Abstracts investigaciones

Francisco Cisternas

"Influencing Product Competition Through Shelf Design"

Shelf design decisions have a strong influence on product demand.

Placing products in desirable locations increases demand. This primary effect on shelf position is clear, but there is a secondary effect based on the relative positioning of nearby products. Intuitively, products located next to each other are more likely to compete. Specifically, relatively strong products draw demand from other products, and this effect is stronger for those in close proximity.

We introduce a model that allows correlations in demand upon the relative attractiveness of competing products moderated by their proximity. This model shows that shelf design is an important moderator of competition. We fit this model to experimental data from physical retail stores as well as an online retailer, outperforming traditional models in fit and predictive power. We show that ignoring shelf-implied competition generates a bias in the price sensitivity, which in turn affects price and promotion strategies.

We found that variation on shelf designs generate profit differences up to 7%.

We use the model to generate guidelines to design displays with higher profitability, by exploiting the relative influence on competition from shelf design by shifting demand to higher profitability products. Testing these suggestions we achieved a 3% increase in gross profits over current best shelf design.

Juan Pablo Atal

"Occupational Licensing in Global Labor Markets: Evidence from Physicians"

We study the welfare consequences of occupational licensing in the context of labor migration. We analyze a large and unprecedented inflow of foreign physicians to Chile, who currently represent 60% of new doctors in the country up from a historical average of 20%. The large inflow of physicians has also been accompanied by a reduction in the gap of physicians per capita across the country. On the other hand, foreign doctors are 5 times more likely than nationals to fail the licensing at least once, and 25% less likely

to never pass it. Motivated by these data patterns and previous literature, we propose a simple model in which, relative to nationals, foreigners are i) more willing to work in remote and underserved areas, ii) potentially lower-skill, and iii) subject to a licensing test that only imperfectly reveals their true skill. The model highlights that the welfare consequences of licensing are ambiguous. Empirically, we show that doctor's migration has improved health outcomes, particularly in areas with relatively few physicians per capita at baseline.

Carlos Ramírez

"Regulating Financial Networks: A Flying Blind Problem"

I develop a model for studying the role that uncertainty about the susceptibility of a financial network to contagion plays on the behavior of its interrelated institutions, their equilibrium actions, and preemptive policy interventions. Uncertainty alters institutions' perception of contagion risk, reshaping their equilibrium interactions. I provide a tractable characterization of how such uncertainty compounds market equilibrium inefficiencies and alters the scope of welfare-improving interventions. I also demonstrate how the socially optimal level of uncertainty depends on a delicate balance between the knowledge available to policymakers and structural features of the financial network.

Ignacio Ríos

"Application mistakes and information frictions in college admissions"

We analyze the prevalence and relevance of application mistakes in a seemingly strategy- proof centralized college admissions system. We use data from Chile and exploit institutional features to identify a common type of application mistake: applying to programs without meeting all requirements (admissibility mistakes). We find that the growth of admissibility mis- takes over time is driven primarily by growth on active score requirements. However, this effect fades out over time, suggesting that students might adapt to the new set of require- ments but not immediately. To analyze application mistakes that are not observed in the data, we design nationwide surveys and collect information about students.

True preferences, their subjective beliefs about admission probabilities, and their level of knowledge about ad- mission requirements and admissibility mistakes. We find that between 2% - 4% of students do not list their true most preferred program, even though they face a strictly positive admission probability, and only a fraction of this skipping behavior can be rationalized by biases on students? subjective beliefs. In addition, we find a pull-to-center effect on beliefs, i.e., students tend to attenuate the probability of extreme events and under-predict the risk of not being assigned to the system. We use

these insights to design and implement a large-scale information policy to reduce application mistakes. We find that showing personalized information about admission probabilities has a causal effect on improving students? outcomes, significantly reducing the risk of not being assigned to the centralized system and the incidence of admissibility mistakes. Our results suggest that information frictions play a significant role in affecting the performance of centralized college admissions systems, even when students do not face clear strategic incentives to misreport their preferences.

Natalie Epstein

"An empirical study of time allotment and delays in ecommerce Delivery"

We explore the relationship between time allotment and delivery outcomes in e-commerce delivery. Furthermore, we seek to identify relevant features for predicting order delays and study how various facets of real-time delivery data can be used to improve prediction accuracy. We use the JD.com transaction dataset provided by Shen et. al. (2020).

We first employ a Regression Discontinuity design to examine the effect of exogenous variations in time allotment between same-day and next-day orders on delivery outcomes, such as delays and duration of the process.

Subsequently, we fit random forest classification models to predict delays and identify the key predictor variables. Finally, we construct and incorporate load-related features in our prediction models to explore its impact on the overall model performance.

We draw methods from causal inference and machine learning to help identify delayed orders in a timely manner and increase the chances to recover at least part of the potential delays during the delivery process.

We find that (i) increasing the allotted time for the delivery of an order increases the duration of its delivery process, (ii) more allotted time reduces the likelihood of an order being late or delayed, (iii) adding information from early parts of the delivery significantly increases accuracy when predicting future delays, and (iv) load-related features can boost the performance of delay prediction models, but not to the same extent as information on earlier legs of delivery. Time allotment comes with an inherent tradeoff between chances of delay and delivery duration (and potential implications for customer satisfaction), so managers need to carefully evaluate such tradeoff. For developing prediction models, managers can use order characteristics and information about earlier stages of the delivery process to predict delays before they occur and take actions to mitigate such delays.

Ximena Pizarro

"Disabilities and Telework in the Federal Service: Difference in Access and in Impacts on Work Attitudes"

Telework should have additional advantages for people with disabilities. They may face special challenges in commuting, and working from home may allow them more flexibility for doctors? Visits and rest breaks (Tang, 2021). Technology-facilitated communication may also offer them greater benefits (Giovanis & Ozdamar, 2019). Advocates have recommended telework as an accommodation that can remove some barriers for people with disabilities in the workplace (Lin et al., 2014; McNaughton et al., 2014) but also caution about such possible negative consequences as feelings of isolation, higher work-family conflict, and lower probabilities of promotion (Jesus et al., 2020; Kaplan et al., 2006; Linden, 2014; Padkapayeva et al., 2017). Research on the practical effects of telework on the careers or job attitudes of those with disabilities remains scant, however.

Using responses from over 2 million federal employees to the 2012-2020 Federal Employee Viewpoint Survey (FEVS), we examine both the rising level of telework in the federal service and its impact on job satisfaction and on perceptions of fairness, leaders, supervisors, coworkers, and advancement opportunities, with a special focus on whether effects differ between those with and without disabilities. Preliminary findings indicate that, contrary to hopes of advocates, employees with disabilities are less likely than others to telework, largely because they are more likely to be denied requests to do so.

This pattern persists both during the slow rise of telework from 2012 to 2019 and its explosion during the first year of the COVID-19 pandemic. Using the 2012-15 FEVS (for which we have the most detailed data), we use multinominal logit analysis to determine whether differences in other personal and organizational characteristics can explain why employees with disabilities are denied telework, or whether supervisors seem to discriminate against them in allocating telework opportunities.

Second, we examine what impact telework has on perceptions of the federal workplace and whether the impact is more positive for employees with disabilities. Preliminary findings indicate that job satisfaction is highest for those who telework most and for those who choose not to telework, and it is lowest for those who are denied the opportunity to telework. The impact does not appear to differ between employees with and without disabilities, but we will test whether these patterns persist once we control for other demographic and organizational factors.