PIETRO EMILIO SPINI
ECONOMICS DEPARTMENT
UNIVERSITY OF CALIFORNIA, SAN DIEGO

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CONTACT INFORMATION

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EDUCATION

University of California, San Diego, California	Ph.D. in Economics, 2022 (expected) **Committee**: Yixiao Sun (Co-chair) Kaspar Wuthrich (Co-Chair) James D. Hamilton Jeffrey Clemens Molly Roberts
Cornell University, Ithaca (NY)	M.S. in Applied Economics, 2016
Bocconi University, Milan (Italy)	B.A. Economics and Management, 2013 (Summa cum Laude, Valedictorian)

REFERENCES

Yixiao Sun	UC San Diego	yisun@ucsd.edu	(858) 534-4692
Kaspar Wuthrich	UC San Diego	kwuthrich@ucsd.edu	(858) 534-3383
James D. Hamilton	UC San Diego	jhamilton@ucsd.edu	(858) 534-5986
Melissa Famulari	UC San Diego	mfamulari@ucsd.edu	(858) 534-3878

FIELDS OF INTERESTS

Econometrics, Public Economics, Economic Theory

WORKING PAPERS

"Robustness, Heterogenous Treatment Effects and Covariate Shifts"
(Job Market Paper)

***Abstract**: This paper studies the robustness of estimated policy effects to changes in the distribution of covariates. Robustness to covariate shifts is important, for example, when evaluating the external validity of (quasi)-experimental results, which are often used as a benchmark for evidence-based policy-making. I propose a novel robustness metric δ^*. It quantifies the magnitude of the smallest covariate shift needed to invalidate a claim on the policy effect (for example, $ATE \geq 0$) that is supported by the (quasi)-experimental evidence. My metric links policy effect heterogeneity and robustness in a flexible, non-parametric way and does not require functional form specifications. I construct a semi-parametric estimator for δ^* that leverages the heterogeneity in policy effects that can be estimated in the (quasi)-experiment. I employ a de-biased GMM approach to allow for machine-learning based estimators of the policy effect heterogeneity (through Lasso, random forest, boosting, neural nets) while still guaranteeing $\sqrt{n}$-consistency of δ^*. I apply my procedure to the Oregon Health Insurance experiment to study the robustness of several measures of healthcare*

utilization and financial strain to a shift in the distribution of experiment-specific covariates, which are likely to differ across US states. I find that the increase in outpatient visits is the most robust among the metrics of healthcare utilization considered.

"Making Money: Existence and Determination of Commodity Money in General Equilibrium" (with Ross M. Starr)

***Abstract**: The classic Arrow-Debreu (1954) general equilibrium model cannot sustain or account for the existence of money. This lacuna arises because each household and firm faces a single budget constraint summarizing revenue and expense in all commodities. Money, a carrier of value between transactions, has no function when all credits and debits are rolled into a single expression. A trading post model of $N \geq 3$ commodities and transaction costs generates $\frac{1}{2}N(N-1)$ separate budget constraints with distinct bid and ask prices. General equilibrium, market-clearing prices and transactions at each trading post, exists under conventional continuity and convexity conditions. Commodities acquired by an agent at one trading post and disbursed at another constitute commodity money.*

"Thick Market Externality and Concentration of Money" (with Ross M. Starr)

***Abstract**: A thick market external effect is applied to a trading post model of $N \geq 3$ commodities with transaction costs and distinct bid and ask prices. We state and prove an existence theorem for general equilibrium with external effects in the trading post model. Media of exchange occur endogenously as liquid commodities, characterized by a narrow bid/ask price spread. The thick market externality can lead to concentration of the endogenously determined media of exchange towards an equilibrium with a single medium. In a class of examples, we show that if the households have sufficiently heterogeneus tastes relative to the size of the economy, the monetary equilibrium leads to higher consumption than the barter equilibrium.*

RESEARCH IN PROGRESS

"Generalized Robustness Test: Coefficient Stability across Causal Specifications"

***Abstract**: This project focuses on the exercise of comparing coefficients across regression specifications, broadly known as robustness checks, a very popular tool in applied economic research. The econometric literature has proposed to formalize this coefficient stability exercise in linear models by turning robustness checks into a robustness test. Unfortunately, for available procedures, a rejection in their proposed test may be due to either a failure in the notion of robustness or to a failure of the linearity of the model, making the robustness test non-specific. I bypass this difficulty by proposing a semi-parametric test based on linear sieve estimators that allows for non-linearity and is specific to the testing the coefficient stability.*

"MTE with Misspecification and Weak Instruments" (with Julian Martinez-Iriarte)

***Abstract**: This project analyzes the Marginal Treatment Effect (MTE) model when there is a fraction of the population that does not respond to the instrumental variable when selecting into treatment. We show that under such a misspecification we can still recover the Average Treatment Effect, and offer bounds for the MTE curve, the Local Average Treatment Effect and the Marginal Policy Relevant Treatment Effect. Moreover, by letting that fraction approach to 1 at a certain rate, we can derive weak instruments limit distributions for the parameters of interest.*

TEACHING EXPERIENCE

As instructor at UC San Diego

Econometrics 120A Summer Session I, Summer Session 2 2020

As teaching assistant at UC San Diego

Econometrics 120A	Prof. Maria Candido
Econometrics 120B	Prof. Gordon Dahl
Econometrics 120C	Prof. Kaspar Wuthrich, Prof Yixiao Sun, Prof. Mun Pyung O
Econometrics 220B (PhD Core)	Prof. James D. Hamilton

RELEVANT POSITIONS HELD

Research Assistant	UCSD (Prof. Ross Starr)	2018-2021
Research Assistant	UCSD (Prof. Kaspar Wuthrich)	2019
Graduate Summer Research	UCSD (Prof. Yixiao Sun)	2017

GRANTS

Graduate Summer Research	2017, University of California, San Diego.
Regents Fellowship	2016, University of California, San Diego.
Citizen's Climate Lobby (gift), with PI: Jennifer Ifft	2015-2016, Cornell University, Ithaca

HONORS AND AWARDS

Economics Associate-In Excellence Award. 2020, University of California, San Diego.
Economics TA Excellence Award. 2018, 2019, University of California, San Diego.
AAEA Outstanding Master Thesis Award (Honorable Mention). 2017, American Agricultural Economics Association.
NAREA Master Thesis Award (1^{st} Place). 2017, Northeast Agricultural and Resource Economic Association.

PROFESSIONAL ACTIVITIES

Seminars and Presentations

UCSD Graduate Student Seminar	2019, 2020, 2021
UCSD Econometrics Lunch Seminar	2018, 2019, 2021
UCLA Summer Institute in Computational Social Science	2019
Washington University (St. Louis) Annual Economics Graduate Student Conference	2021

Service

First Generation College Student in Economics Panel	2018
Liaison for of UCSD's Undergradute Economics Association	2017-present

LANGUAGES

Italian (Native), English (Fluent), Spanish (Fluent)

PROGRAMMING SKILLS

Python, R, LaTeX, MATLAB, Stata