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Research Statement

I am an IO economist with research interests in consumer and firm behavior in industries where consumers can purchase the same product at different times and face different prices—markets where firms engage in intertemporal price discrimination—such as capacity-constrained perishable goods (airline tickets, hotel rooms, event seats) and some durable goods (e.g., vehicles). My work analyzes how multi-period pricing, capacity constraints, and the timing of purchase decisions shape equilibrium outcomes and the incidence of policy interventions. I use consumer- and firm-decision models to predict equilibrium behavior, simulate the effects of proposed policy changes, and compute welfare. Empirically, I combine structural IO with reduced-form methods to evaluate observed effects and to estimate the structural parameters that discipline counterfactual policy experiments. In what follows, I first describe the research in my job-market paper and other working papers, and then outline my near-term research agenda.

You can find the drafts of my working papers on my website.

Ongoing Research on Tax and Subsidy Incidence with Intertemporal Pricing

Job Market Paper — Welfare Implications of Subsidy Design with Intertemporal Price Discrimination

In my job-market paper, I examine how alternative subsidy designs affect welfare when firms practice intertemporal price discrimination. In the canonical uniform-pricing benchmark under imperfect competition, *ad valorem* subsidies tend to be more fiscally costly and more distortionary than unit (specific) subsidies for a given output target. I show that once time-based price discrimination is present, the policy instrument interacts with the timing margin: the choice between unit and *ad valorem* designs changes purchase timing, reallocates market shares across periods and products, and thereby alters government spending and incidence.

I answer this question with a combination of theory and empirics, using transaction data from Spain's resident airfare-discount program for the Canary and Balearic Islands. In this market, eligible residents receive an *ad valorem* discount applied to posted fares—75% since July 2018—at the point of sale. Exploiting the 2018 increase from 50% to 75%, I first document a sharp rise in total program expenditure. I then show that this surge reflects (i) a reallocation of purchases toward the last two weeks before departure and (ii) higher fares in the upper tail of the price distribution across the booking horizon, consistent with stronger intertemporal price discrimination after the

rate change.

I next develop a demand model in which consumers decide whether to purchase an airline ticket and, crucially, how long in advance to purchase it. This timing margin allows me to predict how a change in subsidy design would affect consumers' self-selection into buying earlier versus later. The main trade-off in the timing decision is whether to buy early at a lower price while facing greater uncertainty about the utility of travel, or to buy late at a higher price with greater certainty about the desire to travel. I introduce consumer uncertainty following Lazarev (2025).

I then estimate the parameters governing consumers' decisions using the choice probabilities implied by the dynamic discrete-choice model and the data. I rely on standard structural IO techniques with two adaptations. First, I use dynamic discrete-choice estimation methods derived from Hotz and Miller (1993) to estimate purchase probabilities at different times before departure. Second, I follow Dubé et al. (2020) to address zero-purchase observations. With those parameters in hand, I develop a supply model in which airlines choose price schedules for all their flights (products) in each route-week pair (market). The model yields optimality conditions that I use to recover marginal costs.

Finally, I combine the estimated demand system with recovered marginal costs in a multiproduct oligopoly model of intertemporal pricing to recompute equilibrium prices and quantities under a *unit (specific)* subsidy—that is, a fixed per-purchase transfer independent of the posted fare. Calibrating the unit amount to preserve aggregate access (i.e., keeping total resident demand by route at its observed level), the counterfactual indicates government outlays fall by about 15%. The mechanism operates through both timing and composition: the share of purchases in the final period decreases markedly, and low-cost carriers gain market share at the expense of higher-fare incumbents. In markets with intertemporal price discrimination, this design yields larger fiscal savings than under uniform pricing because the instrument reallocates market shares and reduces incentives to delay into high-price states, thereby steering consumers toward less expensive options.

The Determinants of Pass-Through with Capacity Constraints and Dynamic Demand

In related research, I use the same 2018 subsidy-rate increase to analyze the pass-through of subsidies to consumer prices. This project builds on the theoretical results of Weyl and Fabinger (2013) and Adachi and Fabinger (2021). I analyze how pass-through varies with three main factors: the degree of competition on a route, how long in advance purchases are made, and the stringency of capacity constraints on that route. Using the same dataset, I employ reduced-form techniques to quantify the pass-through of the subsidy increase. My main empirical strategy is a difference-in-differences approach with continuous treatment, using the share of resident consumers on a route as a measure of treatment intensity.

I find that pass-through is less than complete: on average, 75% of the subsidy increase is passed through to consumer prices. I then develop a theoretical model to rationalize the observed effects,

showing that time to departure and capacity constraints are relevant features that affect the usual determinants of pass-through in oligopolistic settings. I also show how the presence of strategic substitutability between prices in different periods alters the usual analysis of the effect of competition on pass-through, which can explain a negative impact of competition on pass-through rates.

In the past few months, this project has become coauthored with Paula Navarro-Sarmiento (postdoc at CEMFI), who has access to price data for other routes between major European cities and the Canary and Balearic Islands. These data provide an ideal control group for a standard difference-in-differences analysis of the subsidy increase. This will complement the current analysis and strengthen the paper's empirical strategy, providing a more credible estimate of the pass-through rate.

My Research on Education Economics

The Role of Capacity Constraints in Public versus Private University Choice

In this line of research, joint with my EUI colleague Isabel Soler-Albadalejo, we study the determinants behind the growth in the private-university share of new enrollments over the past decade in many European countries. We leverage Spanish microdata on students' first-choice majors, as well as second choices when students are not admitted to their first option. We set up a decision model with heterogeneous individuals (in ability and parental income) who must choose their field of study and the type of university—public or private. We allow for nested-logit preferences to capture substitution patterns in which students who are not admitted to their first option are more likely to substitute into the same field in the other university type rather than switch fields. We then set up an allocation mechanism that mirrors the one in place in Spain: students are allocated according to their grades on a state exam at the end of high school. We introduce capacity constraints in public universities, and when those constraints bind, remaining students reoptimize.

Using data from Spain to calibrate the model parameters, we find that 28% of private-university enrollments can be attributed to public-sector capacity constraints. Furthermore, we identify other factors that may have contributed to the rise of private Spanish universities from 2015 to 2020, with convergence in the perceived quality of private universities toward that of public universities and increases in household wealth being the most influential. We plan to extend the project with policy analysis of capacity expansion in public universities to assess whether such expansion would reverse the growth in private-university share or whether investments in public-university quality are required.

My Research in the Near Future

In the coming years, I plan to pursue further research on policy interventions in industries with capacity constraints and multi-period pricing. In particular, I will evaluate the impact of policies on firms' extensive-margin decisions—namely, which markets to serve and how much capacity to offer in each market. The empirical setting in my job-market paper is well suited to study these

questions, as it features variation in firm presence and offered capacity across markets, as well as observed entry and exit.

I have also initiated a line of research with Professor Marleen Marra (KU Leuven) on the effect of data aggregation on bias in elasticity estimates. We study the extent to which the route-level analysis prevalent in existing airline literature—often overlooking key factors such as consumers' departure- and arrival-time preferences—biases estimated price elasticities. The goal is to develop a formal analysis of how data structure, combined with the identification strategy, affects conclusions, extending preliminary work in this dimension (D'Haultfœuille et al., 2022). The results are expected to highlight a potential "heterogeneity bias" associated with aggregation in demand–supply models, as identified in the trade literature (Imbs and Mejean, 2015). Recently, Professor Marra was awarded an ERC Starting Grant, which secures funding for additional data and related expenses for this project.

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