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# The impact of “look and feel” building restrictions on housing prices in Georgia

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# Motivation

- Building and zoning codes are key tools employed by municipal leaders to control the development of real estate within their borders.
- While regulations can have sound economic reasoning behind them, economists know that people and firms respond to incentives, and certain types of regulations may have unintended consequences.
- Our aim is to study a SPECIFIC type of regulation, aesthetic restrictions, and measure the economic impact it/they have on housing prices in Georgia counties (and cities).





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# Literature Review

- A number of prior studies have addressed the question of “what determines house prices?”
- Many of these consider demand-side factors like income and demographic variables, taxes, and financing.
- Fewer studies have analyzed supply-side variables like land cost, unionization, productivity growth in construction, land use, and other regulations.
- **The supply-side studies (e.g. Quigley and Raphael 2005 & Malpezzi 1996) have found that regulations do raise housing prices in California counties.**
- To our knowledge, no such study has been done in Georgia.





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# How the Impact May Work

A restriction on building materials may increase overall costs by:

- Requiring more costly materials in construction, despite their performance.
- Increasing local demand for the required material, driving up local costs.
- Reducing the types of (thus supply of) materials available for local construction.
- Increasing demand for skills related to the required materials (bricks require brick masons).





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# The Dynamics of Home Prices

- Home prices reflect both costs of construction and local demand for housing.
- When the cost of building increases in a county, this may make other nearby counties relatively more attractive to build in and buy in.
- The impact of regulation on home prices is determined empirically.
- IF the benefits outweigh cost of the restriction, home prices should rise.
- If the costs outweigh the benefits, prices should decline.
- No effect, means they counter-balance.





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# Data Collection

- Survey of county officials: 46 responses
- Municode.com: 113 counties (some overlap with survey responses)
- Phone calls and other websites: 7 counties



# Data



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	Number of counties with restrictions	Number of counties without restrictions	Number of counties without information	Total
Vinyl siding	10	118	31	159
Metal Siding	18	110	31	159
Vinyl or metal siding	20	108	31	159
Vinyl & metal siding	9	119	31	159



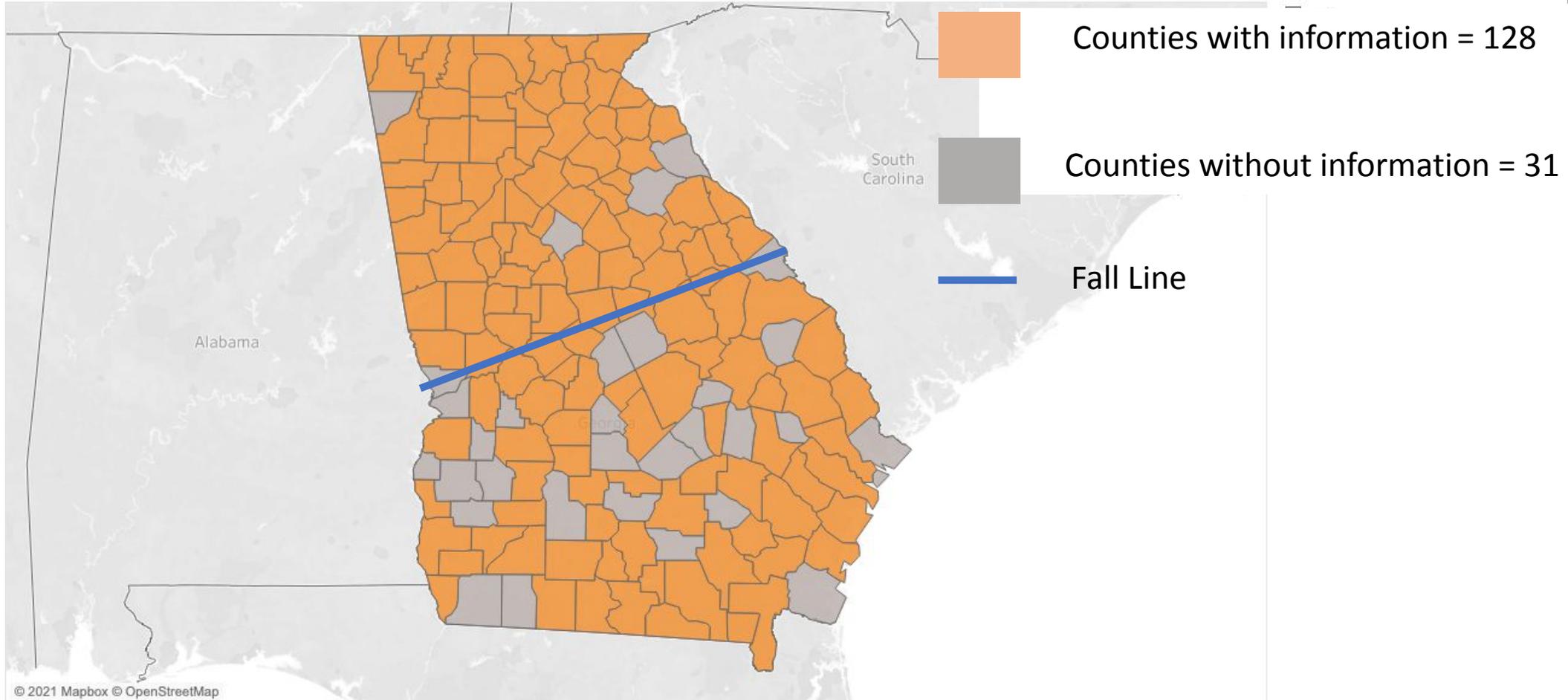
# Data



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Counties with and without information



Map based on Longitude (generated) and Latitude (generated). Color shows details about Vinyl Or Metal. Details are shown for State and County.



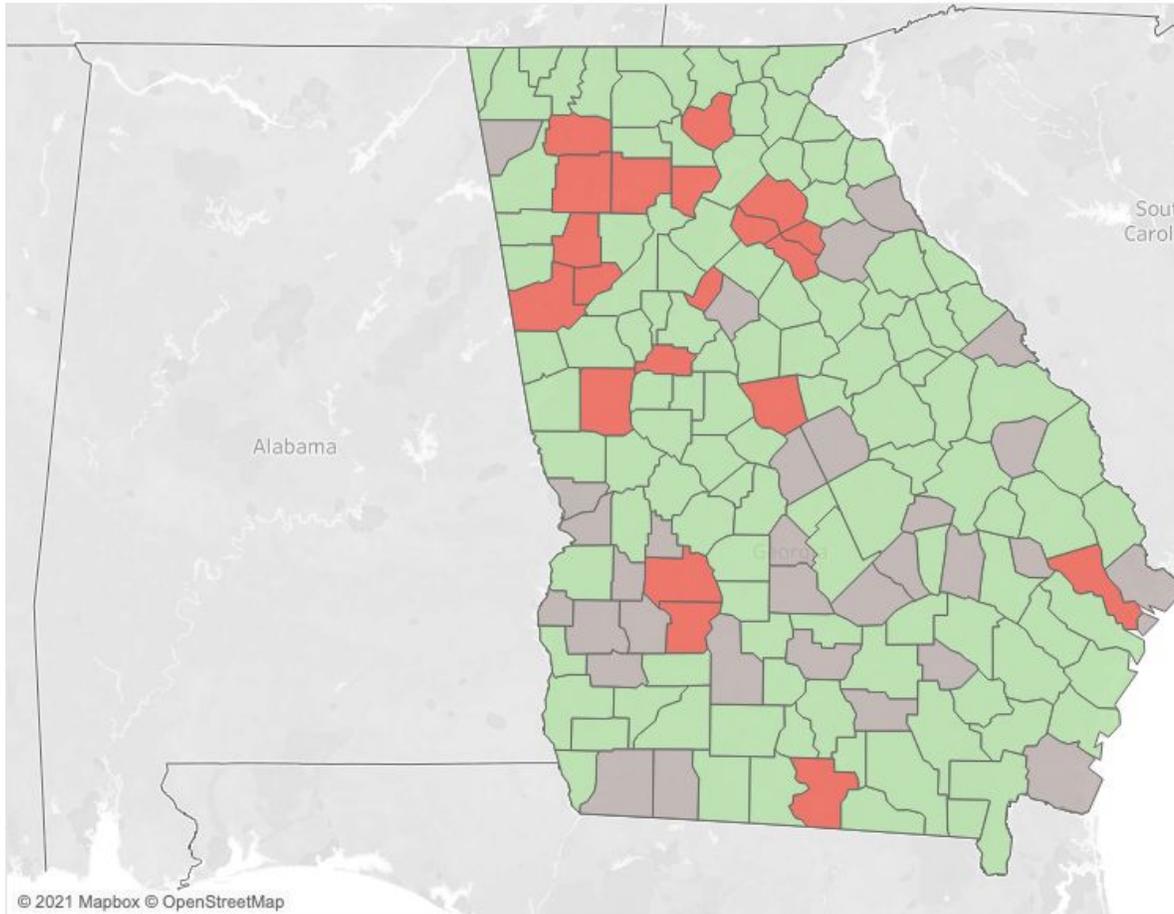
# Data



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Counties with and without restrictions



-  No restrictions on vinyl or metal siding (108)
-  Restrictions on vinyl or metal siding (20)
-  No information (31)

	Counties with restrictions	Counties without restrictions
Vinyl siding	10	118
Metal Siding	18	110
Vinyl or metal	20	108
Vinyl & metal	9	119

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Map based on Longitude (generated) and Latitude (generated). Color shows details about Vinyl Or Metal. Details are shown for State and County.





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# Model

- **Dependent Variables:**

- Growth Rate of the Housing Price Index 2015-2019 &
- Natural Logarithm of the 2019 Median House Price

- **Independent Variables:**

- Linear Distance to Fulton County
- Household Median Income
- Population
- Median Age
- Percentage of the Population that is Nonwhite
- Percentage of the Population with a Bachelor's Degree or Higher
- Net Migration as a Percent of the Population
- Restriction on Vinyl Siding
- Restriction on Metal Siding

- 



# Preliminary Results



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Dependent Variable:	Growth Rate of the Housing Price Index 2015-2019					
	Estimate	t	Estimate	t	Estimate	t
Intercept	7.87	0.33	34.83	1.26	28.92	1.04
Linear Distance to Fulton	0	-3.95	0	-4.74	0	-4.61
Household Median Income	0	1.54	0	0.92	0	1.04
Population	0	1.56	0	1.55	0	1.47
Median Age	0	0.61	0	0.51	0	0.66
Nonwhite (%)	-0.05	-0.77	-0.01	-0.19	0	-0.01
Bachelor's Degree +	-7.72	-0.33	-34.67	-1.26	-28.78	-1.04
Net Migration (%)	0.23	0.75	-0.13	-0.39	-0.19	-0.56
Vinyl Siding			0.04	1.14		
Metal Siding					0.02	0.75
RSquare		0.29		0.3		0.3

Dependent Variable:	Natural Logarithm of the 2019 Median House Price					
	Estimate	t	Estimate	t	Estimate	t
Intercept	-69.93	-2.06	-68.13	-1.34	-74.42	-1.48
Linear Distance to Fulton	0	-0.12	0	-0.39	0	-0.14
Household Median Income	0	9.79	0	7.81	0	7.52
Population	0	2.87	0	2.57	0	2.82
Median Age	0.02	2.74	0.02	2.28	0.02	2.58
Nonwhite (%)	-0.09	-0.62	-0.14	-0.8	-0.14	-0.79
Bachelor's Degree +	80.02	2.36	78.25	1.55	84.43	1.68
Net Migration (%)	1.5	2.14	1.4	1.53	1.39	1.53
Vinyl Siding			0.03	0.24		
Metal Siding					0.11	1.3
RSquare		0.64		0.62		0.63



# Preliminary Findings

- Price Growth increases with restrictions on vinyl siding
- Price level increases with restrictions on metal siding

Preliminary Interpretation – The results are weak, but positive. Prices of homes and growth in prices homes were small, positive, and not very significant.





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# Issues

- Timing of the imposition of restrictions isn't available. Although, we have found the majority of counties' ordinances, none have the date of adoption, so we can't determine whether price is affected by the adoption, OR the adoption is influenced by price.
- We can only estimate the relationship, not identify the cause.



# What comes next?

- Account for price spillovers from neighboring counties.
- Account for city ordinances within counties.
- Examine the factors that influence the imposition of restrictions at the county-level and city-level.
- Examine the simultaneous effects of restrictions and prices.



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