Research Statement: Martin O'Connell

My research develops empirically rich models of individual, household, and firm behavior to quantify the effects of external shocks and policy changes on consumption, prices, and welfare. A central aim is to inform the design of effective public policy. A consistent theme across my work is the integration of economic theory, econometric modeling, and high-quality microdata to capture heterogeneity in behavior and the equilibrium implications of agents' interactions. In this statement, I highlight three broad strands of my research – on tax and regulatory design, cost-of-living inequality, and social insurance – and discuss representative contributions. Together, these illustrate how empirically grounded models of behavior can inform the design of more effective and equitable public policy.

Designing tax and regulatory policy in real-world markets

Many policies – such as taxes and advertising restrictions – are implemented in markets with differentiated products, consumption externalities, and firms with market power. A core strand of my research investigates how such features shape the incidence, effectiveness, and optimal design of these policies.

In Dubois, Griffith, O'Connell (AER, 2020), we estimate the distributional incidence of sugar-sweetened beverages (SSB) taxes. Using novel longitudinal data on on-the-go purchases, we extend standard demand models by estimating individual-specific preferences and simulating individual-level responses to taxation. We find that SSB taxes are relatively well targeted at younger consumers but less effective at reducing sugar intake among individuals with high overall dietary sugar consumption. In related earlier work (Griffith, Nesheim, O'Connell, QE, 2018), we show how flexibly modeling income effects in random utility models helps relax curvature assumptions on market-level demand.

O'Connell and K. Smith (AEJ: Applied, 2024) advance this agenda by studying how market power shapes the efficiency and equity implications of sin taxes. We embed a rich empirical equilibrium model of the soft drinks market within a tax design framework to characterize optimal SSB taxation. Positive price-cost margins reduce the optimal tax rate relative to a perfectly competitive benchmark. However, because profits disproportionately accure to higher-income households, this effect is partly offset under social preferences for equity. Ignoring market power results in welfare gains that are approximately 40 percent lower than those achieved under the optimal policy.

Another common policy lever is advertising restrictions, which governments often use to reduce the societal cost of unhealthy consumption. In Dubois, Griffith, O'Connell (ReStud, 2018), we provide novel evidence on the effects of banning junk food advertising. We show that while bans directly reduce demand for targeted products, this is partly offset by firms' strategic pricing responses, which dampen the overall reduction in consumption.

To better capture firm responses to policy, we extend this agenda to a dynamic setting. Despite its importance, there is limited evidence on how firms jointly re-optimize prices and advertising in response to policy. In Abi-Rafeh, Dubois, Griffith, O'Connell (R&R AEJ: Micro, 2025), we develop a framework that integrates a rich model of consumer choice with firms' dynamic decisions over television advertising budgets. The model incorporates the role of advertising agencies, linking firms' strategic advertising choices to slot-level exposure of potential customers. We provide new estimates of the effects of taxes and advertising restrictions that account for firms' pricing and advertising responses.

The structure of the UK grocery market has been shaped by planning regulations that facilitated the expansion of a new 'discounter' retail format. In O'Connell, H. Smith, Thomassen (WP, 2025), we study the impact of this development on market outcomes over 2002-21. We show that discounters' rise coincided with declining market concentration at both the retail and manufacturer levels across the vast majority of narrowly defined product categories. To quantify the implications for market power and welfare, we develop an equilibrium model that incorporates consumer choice over both retailers and products, and applies a Nash-in-Nash bargaining framework to capture manufacturer-retailer relations. We show that discounter efficiency gains, along with the expansion of their store networks and product ranges, reduced concentration and average prices, raised consumer and total surplus, and especially benefited households located near newly opened stores.

Together, these projects contribute to a broader understanding of how policy effectiveness depends on heterogeneous consumer responses, market structure, and firm behavior – and how incorporating these features into empirical models can materially alter conclusions. This agenda has informed policy debate, including my testimony to UK Parliament, and influenced post-Brexit alcohol policy (Griffith, O'Connell, Smith, JPubE, 2019; EJ, 2022).

Cost-of-living

Inflation has re-emerged as a central economic concern in the aftermath of the COVID-19 pandemic. Because the burden of high and volatile inflation is not borne equally across households, it can exacerbate economic inequality. This strand of my research develops new evidence and tools to measure inflation inequality and evaluate the effectiveness of policy responses to large relative price shocks.

In Chen, Levell, O'Connell (WP, 2025), we show that inflation inequality surged during the 2021–23 cost-of-living crisis, driven by systematically faster price growth for lower-quality, cheaper goods disproportionately consumed by poorer households. A distinctive feature of this period was the interaction between sharp relative price changes – which induced substitution toward goods with weaker price growth – and falling purchasing power, which, through income effects, led households to trade down to lower-quality necessities. These income-effect-driven adjustments bias standard price indexes, which assume homothetic preferences. Using methods that accommodate income effects, we find

that while substitution helped mitigate cost-of-living increases, it did not offset historically high cost-of-living inequality. As living standards fell, households became more exposed to future inflation by relying more heavily on goods experiencing the steepest price rises.

One of the most acute sources of cost-of-living pressure was the sharp rise in European energy prices in 2022–23. In Levell, O'Connell, K. Smith (WP, 2025), we study the distribution of resulting welfare losses and develop a framework to evaluate the trade-offs between energy price subsidies – which target those most affected but create efficiency losses – and income transfers, which are less distortionary but harder to target. We find that, absent intervention, average household welfare losses would have equaled 6% of income, with some households suffering far more. A combination of subsidies and universal transfers reduced both the average and dispersion of losses, but at an efficiency cost equal to 12% of total relief spending. Under a range of social preferences, more targeted transfers would have reduced – but not eliminated – the optimal subsidy rate.

This work complements my broader work on inflation measurement, which has informed the methodology used in the UK's Consumer Price Index (CPI). This includes responding to measurement challenges during the COVID-19 pandemic (Jaravel and O'Connell, JPubE, 2020) and developing methods for incorporating high-frequency data into CPI construction (Fox, Levell, O'Connell, JBES, 2025).

Social insurance design

A new strand of my research focuses on the design of social insurance. In McGee and O'Connell (WP, 2025), we study the value of changing the generosity of US unemployment insurance (UI), with particular emphasis on how heterogeneity in employment risk and exposure to income loss while unemployed shape the welfare impact of reforms. We provide new evidence on individual-level willingness-to-pay (WTP) for UI. A key innovation is estimating counterfactual consumption during unemployment even for individuals never observed to be unemployed in the data, enabling us to construct worker-level WTP. We use these estimates to decompose the social value of reform into surplus gains from risk protection and redistribution via cross-subsidization, net of incentive costs. Accounting for surplus redistribution increases the estimated gains from reform by 31% – 20% from redistribution across and 11% within income groups – relative to the standard approach.

This paper is the first in a new line of work. In ongoing projects, I use quasi-experimental variation in the timing of benefit adjustments to evaluate the welfare impact of wait periods, and I use administrative data to study the recent rise in UK disability insurance take-up and its implications for policy design.

Taken together, my research advances an agenda combining theory-based modeling with rich microdata to inform public policy. I aim to continue developing new methods and empirical tools to tackle pressing challenges in policy design and evaluation.

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