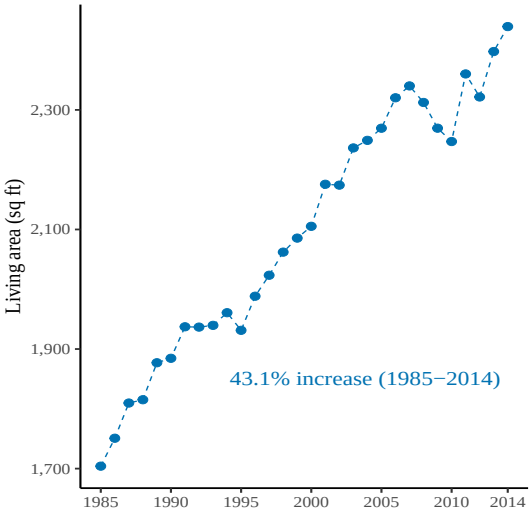
STATE LAW, LOCAL POLICY, AND HOUSING MARKETS

The Uneven Effects of Flat Fees

Colin Williams

University of Virginia – November 22, 2025

MOTIVATION



Housing affordability crisis in the U.S.

(Saiz, 2023; Albouy et al., 2016)

Why bigger homes if demand is for affordable (smaller) housing?

THIS PAPER: THE ROLE OF FIXED COSTS

Regulations impose fixed costs on housing:

- density regulations ("zoning tax") (Glaeser and Gyourko, 2002; Gyourko and Krimmel, 2021), discretionary review (Gold, 2025), minimum parking requirements (Gabbe et al., 2020)
- fixed costs affect relative prices (Alchian and Allen, 1964)

Development impact fees (DIFs): per-unit charges to fund infrastructure

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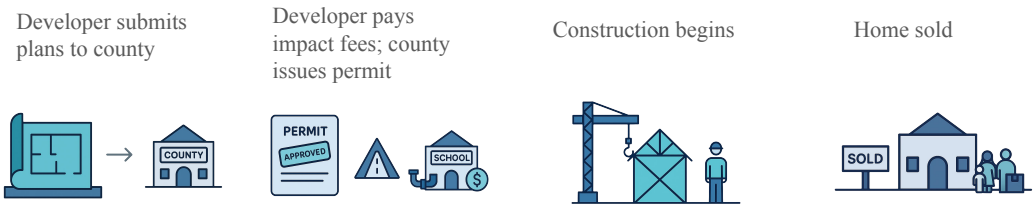

CONTRIBUTION

What determines local land use policy?

- fiscal motives ("homevoters") (Hamilton, 1975; Fischel, 2002), racial or class animus (Cui, 2024; Pedrotti, 2025), political decentralization (Mast, 2024)

$\Rightarrow$ New: the role of **state enabling legislation**

- Florida's 2006 fee enabling act $\Rightarrow$ DIFs $\uparrow$ \$1,800 (30%)

How do land use regulations affect housing characteristics?

- lot sizes (Mei, 2022; Gyourko and McCulloch, 2023; Song, 2021), "zoning tax" (Ma, 2024), impact fees (Edelstein, 2025; Burge and Ihlanfeldt, 2006a,b), discretionary review (Gold, 2025)

$\Rightarrow$ New: fees as a **fixed cost**

- heterogeneity in effects by home size (above median size unaffected)
- \$1,000 increase $\Rightarrow$ 1% larger homes

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The ROAD to Housing (2025)

Best practices to support production of adequate housing:

- "outline potential models for updated State enabling legislation..."
- include recommendations regarding
  - "the reduction of obstacles... to a range of housing types at all levels of affordability"
  - "the standardization, reduction, or elimination of impact fees"

How can policymakers stop localities from discouraging low-cost forms of housing?

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BACKGROUND AND DATA

FLORIDA'S IMPACT FEE ENABLING ACT

DIFs broadly employed in Florida since 1980s + subject to case law

Florida passes light-touch **enabling legislation** in 2006:

- accounting and reporting requirements **(-)**
- fees calculated "based on the most recent and localized data" **(-)**
- reduces litigation risk **(+)**

Act does not apply to utility fees (remain subject to case law)

- example fee schedule

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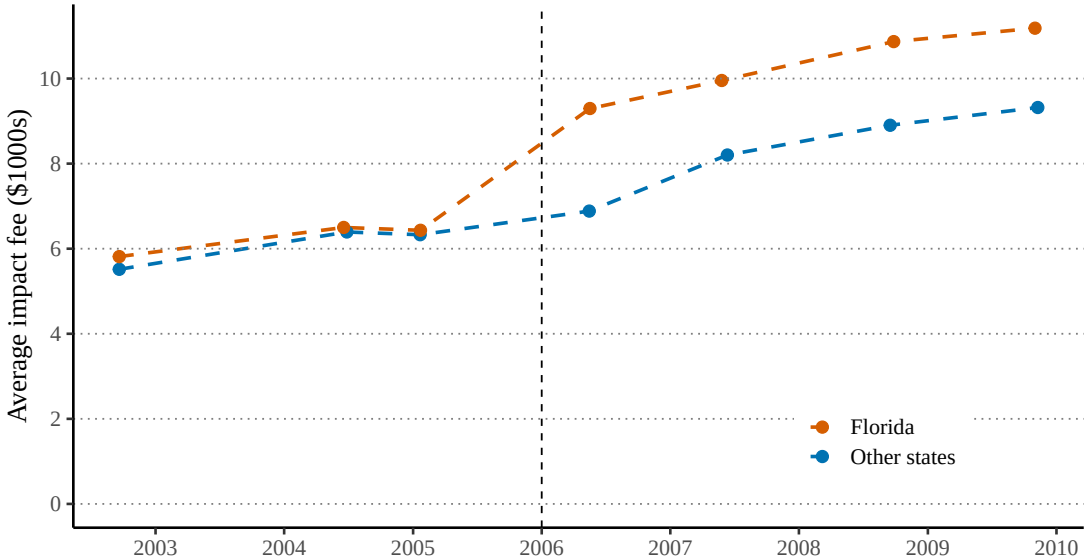
▸ example fee schedule

IMPACT FEES IN NATIONAL FEE SURVEY (2002-2009)

	Florida		Other states	
	Mean	Std. Dev.	Mean	Std. Dev
Impact fee ($1000s)	10.17	6.25	7.88	6.25
Non-utility	8.86	5.23	4.66	4.56
Utility	1.31	2.05	3.23	3.39
Population (1000s)	562	—	264	—
Number of jurisdictions	32	—	65	—
Number of unique states	1	—	21	—

Source: Mullen (2017)

AVERAGE LISTED FEES BY YEAR



JURISDICTIONS SUBSTITUTE TOWARDS FEES COVERED BY THE ENABLING ACT

$$Fee_{c,t} = \beta \cdot \text{FL}_c \times \text{Post-2006}_t + \gamma_c + \delta_t + \epsilon_{c,t}$$

Dependent Variables:	Impact fee ($)	Non-utility fee ($)	Utility fee ($)
Model:	(1)	(2)	(3)
Variables			
FL × Post-2006	1,828.8** (696.3)	2,467.0*** (380.9)	-638.2* (362.6)
Fixed-effects			
Jurisdiction	Yes	Yes	Yes
Year	Yes	Yes	Yes
Fit statistics			
Observations	679	679	679
R^2	0.82423	0.79396	0.92046

Clustered (State) standard-errors in parentheses
*Signif. Codes: ***: 0.01, **: 0.05, *: 0.1*

IMPACT FEES AND HOME SIZES

CONCEPTUAL FRAMEWORK: ENTRY INTO DEVELOPMENT

Developer of parcel i chooses living area q_i to solve

$$\max_{q_i} p(q_i) - c_i \cdot q_i - F,$$

where

- $p(q_i)$ is the inverse demand for housing area ($p' > 0, p'' < 0$)
- c_i is the variable cost of housing area
- F are all fixed costs (including impact fees)

CONCEPTUAL FRAMEWORK: OPTIMAL SIZE AND ENTRY

Developer of parcel i chooses living area q_i to solve

$$\max_{q_i} p(q_i) - c_i \cdot q_i - F,$$

hence

$$\underbrace{p'(q_i^*) = c_i,}_{\text{first-order condition}} \qquad \underbrace{p(q_i^*) - c_i \cdot q_i^* - F \geq 0}_{\text{entry condition}}$$

Key assumptions:

- variable cost of construction (c_i) varies across parcels due to location, topography, regulation, ... (Murphy, 2018)
- fees are partly borne by landowners or developers (Murray, 2018) ▸ price effects
- fees vary minimally with size ▸ evidence

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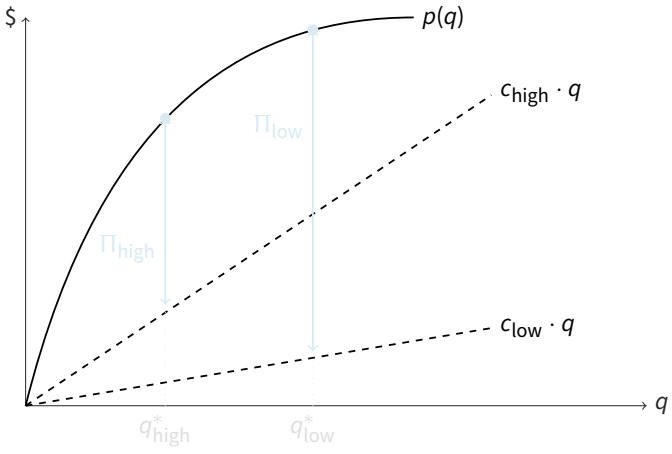
OPTIMAL SIZE AND DEVELOPER PROFITS



Comparative statics:

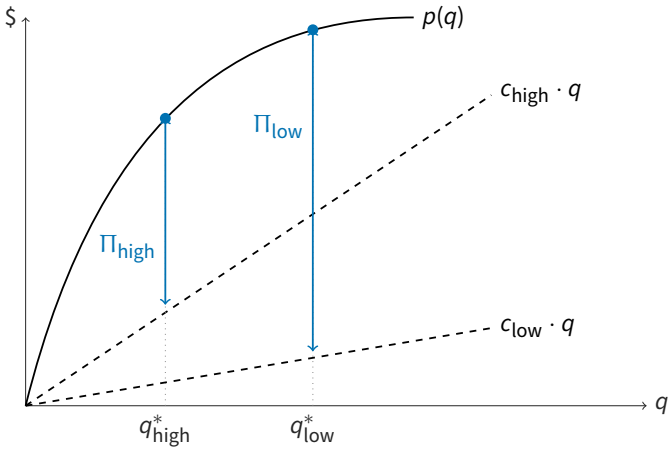
1. fixed costs reduce the number of profitable developments:

$$\frac{\partial \mathbb{E}_{c_i}\left(p(q_i^*) - c_i q_i^* - F > 0\right)}{\partial F} < 0$$

2. average size of remaining developments increases as small projects exit:

$$\frac{\partial \mathbb{E}_{c_i}[q_i^*]}{\partial F} > 0$$

OPTIMAL SIZE AND DEVELOPER PROFITS



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DATA & EMPIRICAL STRATEGY

DATA

Impact fees by county, Florida ▸ map

- for a typical single-family home, 1985-2014 (Burge, 2014)
- hand-collected schedules, 2015-2019
- focus on pre-GFC period in baseline (1985-2005)

CoreLogic
assessor data

- single-family units by county, year built, living area (2023)

Census Building Permits Survey
single-family permits by county, 1985-2014

FLORIDA COUNTY FEES

Local Projection Difference-in-Differences (Dube et al., 2025)

$$y_{c,t+h} - y_{c,t-1} = \beta_h \cdot \Delta Fee_{c,t} + \delta_t + \epsilon_{c,t}$$

where for outcome y in county c and calendar year t:

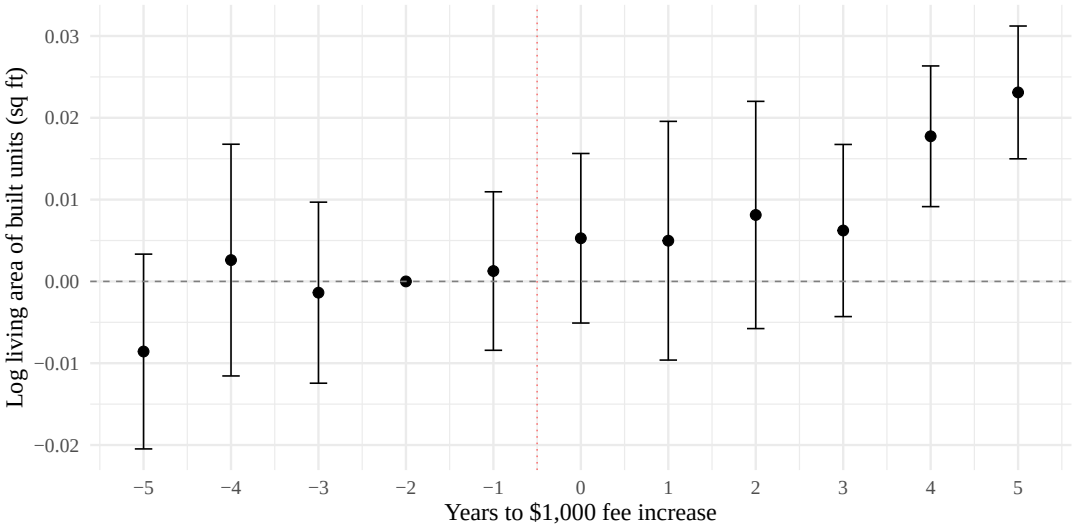
- $\Delta Fee_{c,t}$ is the change in impact fees
- β_h is the (variance-weighted) ATT of a \$1,000 increase in fees
- δ_t are year fixed effects (county FEs absorbed by differencing)

Staggered treatments $\Rightarrow$ filter to "clean controls:" no fee changes exceeding \$1000 (~ 1 s.d.) during effect window

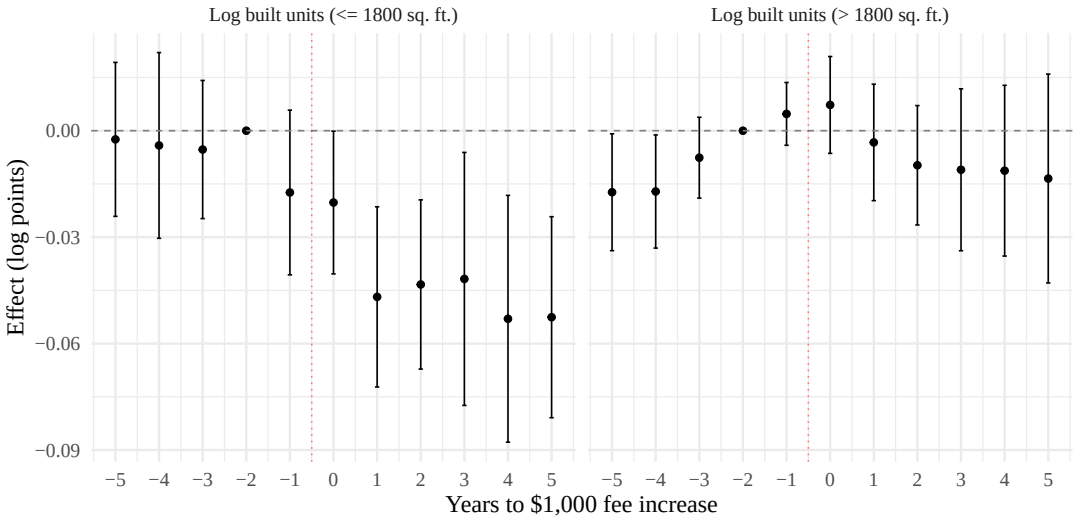
RESULTS

EFFECTS ON PERMITS AND COMPLETIONS

EFFECT ON LIVING AREA



EFFECTS ON BUILT UNITS SEPARATELY BY SIZE



ROBUSTNESS AND SENSITIVITY

Outcome

- placebo effects on log population ▸ results

Sample

- varying clean control threshold ▸ results
- include GFC years (1985-2014) ▸ results

Specification

- controls for pre-treatment outcomes ▸ results
- static twfe ▸ results

CONCLUSION

1. **Even “minor" state enabling legislation can shift local land use policy**
   - land use reg’s set as portfolio, not individually

2. **Fees reduce housing permits and completions**
   - effects concentrated among smaller homes

3. **Fixed costs increase the size of single-family homes**
   - average fee increased by $6,500 between 1985-2014 $\Rightarrow$ ~7% increase in living area
   - 17% of total increase (43%)

THANK YOU!

COMMENTS WELCOME: chv7bg@virginia.edu

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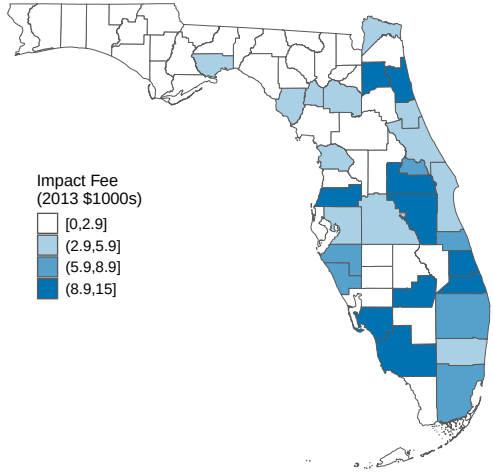
IMPACT FEES IN FLORIDA COUNTIES (2014)



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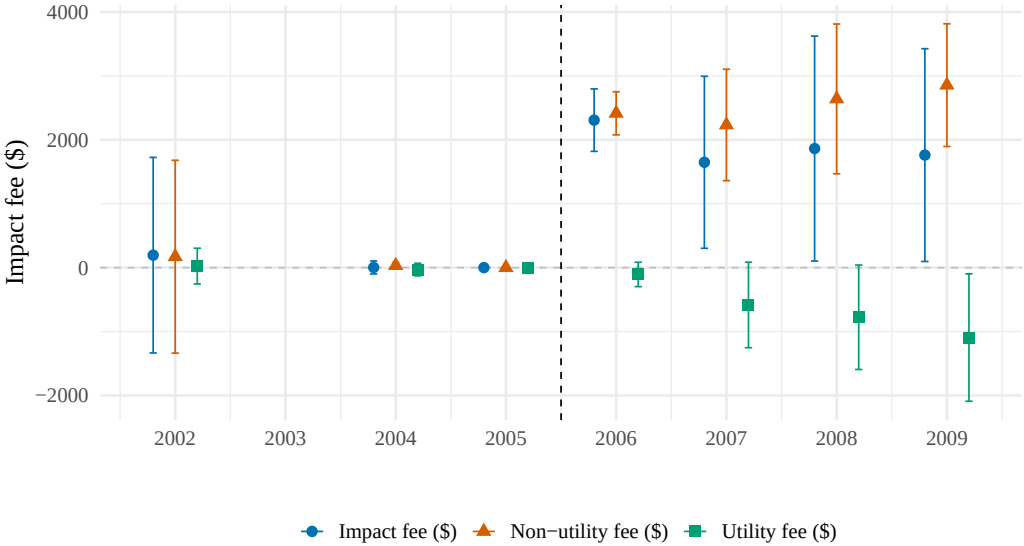
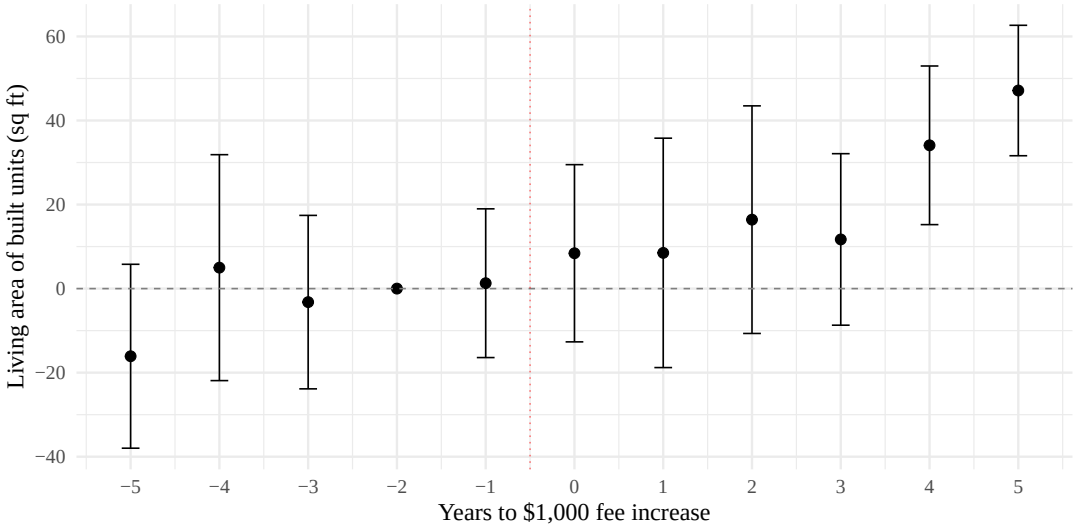
EFFECT OF ENABLING ACT ON FEE LEVELS (DYNAMIC)



EFFECT ON SQUARE FOOTAGE (LEVELS)



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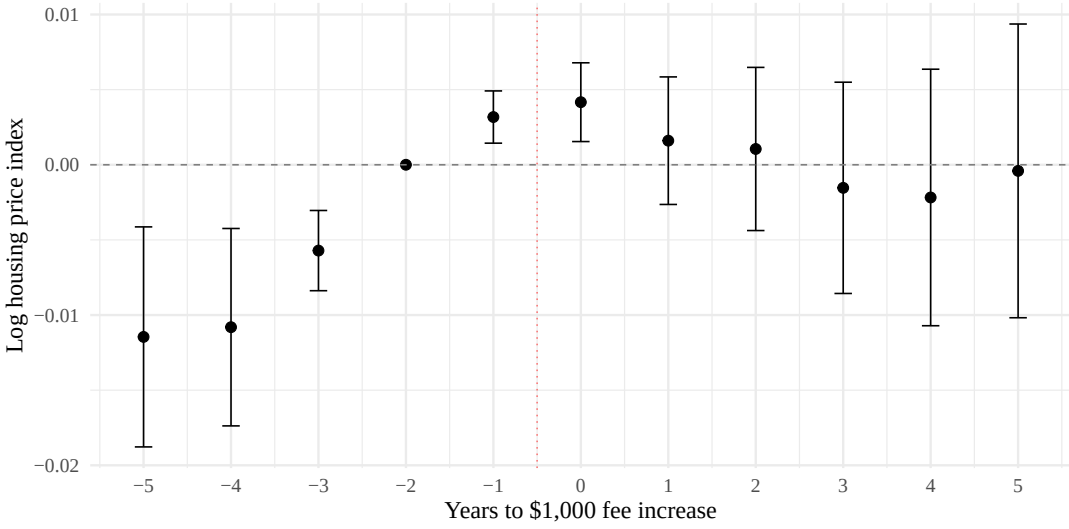
EFFECT ON LOG PRICE



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TWFE RESULTS

Dependent Variables: Model:	Log built units (1)	Log single-family permits (2)	Living area (sq ft) (3)	Log living area (sq ft) (4)
Variables				
Impact fee ($1000s)	-0.0008	-0.0054	11.68	0.0064
	(0.0178)	(0.0211)	(8.898)	(0.0040)
Fixed-effects				
County	Yes	Yes	Yes	Yes
Year	Yes	Yes	Yes	Yes
Fit statistics				
Observations	1,407	1,407	1,407	1,407
R^2	0.95108	0.93449	0.81107	0.84416
Within R^2	2.11×10^{-5}	0.00066	0.01664	0.02171

Clustered (County) standard-errors in parentheses
*Signif. Codes: ***: 0.01, **: 0.05, *: 0.1*

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ROBUSTNESS: VARYING CLEAN CONTROL THRESHOLD

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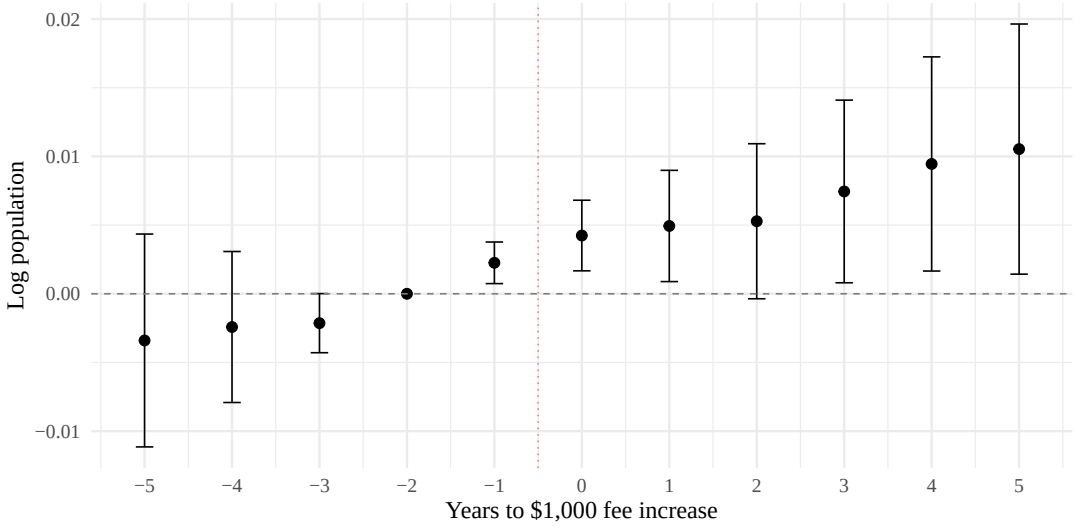
ROBUSTNESS: PLACEBO EFFECTS ON LOG POPULATION



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Hillsborough County Florida
Development Services

ESTIMATED RESIDENTIAL IMPACT/MOBILITY FEE ASSESSMENT BY ZONE PER DWELLING UNIT

(effective June 30, 2021)

MOBILITY FEES

Housing Type (fees are per unit)	Urban Zone	Rural Zone
Single Family (including Duplex/Triplex) (less than 1,500 square feet living area)	$6,542	$9,306
Single Family (including Duplex/Triplex) (1,500 to 2,499 square feet living area)	$7,346	$10,430
Single Family (including Duplex/Triplex) (2,500 square feet or greater living area)	$8,440	$11,950
Mobile Home	$2,764	$3,908
Multi-Family (Low-Rise, 1-2 levels)(Condo, Townhome, Apt, etc.)	$5,329	$7,556
Multi-Family (Mid-Rise, 3-10 levels)(Condo, Townhome, Apt, etc.)	$3,891	$5,546
Mulit-Family (High-Rise, >10 levels)(Condo, Townhome, Apt, etc.)	$3,130	$4,483
Mid-Rise Residential (3-10 levels) w/1st Floor Commercial	$2,345	$3,391
High-Rise Residential (>10 levels) w/1st Floor Commercial	$1,244	$1,855

SCHOOL TOTAL IMPACT FEES (COUNTYWIDE)

Living Area per unit	Fee Amount
less than 900 sq. ft.	$1,645
900 - 1299 sq. ft.	$3,891
1,300 - 1,799 sq. ft.	$7,027
1,800 - 2,499 sq. ft.	$8,227
2,500 - 3,399 sq. ft.	$9,369
3,400 or more sq. ft.	$10,976

FIRE IMPACT FEE

Housing Type per unit	Fee Amount
Single Family, Detached (includes Mobile Home not in park)	$335.00
Multi-Family (includes duplex/ apartment/condo/townhome)	$249.00
Mobile Home (in a park)/RV Park	$299.00

PARK IMPACT FEES

Living Area Per Unit	Fee Amount
less than 500 sq. ft.	$658
500 - 749 sq. ft.	$953
750 - 999 sq. ft.	$1,157
1,000 - 1,249 sq. ft.	$1,316
1,250 - 1,499 sq. ft.	$1,447
1,500 - 1,999 sq. ft.	$1,656
2,000 - 2,499 sq. ft.	$1,815
2,500 - 2,999 sq. ft.	$1,945
3,000 - 3,999 sq. ft.	$2,149
4,000 or more sq. ft.	$2,320
Hotel/Lodging (per Room)	$1,123

If you have any questions please contact staff at: (813) 276-8305, or via email: impactfees@HCFLGov.net

Total Impact/Mobility Fees= Mobility + Park + School + Fire

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DIFS AND SALES PRICES

$$\tau_{ict} = \beta \ln SalePrice_{ict} + \gamma_{c,y(t)} + \epsilon_{ict}, \qquad \text{where } \tau_{ict} = \begin{cases} \frac{Fee_{ct}(1800)}{SalePrice_{ict}} & \text{(typical fee)} \\ \frac{Fee_{ct}(x_i)}{SalePrice_{ict}} & \text{(applied fee)} \end{cases}$$

where for home i in county c on transaction date t:

- τ_{ict} is the effective fee rate,
- $SalePrice_{ict}$ is the sale price,
- $\gamma_{c,y(t)}$ are county-year fixed effects
- $Fee_{ct}(\cdot)$ is the current impact fee schedule,
- x_i is the living area of the home,

semi-elasticity β driven by

- mechanical dispersion in sales prices (-)
- fee schedules that vary with home size (+)

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THE AD VALOREM BURDEN OF DIFS

$$\tau_{ict} = \beta \ln SalePrice_{ict} + \gamma_{c,y(t)} + \epsilon_{ict}$$

Dependent Variables: Model:	τ (typical) (1)	τ (applied) (2)
Variables		
Log sale price	-4.22*** (0.272)	-3.95*** (0.245)
Fixed-effects		
County-Year	Yes	Yes
Fit statistics		
Observations	2,452,390	2,452,390
R^2	0.62525	0.62216
Within R^2	0.40465	0.39746
Dependent variable mean	4.2096	4.1885
Effect of doubling price (p.p.)	-2.93	-2.74

Clustered (County-Year) standard-errors in parentheses
*Signif. Codes: ***: 0.01, **: 0.05, *: 0.1*

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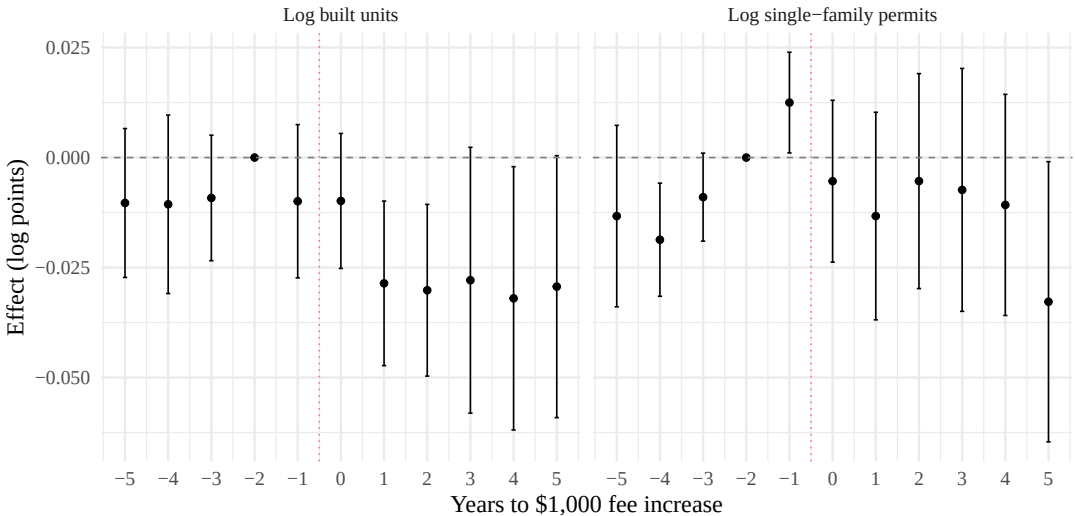
ROBUSTNESS: INCLUDE GFC YEARS (1985-2014)



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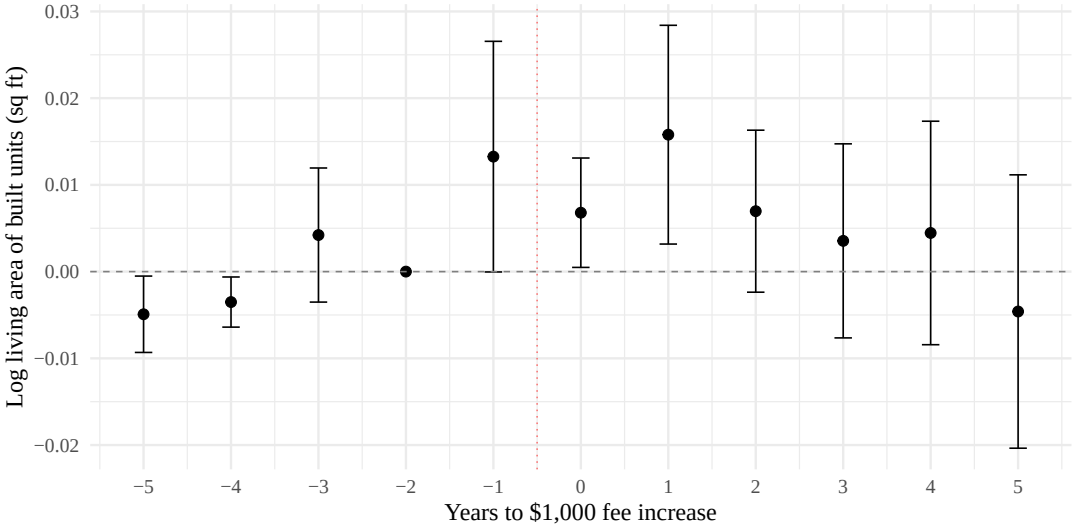
ROBUSTNESS: INCLUDE GFC YEARS (1985-2014)



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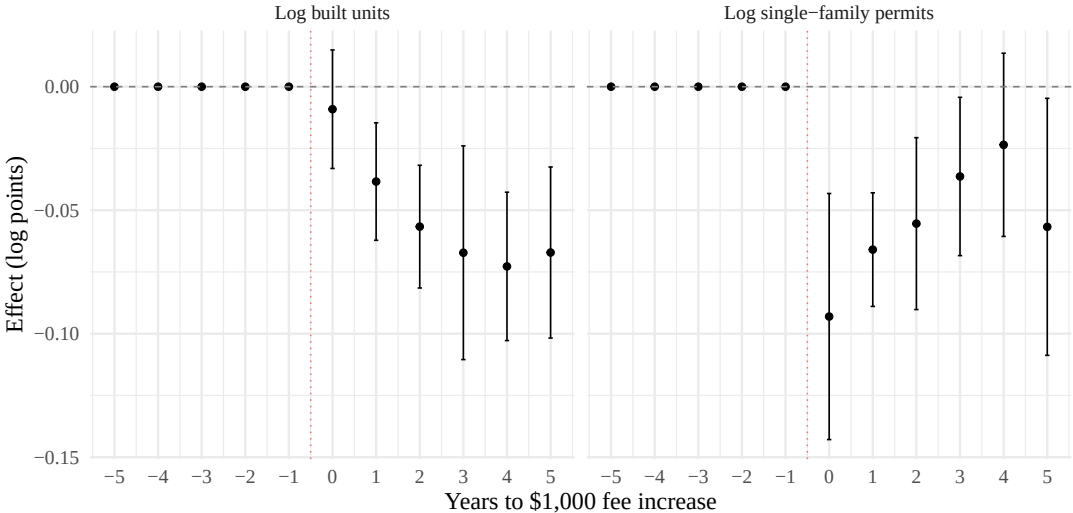
ROBUSTNESS: CONTROLS FOR PRE-TREATMENT OUTCOMES



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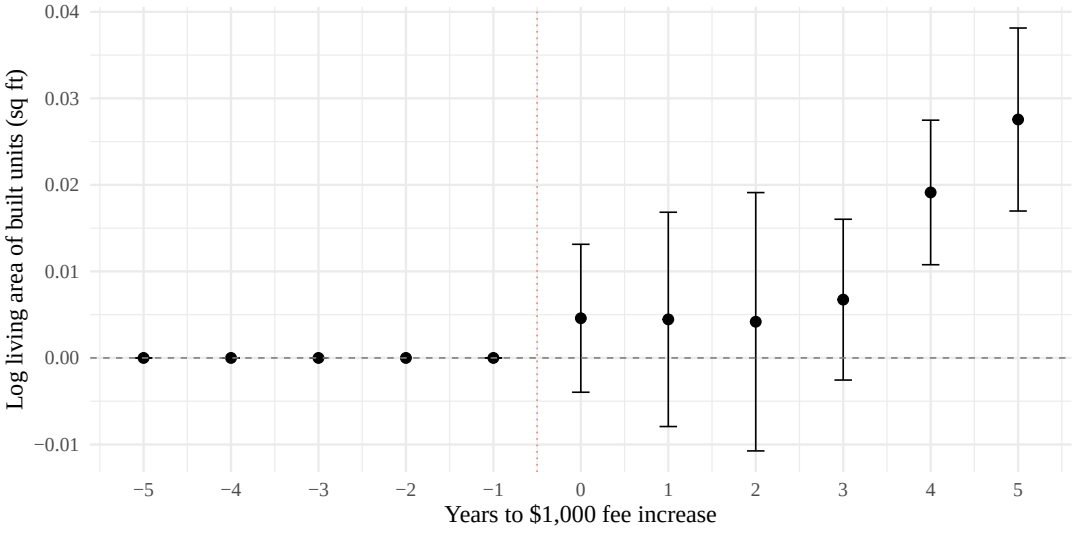
ROBUSTNESS: CONTROLS FOR PRE-TREATMENT OUTCOMES



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