Spotlight on Faculty Research

Getting dynamic implementation to work
Yi-Chun Chen, Richard Holden, Takashi Kunimoto, Yifei Sun, and Tom Wilkening
Journal of Political Economy, Vol. 131, No. 2, February 2023
We develop a new class of two-stage mechanisms, which fully implement any social choice function under initial rationalizability in complete information environments. We show theoretically that our simultaneous report (SR) mechanisms are robust to small amounts of incomplete information about the state of nature. We also highlight the robustness of the mechanisms to a wide variety of reasoning processes and behavioral assumptions. We show experimentally that an SR mechanism performs well in inducing truth telling in both complete and incomplete information environments and that it can induce efficient investment in a two-sided holdup problem with ex ante investment.

Willingness to Fight on: Environmental Quality in Dynamic Contests
Haoming Liu, Jingfeng Lu and Alberto Salvo
RAND Journal of Economics, Vol. 53, No. 2, Summer 2023
We show that the prevalence of prolonged tennis contests drops sharply when the ambient environment deteriorates through heat or pollution. We develop a multi-battle dynamic model to investigate how the disutility from a protracted competition shapes agents' willingness to fight on. Our theory predicts that a poor environment amplifies the momentum of a competitor's head start. We show how model primitives including preferences for environmental amenities can be inferred from battle-to-battle transition probabilities. We find that heat and pollution affect incentives to compete strategically. In a contest between equally able rivals at the median prize of $15,100, the value of a head start is $130-370 higher in a degraded environment compared with a climate-controlled one.

Logical differencing in dyadic network formation models with nontransferable utilities
Wayne Yuan Gao , Ming Li and Sheng Xu
Journal of Econometrics, Vol. 235, No. 1, July 2023
This paper considers a semiparametric model of dyadic network formation under nontransferable utilities (NTU). Such dyadic links arise frequently in real-world social interactions that require bilateral consent but by their nature induce additive non-separability. In our model we show how unobserved individual heterogeneity in the network formation model can be canceled out without requiring additive separability. The approach uses a new method we call logical differencing. The key idea is to construct an observable event involving the intersection of two mutually exclusive restrictions—derived based on weak multivariate monotonicity — on the fixed effects. Based on this identification strategy we provide consistent estimators of the network formation model under NTU. Finite-sample performance of our method is analyzed in a simulation study, and an empirical illustration using the risk-sharing network data from Nyakatoke demonstrates that our proposed method is able to obtain economically intuitive estimates.

The promises (and perils) of control-contingent forward guidance
He Nie and Jordan Roulleau-Pasdeloup
Review of Economic Dynamics, Vol. 49, July 2023
We develop a model with control-contingent forward guidance: the central bank explicitly anchors future policy announcements to short run inflation. Even though the model features past promises, we compute a closed form solution using a simple Markov chain representation. This allows us to show analytically that control-contingent forward guidance can rid the model of sunspot liquidity traps. The same holds for a policy of price level targeting, which emerges as a special case. Finally, we leverage this new framework to formally show that announced interest rates are only a means to an end: what truly matters is expected inflation.

Bringing the classroom to the real world: Field trips to marginalized neighborhoods
EeCheng Ong and Timothy Wong
Journal of Economic Education, Vol 54. No. 3
The authors incorporate experiential learning into three courses: Urban Economics, Labor Economics, and the Economics of Inequality. Students visit neighborhoods that, while geographically proximate, remain outside most students' day-to-day experiences, such as a legal red-light district that is also home to low-wage immigrant workers and a public rental housing estate whose residents were recently relocated. These location-oriented field trips raise a confluence of themes, such as poverty and crime, that relate to and beyond the authors' courses. Students' written reflections provide evidence that they are able to: (i) identify economic concepts within the lived realities of communities; (ii) recognize the assumptions and validity of economic models; and (iii) contextualize and reevaluate the costs and benefits to the economic agents whom they model in the classroom.

Revealed price preference: theory and empirical analysis

Rahul Deb, Yuichi Kitamura, John K H Quah and Jörg Stoye

Review of Economic Studies, Vol. 90, No. 2, March 2023

To determine the welfare implications of price changes in demand data, we introduce a revealed preference relation over prices. We show that the absence of cycles in this relation characterizes a consumer who trades off the utility of consumption against the disutility of expenditure. Our model can be applied whenever a consumer's demand over a strict subset of all available goods is being analysed; it can also be extended to settings with discrete goods and non-linear prices. To illustrate its use, we apply our model to a single-agent data set and to a data set with repeated cross-sections. We develop a novel test of linear hypotheses on partially identified parameters to estimate the proportion of the population who are revealed better off due to a price change in the latter application. This new technique can be used for non-parametric counterfactual analysis more broadly.

Fractured-Land Hypothesis

Jesús Fernández-Villaverde, Mark Koyama, Youhong Lin and Tuan-Hwee Sng

Quarterly Journal of Economics, Vol. 138, No. 2, May 2023

Patterns of state formation have crucial implications for comparative economic development. Diamond (1997) famously argued that "fractured land" was responsible for China's tendency toward political unification and Europe's protracted polycentrism. We build a dynamic model with granular geographical information in terms of topographical features and the location of productive agricultural land to quantitatively gauge the effects of fractured land on state formation in Eurasia. We find that topography alone is sufficient but not necessary to explain polycentrism in Europe and unification in China. Differences in land productivity, in particular the existence of a core region of high land productivity in northern China, deliver the same result. We discuss how our results map into observed historical outcomes, assess how robust our findings are, and analyze the differences between theory and data in Africa and the Americas.

Climate change and labor reallocation: Evidence from six decades of the Indian Census

Maggie Liu, Yogita Shamdasani and Vis Taraz

American Economic Journal: Economic Policy, Vol 15. No. 2, May 2023.

How do rising temperatures affect long-term labor reallocation in developing economies? In this paper we examine how increases in temperature impact structural transformation and urbanization within Indian districts between 1951 and 2011. We find that rising temperatures are associated with lower shares of workers in nonagricultural sectors, with effects intensifying over a longer time frame. Supporting evidence suggests that local demand effects play an important role: declining agricultural productivity under higher temperatures reduces the demand for nonagricultural goods and services, which subsequently lowers nonagricultural labor demand. Our results illustrate that rising temperatures limit sectoral and rural-urban mobility for isolated households.

How the other half died: Immigration and mortality in US cities

Philipp Ager, James J Feigenbaum, Casper W Hansen and Hui Ren Tan

Review of Economic Studies, forthcoming

Fears of immigrants as a threat to public health have a long and sordid history. At the turn of the 20th century, when immigrants made up one-third of the population in crowded American cities, contemporaries blamed high urban mortality rates on the newest arrivals. We evaluate how the implementation of country-specific immigration quotas in the 1920s affected urban health. Cities with larger quota-induced reductions in immigration experienced a persistent decline in mortality rates, driven by a reduction in deaths from infectious diseases. The unfavourable living conditions immigrants endured explains the majority of the effect as quotas reduced residential crowding and mortality declines were largest in cities where immigrants resided in more crowded conditions and where public health resources were stretched thinnest.