	0.0142	0.9813	-1.87%	3.3134
215	Non-Union Maintenance Worker	0.0000	0.0000	NA	0.0000	810	Linens	0.0581	0.9787	-2.13%	3.7493
216	Non-Union Janitor/Porter	0.1269	1.0455	4.55%	0.0000	811	Pine Disinfectant	0.0076	1.0173	1.73%	6.4891
	LABOR COSTS	0.1521	1.0465	4.65%	0.4715	812	Window/Glass Cleaner	0.0076	1.0431	4.31%	6.6292
301	Fuel Oil #2	0.6039	1.1762	17.62%	0.9141	813	Switch Plate	0.0168	0.9824	-1.76%	2.2897
302	Fuel Oil #4	0.0130	1.3079	30.79%	1.6332	814	Duplex Receptacle	0.0113	1.0076	0.76%	1.1962
403	Electricity #3, 82,000 KWH	0.2341	1.1233	12.33%	0.0000	815	Toilet Seat	0.0161	0.9890	-1.10%	2.1810
405	Gas #2, 65,000 therms	0.0277	1.2639	26.39%	0.0000	816	Deck Faucet	0.0201	1.0024	0.24%	2.2358
406	Gas #3, 214,000 therms	0.1209	1.2808	28.08%	0.0000	901	Refrigerator #1	0.0025	0.9902	-0.98%	0.8080
407	Steam #1, 1.2m lbs	0.0003	1.1995	19.95%	0.0000	902	Refrigerator #2	0.0118	1.0177	1.77%	1.2389
	FUEL	0.1231	1.1806	18.06%	0.5524	903	Air Conditioner #1	0.0073	0.9923	-0.77%	0.4462
401	Electricity #1, 2,500 KWH	0.1467	0.8754	-12.46%	0.0000	904	Air Conditioner #2	0.0089	0.9988	-0.12%	0.6848
402	Electricity #2, 15,000 KWH	0.1369	0.9765	-2.35%	0.0000	907	Range #1	0.0012	1.0160	1.60%	1.2285
404	Gas #1, 12,000 therms	0.0704	1.0603	6.03%	0.0000	908	Range #2	0.0049	1.0332	3.32%	1.3912
410	Water & Sewer	0.6460	1.0000	0.00%	0.0000	909	Carpet	0.0398	0.9798	-2.02%	1.7390
	UTILITIES	0.0508	0.9827	-1.73%	0.0000	910	Dresser	0.0191	1.0020	0.20%	1.3617
501	Repainting	0.1337	1.0228	2.28%	0.5178	911	Mattress & Box Spring	0.0163	1.0105	1.05%	0.5202
502	Plumbing, Faucet	0.0529	1.0351	3.51%	1.3833		MAINTENANCE	0.1213	1.0130	1.30%	0.0764
503	Plumbing, Stoppage	0.0497	1.0673	6.73%	2.1684	601	Management Fees	0.5507	1.0409	4.09%	1.1585
504	Elevator #1, 6 fl., 1 e.	0.0231	1.0333	3.33%	0.7999	602	Accountant Fees	0.0603	1.0351	3.51%	1.3516
505	Elevator #2, 13 fl., 2 e.	0.0197	1.0336	3.36%	0.8451	603	Attorney Fees	0.0862	1.0397	3.97%	1.7111
506	Elevator #3, 19 fl., 3 e.	0.0180	1.0339	3.39%	0.9415	604	Newspaper Ads	0.0859	1.0026	0.26%	0.2429
507	Burner Repair	0.0172	1.0289	2.89%	1.5007	607	Envelopes	0.0055	1.0174	1.74%	0.9897
508	Boiler Repair, Tube	0.0193	1.0104	1.04%	1.0383	608	P.O. Box	0.0057	1.0207	2.07%	0.2286
509	Boiler Repair, Weld	0.0201	1.0105	1.05%	1.2965	609	Copy Paper	0.0057	1.0040	0.40%	4.7799
511	Range Repair	0.0833	1.0058	0.58%	0.4505	409	Communications*	0.2001	0.9882	-1.18%	0.0000
512	Roof Repair	0.0217	1.0105	1.05%	0.6163		ADMINISTRATIVE COSTS	0.0973	1.0262	2.62%	0.6608
513	Air Conditioner Repair	0.0245	1.0043	0.43%	0.2917	701	INSURANCE COSTS	0.0457	1.0800	8.00%	1.4666
514	Floor Maint. #1, Studio	0.0005	1.0287	2.87%	1.6040		ALL ITEMS	1.0000	1.0625	6.25%	0.3592
515	Floor Maint. #2, 1 Br.	0.0010	1.0288	2.88%	1.6079						
516	Floor Maint. #3, 2 Br.	0.0087	1.0297	2.97%	1.6729						

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

8. Expenditure Weights and Price Relatives, Lofts, 2017

Spec #	Item Description	Weights	Price Relative	Spec #	Item Description	Weights	Price Relative
101	TAXES	0.3172	7.77%	801	Light Bulbs	0.0061	3.03%
201	Payroll, Bronx, All	0.0000	2.52%	802	Light Switch	0.0068	-1.13%
202	Payroll, Other, Union, Supts.	0.2361	2.37%	803	Wet Mop	0.0062	4.77%
203	Payroll, Other, Union, Other	0.0000	2.44%	804	Floor Wax	0.0067	-1.78%
204	Payroll, Other, Non-Union, All	0.5437	5.59%	805	Paint	0.0404	3.54%
205	Social Security Insurance	0.0402	3.71%	806	Pushbroom	0.0050	1.05%
206	Unemployment Insurance	0.0054	-14.40%	807	Detergent	0.0056	0.45%
207	Private Health & Welfare	0.1746	5.79%	808	Bucket	0.0074	-1.87%
	LABOR COSTS	0.0896	4.68%	809	Washers	0.0148	-2.13%
301	Fuel Oil #2	0.3170	17.62%	811	Pine Disinfectant	0.0102	4.31%
302	Fuel Oil #4	0.5251	30.79%	812	Window/Glass Cleaner	0.0103	-1.76%
403	Electricity #3, 82,000 KWH	0.0000	12.33%	813	Switch Plate	0.0074	0.76%
405	Gas #2, 65,000 therms	0.0362	26.39%	814	Duplex Receptacle	0.0049	-1.10%
406	Gas #3, 214,000 therms	0.0973	28.08%	815	Toilet Seat	0.0169	0.24%
407	Steam #1, 1.2m lbs	0.0189	19.95%	816	Deck Faucet	0.0210	-0.98%
408	Steam #2, 2.6m lbs	0.0057	22.16%	901	Refrigerator #1	0.0117	1.77%
	FUEL	0.0603	25.9%	902	Refrigerator #2	0.0563	-0.77%
401	Electricity #1, 2,500 KWH	0.0089	-12.46%	903	Air Conditioner #1	0.0021	-0.12%
402	Electricity #2, 15,000 KWH	0.0991	-2.35%	904	Air Conditioner #2	0.0027	0.69%
404	Gas #1, 12,000 therms	0.0028	6.03%	905	Floor Runner	0.0108	-1.92%
410	Water & Sewer	0.8892	0.00%	906	Dishwasher	0.0062	1.60%
	UTILITIES	0.0712	-0.33%	907	Range #1	0.0063	3.32%
501	Repainting	0.2772	2.28%	908	Range #2	0.0258	-2.02%
502	Plumbing, Faucet	0.0967	3.51%		MAINTENANCE	0.0955	2.12%
503	Plumbing, Stoppage	0.0857	6.73%		ADMINISTRATIVE COSTS - LEGAL	0.0635	3.97%
504	Elevator #1, 6 fl., 1 e.	0.0390	3.33%	601	Management Fees	0.8337	4.09%
505	Elevator #2, 13 fl., 2 e.	0.0242	3.36%	602	Accountant Fees	0.1309	3.51%
506	Elevator #3, 19 fl., 3 e.	0.0135	3.39%	604	Newspaper Ads	0.0096	0.26%
507	Burner Repair	0.0271	2.89%	607	Envelopes	0.0062	1.74%
508	Boiler Repair, Tube	0.0338	1.04%	608	P.O. Box	0.0064	2.07%
509	Boiler Repair, Weld	0.0298	1.05%	609	Copy Paper	0.0064	0.40%
510	Refrigerator Repair	0.0091	1.87%	409	Communications*	0.0067	-1.18%
511	Range Repair	0.0082	0.58%		ADMINISTRATIVE COSTS - OTHER	0.0945	3.89%
512	Roof Repair	0.0555	1.05%	701	INSURANCE COSTS	0.2083	8.00%
513	Air Conditioner Repair	0.0055	0.43%		ALL ITEMS	1.0000	6.91%
514	Floor Maint. #1, Studio	0.0002	2.87%				
515	Floor Maint. #2, 1 Br.	0.0003	2.88%				
516	Floor Maint. #3, 2 Br.	0.0026	2.97%				

(CONTINUED, TOP RIGHT)

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