Benjamin Klopack May 2025
Research statement

I am an empirical microeconomist with research interests in industrial organization and urban economics. My primary research agenda focuses on understanding consumer behavior and firm strategy in retail markets. I study settings with important frictions and market failures, including consumer inattention, incomplete information, spatial frictions, entry externalities, and vertical restraints. Naturally, these markets are the subject of important national and local policy. I combine detailed microdata with structural models of demand and supply to study the impact of these policies for firms and consumers, including the distributional impacts across different populations. A second strand of my research focuses on understanding the impact of localized shocks on household beliefs and consumption decisions. Both strands engage closely with active policy debates, and my papers have been cited by and presented to government agencies including the Federal Trade Commission (FTC) and the Small Business Administration (SBA).

1. Firm strategy, consumer behavior, and welfare in retail markets

Retail markets account for a large share of economic activity: the total volume of US retail sales was about $7.3T in 2024 (US Census Bureau), representing about a quarter of GDP. The retail sector has undergone significant changes over the last 50 years, including the rise of large chain firms, the expansion of retailers into new sales channels (such as e-commerce), and substantial turnover even among established incumbents. My primary vein of research investigates the equilibrium impacts of these changes for firms and consumers. In particular, my work examines the interaction between firm strategy – including entry and exit, pricing, product assortment, organizational form, and choice of sales channel – and consumer behavior to understand how the evolution of retail markets has impacted welfare for different groups of consumers. My research is closely tied to several relevant policy questions in this space, including consumer protections governing subscription products, local entry regulations, and the design of natural disaster relief policies for local businesses. To answer these questions, much of my work leverages a large transaction-level dataset from credit and debit card payments, which I was among the first to use.

Standardized chains that operate multiple stores under a single brand are common in many retail store categories, and account for more than 80% of US retail sales. However, these stores are also sometimes controversial; local policy restricts the entry of chain stores in over 30 US cities. These regulations aim to protect local businesses and preserve neighborhood character, but may harm consumers who rely on chain stores. My solo-authored paper **"Chains [2]"** (*RAND*) quantifies the welfare and profit impacts of the standardization of retail firms. From the firm's perspective, a standardized retail chain can access economies of scale in branding and reputation, increasing their demand relative to independent firms; however, their standardized offerings can limit flexibility and responsiveness to local consumer preferences, creating strategic tradeoffs when demand is heterogeneous across locations.

I quantitatively assess the effects of this tradeoff in the restaurant industry using a transaction-level credit card dataset that covers 20% of US consumption. I use the data to estimate a model of consumer demand to quantify the demand advantages of chains and the degree of preference heterogeneity over restaurant quality and cuisine type across US cities. I find that both sides of this tradeoff are quantitatively important; chains face systematically higher demand than independent restaurants (in particular from low-income consumers), but also operate in markets that vary widely in consumer preferences. I then specify a model

of restaurant supply in which firms choose product characteristics and prices. I find that on average chains could earn 19% higher variable profits if they could customize their product optimally to local tastes, but they would lose 28% of their variable profits if they were to lose their demand advantages.

I then conduct counterfactual analysis to assess local entry regulations that ban the entry of chain firms. Chain bans remove a set of firms that are highly valued by consumers, but may improve the match between local tastes and equilibrium product offerings. I compute the long run impacts of a chain ban by assuming that chains are replaced by independents that endogenously choose their product characteristics to maximize profits. I find that the policy reduces overall consumer surplus by an amount equivalent to 5% of total spending, which is driven by large, negative impacts for the lowest-income consumers, who strongly prefer chains to independents, and small positive effects for the highest-income consumers. Chain regulations are often intended to protect local firms; however, my estimates imply that the losses for consumers are more than 10 times larger than the additional profits that would flow to independent businesses, suggesting that these policies are a costly tool to subsidize firms.

In addition to the rise of standardized retail chains, another important evolution in consumer markets has been the increasing popularity of subscription products, which have grown by over 400% in the last 10 years. The growth of subscriptions may be partially driven by the increasing share of digital goods, or by consumer demand for convenience. In **"Subscriptions [3]"** (*AER*, with Einav and Mahoney at Stanford), we explore an alternate explanation for this growth: because subscriptions are automatically renewed, consumers who are inertial may continue to pay for subscriptions they no longer value, increasing firm revenues. Consistent with this hypothesis, survey evidence shows that consumers routinely forget about subscriptions and report that cancellation processes were confusing and difficult, a fact which has attracted global scrutiny from competition regulators.[1]

In **"Subscriptions [3]"**, we quantify the supply-side incentives for firms to exploit inertial consumers by selling products via subscription. Our analysis uses the same transaction-level credit card data as in **"Chains [2]"** and relies on our ability to observe the timing of when credit cards are replaced when they expire or are lost or stolen. In normal months, a consumer's subscription automatically renews, while in a card replacement month, consumers must re-enter their billing information, which triggers an active choice. We first show that cancellation rates are 4x higher in the month of card replacement, suggesting significant consumer inertia. We then develop a stylized model to quantify the increase in subscription revenue due to consumer inertia, which we alternately model as arising from inattention or switching costs (both of which are consistent with the data). We find that inertia nearly doubles average subscription length, significantly increasing firm revenues. The effects are largest for consumers who took a cash advance on their credit card, an expensive form of borrowing which we use as a proxy for low financial sophistication. We use the model to explore the quantitative impact of regulatory remedies that would trigger more frequent active decisions by consumers (e.g. reminders or simplified cancellation procedures). Our work was covered by national media outlets, including the *New York Times* and *Wall Street Journal*, and was cited by competition authorities, including as supporting evidence by the FTC in its 2024 "click-to-cancel" rule which aimed to

[1] For example, the Federal Trade Commission (FTC) in the US has sued at least 5 firms (including Amazon) since 2019 for deceptive subscription practices and issued policy guidance in 2024. Similar litigation and policy action has been taken by the European Commission and regulators in Norway, Germany, France, UK, and Australia.

simplify subscription cancellation procedures. I presented this work at the National Bureau of Economic Research (NBER) Digital Economics Meetings in February 2024.

Another related paper within this same agenda studies the dramatic growth of online sales. In **"E-commerce [1]"** (*AEJ: Macro*, joint with Dolfen, Einav, Klenow, and Levin at Stanford, as well as Levin and Best from Visa Inc), we explore the consequences of the growth of e-commerce for consumers. The rise of e-commerce affects both the market structure in retail industries and the measurement of the macroeconomy; prior literature suggests that the benefits of technological progress may be underestimated by traditional indicators like GDP (Syverson 2017). We tackle this question using the same credit and debit card spending dataset as in **"Chains [2]"** and **"Subscriptions [3]"**. We first document that e-commerce increased substantially between 2007 and 2017, but that usage was much higher for wealthier consumers and consumers who live in urban areas.

We then decompose consumer gains from e-commerce into two channels: convenience (from fewer physical shopping trips) and variety (from increased access to stores). To quantify convenience gains, we specify a binary choice model in which consumers choose between a given merchant's online and offline channels as a function of their distance from the merchant's store. We show that a consumer located farther away from a merchant's brick-and-mortar store is more likely to purchase in their online channel. We use this distance gradient, estimates of the cost of travel, and information on the distribution of distances of each merchant's customers to estimate the convenience value of shopping online at approximately 0.4% of consumption. To quantify variety gains, we write down a model in which consumers choose how many online and offline merchants to visit. Variety gains from e-commerce are increasing in the online share of spending and decreasing in the substitutability of online and offline merchants. We estimate online-offline substitutability by exploiting how spending at online versus offline merchants varies as a function of consumer distance to each offline merchant. We estimate that the variety gains from e-commerce are 1.1% of consumer spending, implying benefits of about $1,150 per household in welfare gains that are unmeasured by commonly used economic indicators. Yet, these gains are unevenly distributed; higher-income households benefit about twice as much as lower-income groups (even as a share of consumption). This work was covered in national media outlets, including the *Washington Post* and *QZ*, and has been cited 223 times.

My work has also studied firm dynamics in retail markets. A large and influential literature has examined how the entry, growth, and exit of firms affect allocative efficiency (e.g. Olley and Pakes 1996, Collard-Wexler and De Loecker 2015, and Foster et al. 2008, among many others). Negative economic shocks that impact firm dynamics–such as recessions, financial crises, or technological disruptions–may lead to beneficial "cleansing" effects by removing inefficient firms or detrimental "scarring" effects if market frictions induce the exit of efficient firms or prevent new firms from entering. In **"Harvey [5]"** (working paper with Lewis and Luco at Texas A&M), we examine the impact of Hurricane Harvey, which made landfall in Texas in 2017, on retail firm dynamics and the welfare effects for nearby consumers. Harvey created an ideal laboratory to study these issues: it caused over $125B in damage with substantial heterogeneity over space, resulting in wide variation across firms. These questions are also relevant for the design of natural disaster relief policy: under the cleansing hypothesis, the storm will only cause the exit of low value firms who will be replaced by superior entrants. If the scarring story is dominant, the storm might

induce higher-value firms to exit or new firms may be slow to enter, causing larger and more persistent welfare effects and leaving scope for policy to subsidize vulnerable but high value stores.

To answer these questions, we combine transaction-level payment card data with detailed data on the geography of flood damage. We first document that, while the aggregate post-storm exit rate is modest, closures are concentrated in a few highly damaged areas, whose residents are left with a smaller retail choice set. We then estimate a model of demand to quantify the resulting welfare effects of post-storm exit and entry. We find that the average exiting store creates less consumer surplus than the average entrant, consistent with the cleansing story. At the same time, a subset of exiting stores create large amounts of value, and residents in the hardest-hit neighborhoods, where closures are concentrated, experience substantial welfare losses. Welfare losses from firm exits are especially large in lower-income Census tracts and in smaller MSAs, where post-storm entry rates are lower and initial consumer choice sets are smaller. We then ask whether an aid program for damaged firms would generate sufficient gains in consumer welfare to justify its cost. To evaluate the effect of aid, we build a model of store re-entry that we estimate using novel data on establishment-level storm damage collected by the property tax authority in Houston. We find that providing subsidies to all damaged firms would be inefficient, but that a more targeted policy could deliver substantial net gains: each dollar in business aid returns $1.73 in consumer surplus benefits. This project was funded by a National Science Foundation grant in 2023 ($311k, on which I am a co-PI with Luco and Lewis) and by two internal grants (total $70k). I presented this work at the National Bureau of Economic Research (NBER) Industrial Organization Meetings. We were also invited in Spring 2025 to present our findings to the Small Business Administration, the federal agency that administers disaster relief loans for damaged firms. We plan to submit this work to the *Quarterly Journal of Economics*.

In **"Parity Agreements [7]"** (working paper with Pierri at the IMF), we examine a different retail setting – the market for hotel bookings – where we focus on vertical interactions between online travel agents and hotels. Specifically, we study the impact of Most Favored Nation (MFN) clauses, which govern the prices hotels can set on platforms like Expedia and Booking.com, on prices and occupancy rates. Our paper exploits recent legislative action in Europe that banned the use of MFN clauses in several countries. We find that the removal of MFN clauses led to a drop in average hotel prices relative to countries in which no regulatory action occurred. We are currently revising the paper to resubmit to the *International Journal of Industrial Organization* (second round).

Finally, in an extension of my previous work on firm dynamics, in **"Hospital Closures [8]"** (work in progress with Ukert and Zamora-Riano at Texas A&M), we study the exit decisions of hospitals, a key policy issue in rural markets with limited access to healthcare providers. This work uses detailed claims data on inpatient hospital visits to measure the effects of closures: we show that hospital closures increase patient travel distance and mortality rates and reduce their healthcare utilization, raising concerns about access to care. This project received an X-grant from the Texas A&M Office of the Provost in the amount of $325k. We have completed the analysis and currently preparing a draft for submission.

2. Measuring the impact of policy shocks on consumption and beliefs

My second research area explores the impact of economic shocks on consumer choices and beliefs, including heterogeneity across space and demographic groups. In **"Fueling Expectations [4]"** (accepted at

Journal of Monetary Economics, with Jo at Texas A&M), we examine the impact of temporary gas tax suspensions on gas prices and household inflation expectations. Household inflation expectations are a closely watched economic barometer by policymakers; expectations of future inflation can become self-fulfilling if they lead workers to demand higher wages and increase current spending. Prior literature has shown a strong positive correlation between gas prices and inflation expectations over time, and has suggested that the high salience of gas prices may make them an important driver of inflation attitudes (Coibion and Gorodnichenko 2015, among others). However, estimates of the causal link between gas prices and inflation expectations may be confounded by time-varying macroeconomic shocks that impact both gas prices and predictions of future inflation. Our study brings new evidence to this debate by studying the impact of five state-level cuts of the gas tax during 2022. These policy changes serve as natural experiments that temporarily reduce gas prices in a single state. We use a difference-in-differences design that compares household attitudes in states that cut the gas tax versus those that did not at the same point in time to isolate the causal impact of gas prices on inflation expectations. We show that a small reduction in gas prices led to sizeable decreases in inflation expectations that are significantly larger than previous estimates. Our work highlights the potential for policies that change gas prices to impact household beliefs, and in turn future inflation. This paper was presented at the NBER Monetary Economics Meeting (coauthor).

Many core government datasets, including GDP, employment, and spending, are released on a lag and only available aggregated by city, county, or state. The use of more granular consumption measures, including foot traffic data collected from cell phone pings and consumer spending measured from credit and debit card transactions, has become increasing popular (including in my own work). In **"Measuring Consumption [6]"** (with Luco at Texas A&M), we provide a validation study of these two new data sources by comparing them to each other and to traditional government consumption data. We show that cell phone pings and credit card spending are positively but imperfectly correlated; proxying for consumption with cell phone pings doesn't account for differences in transaction size across store categories, while card spending is more concentrated in high income zip codes. We then develop a method that combines both sources to more accurately predict zip code-level spending. We apply it to measure the impact of government spending shocks on local consumption—an important question in macroeconomics which has only been studied at a more aggregated level. We show that the effects of fiscal spending shocks decay rapidly in space and are heterogeneous across store categories, which are novel results in this literature. This paper has been resubmitted to the *Journal of Urban Economics*.

Research Papers

(Abbreviations are used to reference papers in the statement.)

1. "Assessing the Gains from E-Commerce," Paul Dolfen, Liran Einav, Pete Klenow, Benjamin Klopack, Jon Levin, Larry Levin, Wayne Best, *American Economic Journal: Macroeconomics*, 15(1), January 2023, 342-370. Abbreviated as **"E-commerce [1]"**.
2. "One Size Fits All? The Value of Standardized Retail Chains," Benjamin Klopack, *RAND Journal of Economics*, 55(1), Spring 2024, 55-86. Abbreviated as **"Chains [2]"**.
3. "Selling Subscriptions," Liran Einav, Benjamin Klopack, Neale Mahoney, *American Economic Review*, 115(5), May 2025, 1650-1671. Abbreviated as **"Subscriptions [3]"**.
4. "Fueling Expectations: The Causal Impact of Gas Prices on Inflation Expectations," Benjamin Klopack and Yoon Jo, accepted at *Journal of Monetary Economics*. Abbreviated as **"Fueling Expectations [4]"**.
5. "Rebuilding After the Storm: Firm Turnover and Consumer Welfare After Hurricane Harvey," Benjamin Klopack, Eric Lewis, Fernando Luco, December 2024. Abbreviated as **"Harvey [5]"**.
6. "JUE Insight: Measuring Local Consumption with Payment Cards and Cell Phone Pings," Benjamin Klopack and Fernando Luco, revised and resubmitted at *Journal of Urban Economics*. Abbreviated as **"Measuring Consumption [6]"**.
7. "Broad and Narrow Price Parity Agreements: Evidence from European Hotels," Benjamin Klopack and Nicola Pierri, revise and resubmit (2nd round) at *International Journal of Industrial Organization*. Abbreviated as **"Parity Agreements [7]"**.

Work in progress (pre-working paper stage)

8. "The Effects of Hospital Closures on Patients and Hospitals," Benjamin Klopack, Ben Ukert, Paula Zamora-Riaño. Abbreviated as **"Hospital Closures [8]"**.

References

Coibion, Olivier, and Yuriy Gorodnichenko. "Information rigidity and the expectations formation process: A simple framework and new facts." *American Economic Review* 105, no. 8 (2015): 2644-2678.

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Foster, Lucia, John Haltiwanger, and Chad Syverson. "Reallocation, firm turnover, and efficiency: Selection on productivity or profitability?." *American Economic Review* 98, no. 1 (2008): 394-425.

Olley, G. Steven, and Ariel Pakes. "The Dynamics of Productivity in the Telecommunications Equipment Industry." *Econometrica: Journal of the Econometric Society* (1996): 1263-1297.

Syverson, Chad. "Challenges to mismeasurement explanations for the US productivity slowdown." *Journal of Economic Perspectives* 31, no. 2 (2017): 165-186.