I am an applied microeconomist specializing in public economics, urban economics and real estate. The common thread in my research agenda is understanding how policies and institutions from the past shape today's housing markets. Using both lessons from history and present-day data, my research identifies reforms that would unlock housing supply and reduce unaffordability for the households most affected by these constraints.

With the importance voters place on lowering housing costs, a variety of government interventions in housing markets enjoy popular support (Elmendorf et al. 2024). To guide which specific policies should be prioritized, I first use administrative data to generate novel measures of how regulations alter housing markets. After documenting new empirical facts, my collaborators and I evaluate policy alternatives through three interconnected strands: (1) the evolution of regulations that hinder housing supply; (2) the socioeconomic impacts of zoning that induce spatial allocations of housing quality; and (3) how housing choices become constrained by income volatility and market frictions.

The Evolution of Restrictions on U.S. Housing Supply

With zoning ordinances growing from a few pages in the early 20th Century to hundreds of pages' worth of regulations today, why have local governments in America developed complex regulatory frameworks around what private enterprise can build? I study this question through the lens of U.S. suburbs' minimum lot sizes (MLS): requirements mandating that each housing unit uses up a minimum amount of land. The requirements have observable implications: an MLS requirement binding on developer decisions causes bunching of lots around the mandated size. Following that logic, I measure the magnitude of bunching as it grows from older to newer homes across every major U.S. metro area, adapting a scalable machine learning algorithm. When homes built within a decade show greater bunching on lot sizes in one city, its local MLS requirements were more restrictive on market provision of denser, more affordable housing.

In **"Did Race Fence Off The American City? The Great Migration and the Evolution of Exclusionary Zoning,"** I investigate whether U.S. suburbs designed minimum lot sizes after World War II as a response to Black migration to cities outside of the American South. Using bunching-based measures of MLS adoption and restrictiveness and a shift-share instrument for Black migration levels, I find higher Black migration to U.S. central cities caused restrictive land use controls. Over 1940—70, between 600 thousand to 1.3 million units outside of the South would have been built at higher densities without local regulations that emerged in response to Black migration. In contrast, migration of poorer white Americans caused small and negative effects on zoning restrictiveness. The results confirm that suburbs were influenced by racial concerns when they blocked dense housing with MLS requirements, rather than economic considerations about additional lower-income homeowner moving nearby.

In **"The Long-Run Consequences of Federal Urban Planning Assistance,"** joint with Beau Bressler, we study why local government regulations on development continued to tighten after 1970. Unlike Great Migration-era exclusionary zoning that steered housing supply away from affordable homes, post-1970 controls and planning practice threatened the viability of any new development. We find that both supply shortfalls and the diffusion of new restrictive housing regulations since 1970 were influenced by a single intervention: the uneven adoption in the 1960s of the federal Urban Planning Assistance Program. Cities that took up planning assistance subsequently shaped their land use using MLS requirements to create more exclusionary neighborhoods. These

land use differences, however, cannot fully explain the 20% decline in new housing supply, across each decade, that we estimate was caused by planning assistance. Using an AI agent to analyze decades of reporting on buildings requiring discretionary permits, we find suggestive evidence that 701-assisted cities became more sophisticated at extracting public good provision from developers as a condition for approval, which a growing literature shows extends development time frames and raises construction costs.

Together, these papers suggest that current housing supply shortages have deep roots in planning decisions made decades ago. Past attempts to disseminate knowledge about urban planning led local institutions to become increasingly skeptical of more residential development. In an ongoing project, **"Off The Rails Bargaining: Analyzing Infrastructure Planning with Citizen Voice,"** I study whether local governments with growth-skeptical constituencies are more likely to delay transportation infrastructure – highways or transit routes – in their vicinity. I continue to collaborate with Professor Joseph Gyourko on further documenting why certain communities were early adopters of land use regulations after World War II.

Socioeconomic Consequences of Restrictive Zoning

Although recent state-level reforms have begun overriding local housing regulations, the patchwork of exclusionary zoning established decades ago continues to shape racial and socioeconomic segregation patterns. In **"Density Zoning Interacts With Racial Diversity: New Evidence From National Data,"** joint with Vicki Been, we estimate which MLS requirements continue to limit racial diversity in U.S. neighborhoods. Despite increased suburbanization among people of color since 1980, we lack evidence on which specific zoning regulations from earlier decades impacted racial neighborhood racial composition. We develop a new method exploiting geocoded lot assessor records to detect borders between neighborhoods with different MLS requirements. Comparing blocks on either side of the borders allows us to estimate causal effects of specific MLS requirements, relative to a counterfactual of densification to the degree outside of the zoned neighborhoods.

We identify a "high-impact cluster" of MLS requirements that, while not representative of most requirements in our sample, increases the share of non-Hispanic White residents in the neighborhood by 2 to 5 percentage points. These MLS requirements significantly exclude denser housing: blocks subject to high-impact requirements have 2.8 fewer units per acre compared to adjacent blocks. Our findings both identify specific minimum lot size that are priorities for reform to promote racial integration, as well as provide data to target statewide reforms to cities where high-impact MLS requirements are most prevalent.

The combination of panel and spatial variation in MLS restrictiveness enables me to map the complex geography of housing quality in U.S. attributed to postwar MLS requirements, producing substantial housing quality diversity within local governments. This diversity may matter for urban socioeconomic outcomes: one mechanism I intend to explore is testing whether municipalities with both large-lot and multifamily districts may underfund public services in denser areas, making these potentially affordable neighborhoods less capable of fostering upward economic mobility (Chetty et al. Forthcoming). In a related project, **"Housing Segments and Segmented Remodeling,**" I study which owner-occupiers remodel their homes during housing booms, improving the local market's housing quality without necessarily increasing supply. Results using the American Housing Survey shows a rise in house price indices by one percent raises remodeling propensities as much as a

percentage point rise in leverage decreases them. These results suggest that while the spatial patterns created by past regulatory decisions are not permanent, changes come more slowly when credit access tightens for homeowners.

Housing Demand with Realistic Income Risk and Supply-Side Frictions

The third strand investigates how income heterogeneity and market frictions influence household housing decisions, with implications for targeting housing assistance to maximize social welfare per dollar spent. While a basic macroeconomic framework assumes households choose their level of housing based on their permanent income, a modern workhouse model adds borrowing constraints to generate households that "climb the housing ladder:" they first purchase smaller units before moving to larger ones. The models in my work incorporate additional realistic frictions, including income volatility and short-run constraints on the market's ability to adjust supply along size categories.

In **"Stimulating Durable Purchases,"** joint with David Berger, Nicholas Turner and Eric Zwick, we study the consequences of temporary tax credits on durable goods, such as presidential candidate Kamala Harris's promise to grant $25,000 to first-time homebuyers. While some macroeconomic models predict these credits only result in higher prices and subsidize households that would have bought soon anyway, our heterogeneous agent model successfully replicates household behavior during America's 2009 experiment with homebuyer tax credits. Credit-constrained renter households, who also face high transaction costs, are the ones stimulated: they accelerate their entry into homeownership by many years instead of a year or two predicted by standard models. We then use the model as a laboratory to simulate optimal design of the credit that maximize stimulative effects per dollar spent.

In **"Income Inequality in Cities: How Much is Explained by The Built Environment?",** joint with Rachel Meltzer and Pooya Ghorbani, we evaluate how housing stock diversity within urban communities mediates which income groups stay or leave following positive demand shocks. While housing advocates often support government intervention to minimize any degree of residential displacement, we quantify the degree to which household mobility across communities reflects a preference for moving up the housing ladder above staying in the community. In **"Housing Instability Following Job Loss,"** joint with Jesse Wedewer, we plan to use Danish population registers to track individuals who are part of mass layoff events. Our proposal would follow how individuals move out of their neighborhoods after layoff-induced income shocks, estimating how often they resettle in disadvantaged neighborhoods or delay household formation. The strength of estimated effects will inform whether rent assistance should extend beyond low-income households typically studied in the literature to include rent-burdened individuals with high income volatility.

References

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