

MAURICIO ROMERO
ECONOMICS DEPARTMENT
UNIVERSITY OF CALIFORNIA, SAN DIEGO

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CONTACT INFORMATION

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EDUCATION

University of California - San Diego, California, U.S.A. PhD Candidate in Economics, 2018 (expected)

Committee:

Prashant Bharadwaj (co-chair)
Karthik Muralidharan (co-chair)
Craig McIntosh
Jeffrey Clemens
Gordon McCord

Universidad de los Andes, Bogotá, Colombia
Universidad de los Andes, Bogotá, Colombia

B.S. Mathematics (Cum Laude), 2010
B.A. Economics (Summa Cum Laude), 2009

REFERENCES

Prashant Bharadwaj	UC San Diego	prbharadwaj@ucsd.edu	(858) 822-6760
Karthik Muralidharan	UC San Diego	kamurali@ucsd.edu	(858) 534-2425
Craig McIntosh	UC San Diego	ctmcintosh@ucsd.edu	(858) 822-1125
Paul Gertler	UC Berkeley	gertler@berkeley.edu	(510) 642-1418

FIELDS OF INTERESTS

Development and Public Economics

RELEVANT POSITIONS HELD

Research Assistant	UCSD (Prof. Karthik Muralidharan)	2014 – 2017
Junior Researcher	Quantil Matemáticas Aplicadas	2009 – 2012
Research Assistant	Universidad de los Andes (Prof. Álvaro Riascos)	2008 – 2009

GRANTS

PDEL - Graduate Student research funding. 2015. University of California - San Diego.
LACEEP - Grant IDEA-302. 2014. Latin American and Caribbean Environmental Economics Program.

HONORS AND AWARDS

Benjamin C. Horne Memorial Prize. 2015. University of California - San Diego.
Lauchin Currie Scholarship. 2012. Banco de la República (Central Bank of Colombia). Bogotá, Colombia.
DEEWR Prize for Applied Micro-Econometrics for 2008. Australian National University. Canberra, Australia.
Mario Galán Gómez scholarship from the program Bachilleres por Colombia. Undergraduate Studies. 2004-2009. Ecopetrol S.A. Bogotá, Colombia.

WORKING PAPERS

“Outsourcing Education in a Fragile State: Experimental Evidence from Liberia” Joint with Justin Sandefur and Wayne Sandholtz (Job Market Paper)

Abstract:

“Inputs, Incentives, and Complementarities in Primary Education: Experimental Evidence from Tanzania” Joint with Karthik Muralidharan and Isaac Mbiti

Abstract: *The idea that complementarities across factors of production can lead to increasing returns from jointly providing them has a long tradition in development economics. Yet, there is limited well-identified evidence of such complementarities. We present evidence from a randomized experiment across a representative sample of 350 schools in Tanzania that studied the impact of providing schools with (a) unconditional capitation grants, (b) bonus payments to teachers based on student performance, and (c) both of the above. At the end of two years, we find no impact on student test scores from providing either the grants or teacher incentives but find significant positive effects from providing both. We find strong evidence of complementarities between improving school inputs and teacher incentives, with the combined effect being significantly greater than the sum of the individual effects. Our results suggest that improving teacher incentives can also improve the productivity of additional school resources, whereas simply augmenting school inputs may not have much impact on learning outcomes.*

“Cross-Age Tutoring: Experimental Evidence from Kenya” Joint with Lisa Chen and Noriko Magari)

Abstract: *There is an increasing wealth of evidence showing that teaching appropriate to the student’s learning level can improve learning outcomes in low-income countries. Cross-age tutoring, where older students tutor younger students, is an inexpensive alternative for providing personalized instruction to younger students at the cost of the older student’s time. We present the results from a large RCT in Kenya, in which schools are randomly assigned to implement either an English or a math tutoring program. Students in grades 3-7 tutor students in grades 1-2 and preschool. We find that tutoring in math, relative to tutoring in English, has a small positive effect (0.06 SD, p-value of 0.073) on math test scores. These results do not hold true for English tutoring, however: relative to math tutoring, it has no positive effect on English test scores (we can rule out an effect of 0.077 SD with 95% confidence). We show that there is considerable heterogeneity according to the student’s baseline learning level: The effect is largest for students in the middle of the ability distribution (0.144 SD, p-value of 0.005), while the point estimates are almost zero for students with either very low or very high baseline learning levels. Finally, we show that tutors are neither harmed by nor benefit from the program.*

“Benefit plans, insurer competition, and pharmaceutical prices: Evidence from Colombia”

Abstract: *Public health benefit plans must choose what services are covered with public funds. This coverage choice may affect the prices of covered services through multiple channels. First, it reduces out-of-pocket expenditures, making consumers less sensitive to the cost of treatment; in an environment where suppliers have market power (as is often the case with pharmaceutical drugs) this could result in higher prices. The second channel is an increase in competition among drugs listed in the benefit plan with the same therapeutic properties, which could result in lower prices. Thus, the net effect on prices is unclear and depends on consumer sensitivity to prices and the level of competition among drugs. Using a difference-in-difference strategy, I study the effect of including a pharmaceutical drug in the national benefit plan of Colombia, a country with a competitive health insurance market in which all insurance companies offer the same plan (the national benefit plan) and charge the same premium. I find that drug prices decrease by 16% on average after they are listed in the benefit plan and that sales increase by 124%. However, if a drug faces no competition and is listed in the benefit plan its price increases by 11%. Coverage also affects the prices of unlisted services: Within a therapeutic class, the prices of drugs that are not listed in the benefit plan decrease as the market share of competing drugs listed in the benefit plan increases. I conclude with a discussion of the role of*

financial incentives in health care markets.

“Local incentives and national tax evasion: The response of illegal mining to a tax reform in Colombia”
Joint with Santiago Saavedra)

Abstract: *National governments can only tax the economic activity they either directly observe or that is reported by municipal authorities. In this paper we investigate how illegal mining, a very common phenomenon in Colombia, changed with a tax reform that reduced the share of revenue transferred back to mining municipalities. To overcome the challenge of measuring illegal activity, we construct a novel dataset using machine learning predictions on satellite imagery features. Theoretically we expect illegal mining to increase because the amount required to bribe the local authority is smaller after the reform. Using a difference-in-differences strategy, with Peru as the control, we find that illegal mining increased by 1.41 percentage points as share of the mining area. In addition, we provide suggestive evidence that illegal mines have more harmful health effects on the surrounding population than legal mines. These results illustrate unintended effects of tax revenue redistribution.*

“The Effect of Gold Mining on the Health of Newborns” Joint with Santiago Saavedra)

Abstract: *Mining can propel economic growth, but often results in heavy metal releases, that could negatively impact human health. Using a difference-in-differences strategy we estimate the impact of gold mining on the health of newborns in Colombia. We find heterogeneous effects depending on where mothers are located with respect to a mine. Mothers living in the vicinity of a mine are positively affected experiencing a reduction of 0.51 percentage points in the probability of having a child with low APGAR score at birth (from a basis of 4.5%). However, we find a negative effect on mothers living downstream from a mine, whose probability of having a child with a low APGAR score at birth increases by 0.45 percentage points. We provide suggestive evidence that contaminated fish consumption in the first weeks of gestation is the mechanism behind our results using an exogenous increase in fish consumption caused by a religious celebration.*

“Using Instrumental Variables under Partial Observability of Endogenous Variables for Assessing Effects of Air Pollution on Health” Joint with Tarik Benmarhnia and Prashant Bharadwaj)

Abstract: *Instrumental variable (IV) methods are frequently used to estimate causal effects in epidemiological studies due to unmeasured confounders in observational studies. While this method has been used for a long time in the economics literature, its use has extended more recently into the medical and public health literature. In this paper, we review the literature that uses IV methods to assess the impact of atmospheric air pollution on health outcomes and point out an important, but largely un-emphasized assumption that is implicit in most papers using this methodology. The intuition that forms the basis of this paper is simple: while instruments are often used to create plausibly exogenous variation in single pollutants, recognizing that pollutants are generally co-produced and that any instrument that affects one component of pollution (PM10 for example) is likely to affect other pollutants not considered in the analysis (SO2 for instance) is important. If pollutants are co-produced, IV models that only treat a single pollutant as endogenous would still be biased estimates. The direction of bias depends on how co-pollutants interact with each other and the instrument. Hence, in some cases it will not be possible to assess whether biased IV estimates are any closer to the true estimates compared to OLS. We recommend authors who use IV methods to examine the impact of air quality on health to place structure or make specific assumptions about co-pollutant production and the way in which their chosen instrument interacts with these co-pollutants.*

“Improving The Effectiveness of Replication in Economics” Joint with Paul Gertler and Sebastian Galiani)

Abstract: *Replication is a critical component of scientific credibility as it increases our confidence in the reliability of the knowledge generated by original research. Yet, replication is the exception rather than the rule in economics. In this paper, we examine why replication is so rare and propose changes to the incentives to replicate. We show evidence of overturn bias from editors and replication studies and show that despite the recent requirements that data and code used in published papers be posted by many top journals in the*

field, in practice only 14% of the articles recently published were fully replicable (i.e. from raw data, to final tables and figures) and only 37% were partially replicable (i.e. from the estimation data to final tables and figures). We propose that journals take responsibility for overseeing the replication exercise post-acceptance but pre-publication. This simple is unbiased, fair and low-cost.

RESEARCH IN PROGRESS

“Teacher Performance Pay: Levels Vs Gains” Joint with Karthik Muralidharan and Isaac Mbiti

“Electoral accountability and public good provision: Evidence from a randomized school reform in Liberia”

Joint with Justin Sandefur and Wayne Sandholtz

“Crosscut designs in experimental economics” Joint with Karthik Muralidharan and Kaspar Wuthrich

“The Performance of Risk Adjustment Models in Colombian Competitive Health Insurance Market” Joint with Alvaro Riascos and Eduardo Alfonso)

NON-ECON PUBLICATIONS

“On the optimality of answer-copying indices: theory and practice”. Journal of Educational and Behavioral Statistics. October 2015 40: 435-453. Joint with Alvaro Riascos and Diego Jara

Abstract: Multiple-choice exams are frequently used as an efficient and objective method to assess learning, but they are more vulnerable to answer copying than tests based on open questions. Several statistical tests (known as indices in the literature) have been proposed to detect cheating; however, to the best of our knowledge, they all lack mathematical support that guarantees optimality in any sense. We partially fill this void by deriving the uniformly most powerful (UMP) test under the assumption that the response distribution is known. In practice, however, we must estimate a behavioral model that yields a response distribution for each question. As an application, we calculate the empirical type I and type II error rates for several indices that assume different behavioral models using simulations based on real data from 12 nationwide multiple-choice exams taken by fifth and ninth graders in Colombia. We find that the most powerful index among those studied, subject to the restriction of preserving the type I error, is one based on the work of Wollack and is superior to the index developed by Wesolowsky.

“Misinformation About HIV and Negative Attitudes Toward Homosexuality and Same-Sex Couples’ Rights: The Case of Colombia”. International Journal of Public Opinion Research. Forthcoming. Joint with Federico Andrade-Rivas

Abstract: The rights of homosexuals and same-sex couples are currently the subject of debate on the public stage and in courtrooms around the world. This debate is often colored by prejudice and misconceptions regarding homosexuality, particularly in low- and middle-income countries. This study investigates the opinions of Colombian women about same-sex couples’ rights and women’s attitudes toward a homosexual child. Using a nationally representative data set, we find that that younger, wealthier, and more educated Colombian women are more likely to support their homosexual child and approve of same-sex couples’ rights, while women with misconceptions regarding the human immunodeficiency virus and homosexuality are less likely to be supportive of a homosexual child and less likely to approve of same-sex couples’ rights.

TEACHING EXPERIENCE

As lecturer at Universidad de los Andes – Bogotá, Colombia

Microeconomics 3 Summer 2016

Game Theory Summer 2013 and Summer 2014

Calculus I 2009

As teacher assistant at Universidad de los Andes – Bogotá, Colombia

Introduction to Economics 2010 – 2011 (Prof. Alejandro Gaviria)
Microeconomics 3 2011 (Prof. Miguel Espinosa)
Econometrics I 2009 (Prof. Alejandro Gaviria)
Calculus III 2008 (Prof. Diego Escobar)

As teacher assistant at UC San Diego

Operational Research A Winter 2013 (Prof. Herbert Newhouse)
Operational Research B Spring 2013 (Prof. Herbert Newhouse)
Econometrics A Fall 2013 (Prof. Andres Santos)
Evaluating Technological Innovation Winter 2015 (Prof. Craig McIntosh)
Economic Development Spring 2015 (Prof. Karthik Muralidharan)

As lecturer at Universidad del Rosario – Bogotá, Colombia

Mathematical Economics 2011

PROFESSIONAL ACTIVITIES

Invited Presentations

2017 Inter-American Development Bank
2016 Banco de La Republica, Universidad de los Andes, Universidad del Rosario (x2)

Conference Presentations

2017 PACDEV, Western Economic Association International, Frontiers of Health Economics Research
 in Latin America
2016 LACEA/LAMES, PACDEV
2015 Southern Economics Association Conference, LACEA

Referee Service

Journal of Educational and Behavioral Statistics
Economic Development and Cultural Change
Journal of Comparative Economics
The Economic Journal

OTHER INFORMATION

Citizenship: Colombia
Date of birth: August 30th, 1986
Languages: Spanish (Native), English (Proficient)
Hobbies: Rock Climbing, Hiking, Mountaineering, and Cycling