

Discussion of “Rising Waters, Falling Taxes: The Impact of Hurricane Sandy on Property Tax Assessments in NYC”

By Wei Guo, Qing Miao, Yusun Kim, Yilin Hou

Francesco Ruggieri

University of Chicago

14th Annual Municipal Finance Conference – July 22, 2025

Background

- Most state governments impose **limits** on one or more components of **property tax policy**:
 - ① Tax rates
 - ② Growth in tax revenue
 - ③ Growth in assessed values (→ New York)

Background

- Most state governments impose **limits** on one or more components of **property tax policy**:
 - ① Tax rates
 - ② Growth in tax revenue
 - ③ Growth in assessed values (→ New York)
- In NYC, given a property's estimated market value (MV), its assessed value (AV) in year y is

$$AV_y = \min \{ 0.06 \times MV_y, 1.06 \times AV_{y-1}, 1.20 \times AV_{y-5} \}$$

Background

- Most state governments impose **limits** on one or more components of **property tax policy**:
 - ① Tax rates
 - ② Growth in tax revenue
 - ③ Growth in assessed values (→ New York)
- In NYC, given a property's estimated market value (MV), its assessed value (AV) in year y is
$$AV_y = \min \{ 0.06 \times MV_y, 1.06 \times AV_{y-1}, 1.20 \times AV_{y-5} \}$$
- Caps are meant to offset **rapid** housing price **capitalization** of positive local demand shocks
 - Faster than wage adjustment, especially if inelastic housing supply (Glaeser, Gyourko, Saks 2006)

Background

- Most state governments impose **limits** on one or more components of **property tax policy**:
 - ① Tax rates
 - ② Growth in tax revenue
 - ③ Growth in assessed values (→ New York)
- In NYC, given a property's estimated market value (MV), its assessed value (AV) in year y is
$$AV_y = \min \{ 0.06 \times MV_y, 1.06 \times AV_{y-1}, 1.20 \times AV_{y-5} \}$$
- Caps are meant to offset **rapid** housing price **capitalization** of positive local demand shocks
 - Faster than wage adjustment, especially if inelastic housing supply (Glaeser, Gyourko, Saks 2006)
- But housing prices may **decline** in response to negative local shocks

Overview

- This paper evaluates the capitalization effects of Hurricane Sandy in New York City

Overview

- This paper evaluates the capitalization effects of Hurricane Sandy in New York City
- In particular, it examines their interaction with NYC's **nonlinear** property tax rules

Overview

- This paper evaluates the capitalization effects of Hurricane Sandy in New York City
- In particular, it examines their interaction with NYC's **nonlinear** property tax rules
- Key empirical findings:
 - ① The assessed-to-market-value ratio of **directly** affected properties **increased** by **4** percent
 - ② The assessed-to-market-value ratio of **indirectly** affected properties **increased** by **24** percent
 - ③ Inundated properties in the **high-value** segment incurred a larger increase in relative tax burden

Overview

- This paper evaluates the capitalization effects of Hurricane Sandy in New York City
- In particular, it examines their interaction with NYC's **nonlinear** property tax rules
- Key empirical findings:
 - ① The assessed-to-market-value ratio of **directly** affected properties **increased** by **4** percent
 - ② The assessed-to-market-value ratio of **indirectly** affected properties **increased** by **24** percent
 - ③ Inundated properties in the **high-value** segment incurred a larger increase in relative tax burden
- Mechanisms:
 - ① **Directly** affected properties qualified for city **tax relief**, but many were subject to **caps**
 - ② **Indirectly** affected properties did **not** qualify for tax relief, their assessed values were not revised
 - ③ Assessed values in the **high-value** segment were more likely to be **capped** (recent appreciation)

Main Comment

- Assessment caps generate winners and losers:

Main Comment

- Assessment caps generate winners and losers:
 - ① **Positive** shock \implies Rapid house **appreciation** \implies **Lower** effective property tax rate

Main Comment

- Assessment caps generate winners and losers:
 - ① **Positive** shock \implies Rapid house **appreciation** \implies **Lower** effective property tax rate
 - ② **Negative** shock \implies Rapid house **depreciation** \implies **Higher** effective property tax rate

Main Comment

- Assessment caps generate winners and losers:
 - ① **Positive** shock \implies Rapid house **appreciation** \implies **Lower** effective property tax rate
 - ② **Negative** shock \implies Rapid house **depreciation** \implies **Higher** effective property tax rate
- Assessment caps caused high-end properties to bear a larger post-Sandy relative tax burden...

Main Comment

- Assessment caps generate winners and losers:
 - ① **Positive** shock \implies Rapid house **appreciation** \implies **Lower** effective property tax rate
 - ② **Negative** shock \implies Rapid house **depreciation** \implies **Higher** effective property tax rate
- Assessment caps caused high-end properties to bear a larger post-Sandy relative tax burden...
- ...but those properties appreciated faster prior to Sandy and thus benefited from the caps

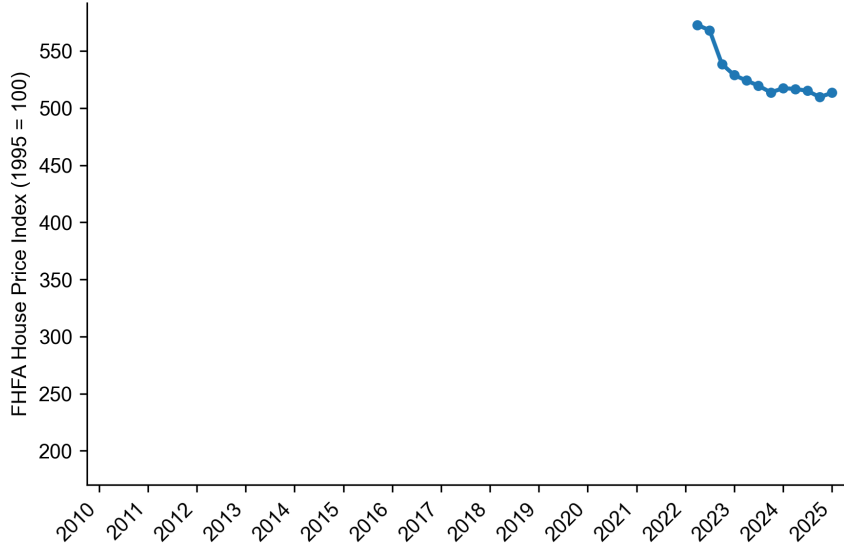
Main Comment

- Assessment caps generate winners and losers:
 - ① **Positive** shock \implies Rapid house **appreciation** \implies **Lower** effective property tax rate
 - ② **Negative** shock \implies Rapid house **depreciation** \implies **Higher** effective property tax rate
- Assessment caps caused high-end properties to bear a larger post-Sandy relative tax burden...
- ...but those properties appreciated faster prior to Sandy and thus benefited from the caps
- **Dynamic welfare implications** are not straightforward
 - A structural model might provide a clearer definition of “winners” and “losers”

Main Comment

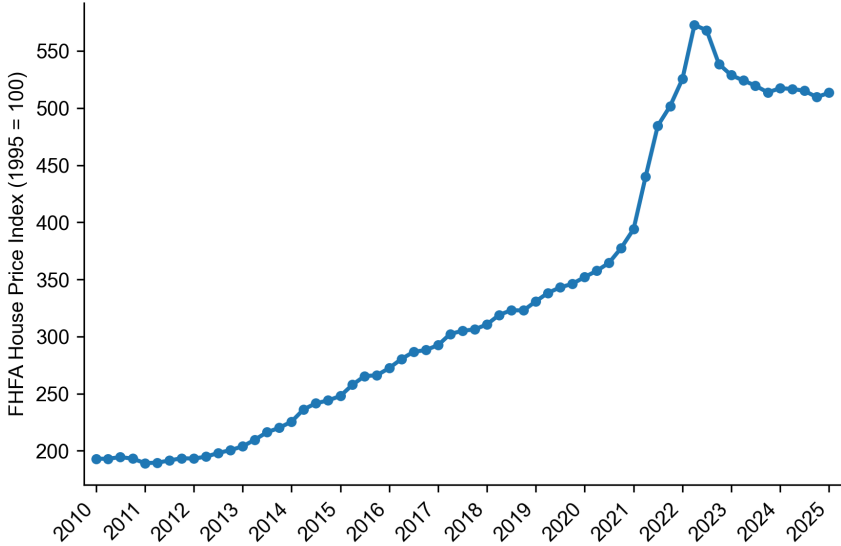
- Assessment caps generate winners and losers:
 - ① **Positive** shock \implies Rapid house **appreciation** \implies **Lower** effective property tax rate
 - ② **Negative** shock \implies Rapid house **depreciation** \implies **Higher** effective property tax rate
- Assessment caps caused high-end properties to bear a larger post-Sandy relative tax burden...
- ...but those properties appreciated faster prior to Sandy and thus benefited from the caps
- **Dynamic welfare implications** are not straightforward
 - A structural model might provide a clearer definition of “winners” and “losers”
- Natural disasters aside, large swings in housing prices are not uncommon...

Main Comment



Source: U.S. Federal Housing Finance Agency, House Price Index for the Austin–Round Rock–Georgetown MSA.

Main Comment



Source: U.S. Federal Housing Finance Agency, House Price Index for the Austin–Round Rock–Georgetown MSA.

Technical Comment

- The **control group** differs across the two main specifications:
 - Specification #1: all non-inundated properties, irrespective of their location
 - Specification #2: non-inundated properties located outside Evacuation Zone A

Technical Comment

- The **control group** differs across the two main specifications:
 - Specification #1: all non-inundated properties, irrespective of their location
 - Specification #2: non-inundated properties located outside Evacuation Zone A
- Thus, **non-inundated** properties located **inside** Evacuation Zone A:
 - Belong to the control group in Specification #1
 - Constitute a separate treatment group in Specification #2

Technical Comment

- The **control group** differs across the two main specifications:
 - Specification #1: all non-inundated properties, irrespective of their location
 - Specification #2: non-inundated properties located outside Evacuation Zone A
- Thus, **non-inundated** properties located **inside** Evacuation Zone A:
 - Belong to the control group in Specification #1
 - Constitute a separate treatment group in Specification #2
- The authors show that these properties were indirectly affected by Sandy
 - Possibly due to updated beliefs about flood risk or decreased quality of neighborhood amenities

Technical Comment

- The **control group** differs across the two main specifications:
 - Specification #1: all non-inundated properties, irrespective of their location
 - Specification #2: non-inundated properties located outside Evacuation Zone A
- Thus, **non-inundated** properties located **inside** Evacuation Zone A:
 - Belong to the control group in Specification #1
 - Constitute a separate treatment group in Specification #2
- The authors show that these properties were indirectly affected by Sandy
 - Possibly due to updated beliefs about flood risk or decreased quality of neighborhood amenities
- Cleaner control group in Specification #1: **non-inundated** properties located **outside** Zone A

Conclusion

- Very interesting paper!

Conclusion

- Very interesting paper!
- Takeaway point: evaluation of capitalization effects cannot rely **only** on **market** values
- Instead, account for the **interaction** of the housing market with salient property tax rules

Conclusion

- Very interesting paper!
- Takeaway point: evaluation of capitalization effects cannot rely **only** on **market** values
- Instead, account for the **interaction** of the housing market with salient property tax rules
- This case study has implications for **welfare analyses** of natural disasters and beyond:
 - Localized productivity shocks (e.g., Hornbeck and Moretti 2024)
 - Environmental amenities (e.g., Chay and Greenstone 2005, Greenstone and Gallagher 2008)
 - Local spending policies (e.g., Cellini, Ferreira, and Rothstein 2010)
 - Intergovernmental grants (e.g., Lutz 2010)