



# Impact of a Recession on Owner Expenditures

James F. Hudson, Ph.D.

NYC RENT GUIDELINES BOARD • JUNE 3, 2021

# Recession-Sensitive PIOC Background

- ✓ Staff worked with Dr. Jim Hudson to address concerns about whether the Price Index of Operating Costs (PIOC) accurately captures the effect of recessions, during which expenditures made by building owners may be reduced as they respond to economic uncertainty.
- ✓ Two sources of expense data: RPIE filings and PIOC
- ✓ Benefits of a Price Index:
  - Price data can be collected quickly
  - Price data is easier to collect than expenditure data
  - If the average quantities of purchased items don't change from year to year, then the PIOC should accurately measure the change in costs
- ✓ Cons of a Price Index:
  - Does not account for possible changes in expenditure patterns during times of economic insecurity

# Recession-Sensitive PIOC Hypothesis

- ✓ Hypothesis: In times of recession, such as 2020, will owners reduce the quantities they buy in discretionary areas?
- ✓ Hypothesis Assumptions:
  - Some categories already measure expenditures, such as taxes and insurance
  - Some categories of the PIOC are not discretionary, including:
    - Fuel, primarily for heat
    - Utilities
    - Other administrative costs, primarily accountant and attorney fees
  - Building owners may reduce expenditures in following PIOC categories when faced with economic uncertainty, including:
    - Labor, where there might be a change in the number of staff or their hours during recessions
    - The Maintenance component, including painting, building repairs, and supplies
- ✓ Recession Periods:
  - Q3 1990 through Q1 1991
  - Calendar year 2001
  - Q4 2007 through Q2 2009

# Recession-Sensitive PIOC

## Data Quality

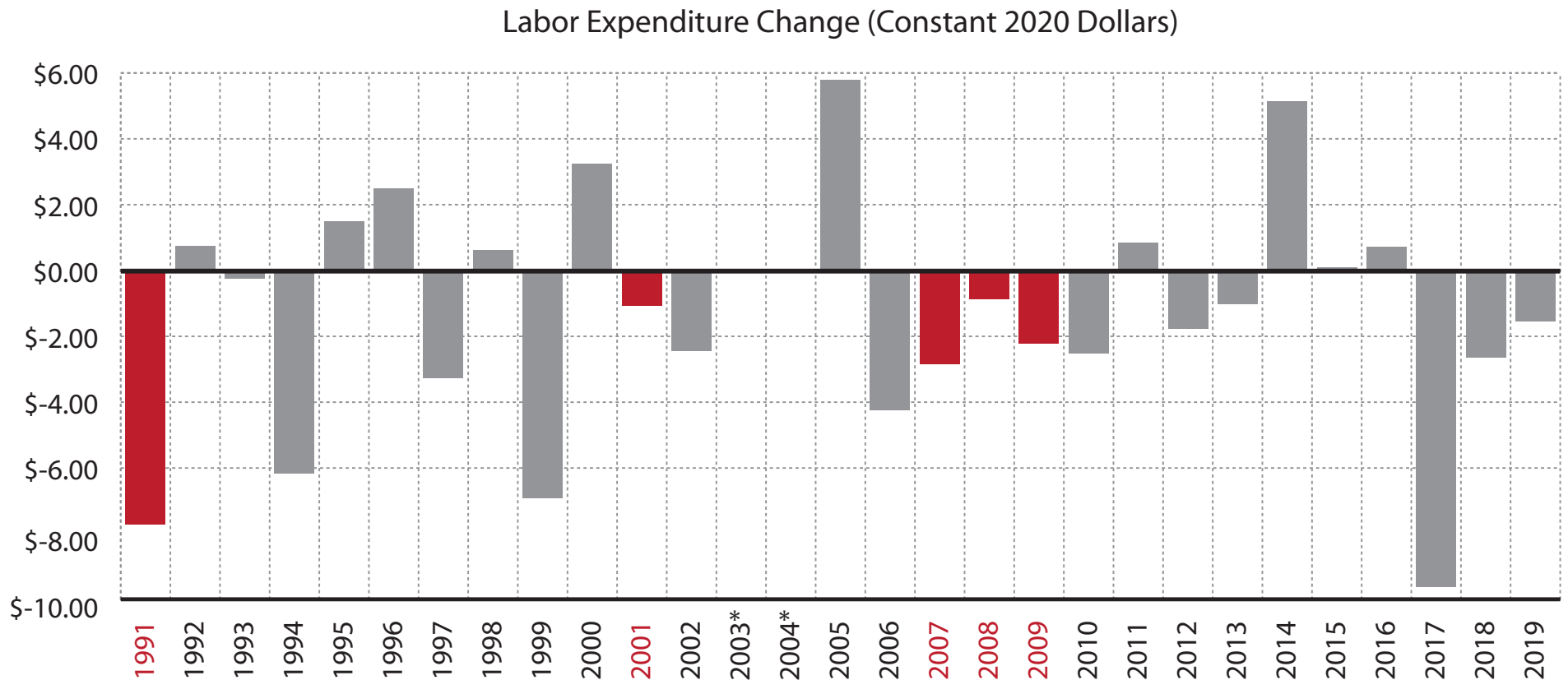
- ✓ There is significant uncertainty in all the data used here. The data come from samples of owners and vendors. The methods used in both the I&E and the PIOC have improved over time, which means that the older data are likely to be less accurate than the more recent years. In addition, the analysis “years” do not match up perfectly.
- ✓ Since the data were limited, very simple analytical methods were used; data quality did not support more advanced methods.
- ✓ Therefore, this analysis only provides a limited estimate of the effect of recessions. There is no calculation of statistical significance.

# Recession-Sensitive PIOC Labor Cost Component

## Labor:

- ✓ First, convert all costs from the RPIE filings in a constant dollar amount, in this case 2020 dollars.
- ✓ Overall, the constant-dollar labor cost was \$157.49 per unit in 1990 and dropped \$116.56 in 2019 (in “2020 labor dollars”)
- ✓ The average change per year in constant-dollar labor costs (base 2020) was:
  - -\$0.96 in non-recession years
  - -\$2.93 in recession years
- ✓ Expected change in 2020 is 1.7% decrease

# Change in Inflation-Adjusted RPIE Labor Costs (1991-2019)



\*Data Not Available

Source: New York City Department of Finance

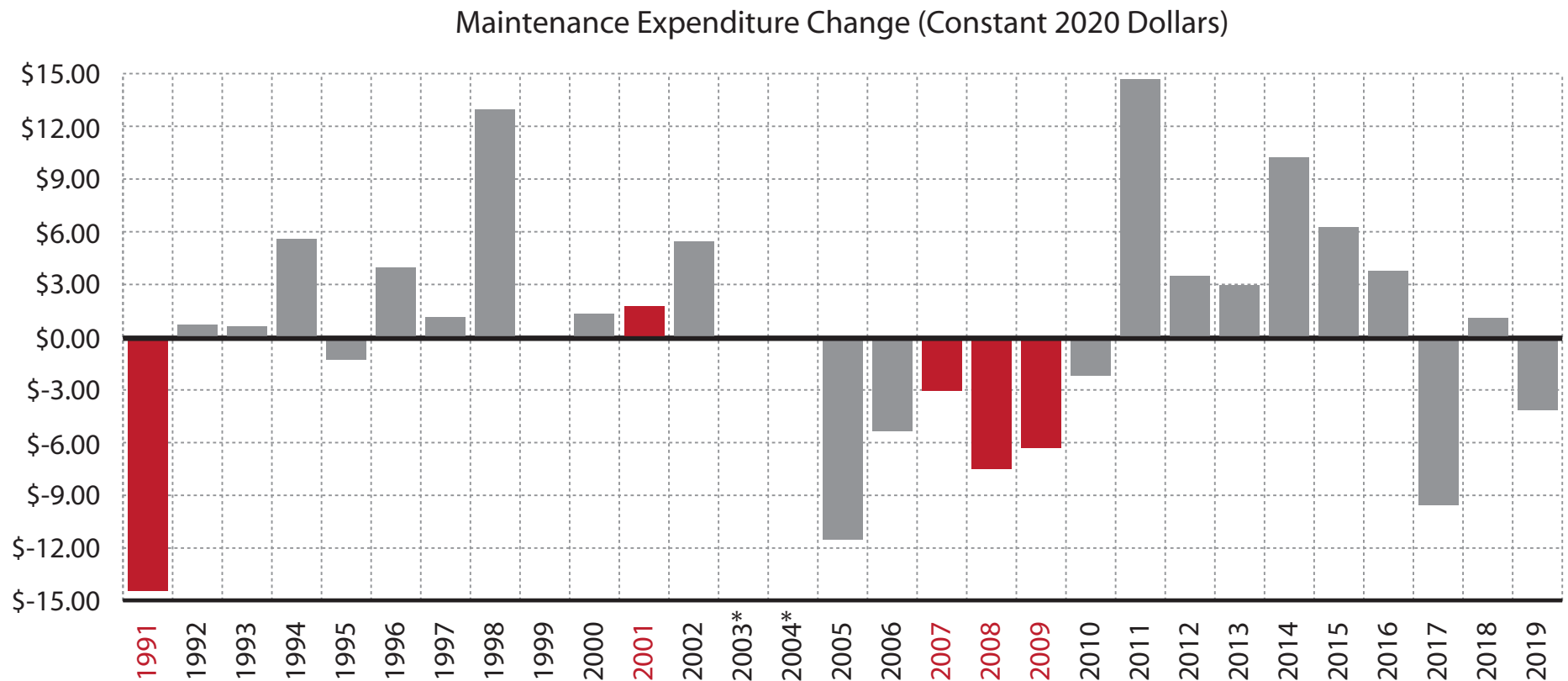
# Recession-Sensitive PIOC Maintenance Component

## Maintenance:

- ✓ Convert costs to constant 2020 dollars.
- ✓ Overall, the constant-dollar maintenance was \$192.60 per unit in 1990 and \$192.21 in 2019) (in “2020 maintenance dollars”)
- ✓ The average change per year in constant-dollar maintenance costs (base 2020) was:
  - +\$1.82 in non-recession years
  - -\$5.89 in recession years
- ✓ Expected change in 2020 is 4.0% decrease



# Change in Inflation-Adjusted RPIE Maintenance Costs (1991-2019)



\*Data Not Available



# Recession-Sensitive PIOC Summary

- ✓ How would the overall PIOC change if there really was a 1.7% drop in the amount of labor purchased and a 4.0% drop in the amount of maintenance purchased?
- ✓ For Taxes, Insurance, and Management Fees, we assume that the PIOC covers actual changes in expenditures
- ✓ For the other components and items (Fuel, Utilities, Administrative), we assume no change in the quantities and items purchased, which is the standard assumption for the PIOC.
- ✓ Labor prices increased by 2.8%. But if we combine that with a 1.7% drop in quantity, the effective labor change is an increase of 1.1%
- ✓ Maintenance prices increased by 2.9%. But, combined with a 4.0% drop in quantity, the effective maintenance change is a decrease of 1.2%
- ✓ This leads to a “recession PIOC” of 2.1%, rather than the calculated value of 3.0%



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