# Northwestern | GLOBAL POVERTY RESEARCH LAB

*Summer 2021*

# Promotions & Productivity: a first ever empirical study

*recent research by GPRL faculty*

Erika Deserranno, a GPRL faculty affiliate, recently co-wrote a paper titled "Promotions and Productivity: The Role of Meritocracy and Pay Progression in the Public Sector". The paper provides the first experimental evidence on the causal effect of meritocratic promotions and pay progression on worker productivity.

The study centered on the Community Health Worker Program administered by the Ministry of Health and Sanitation, a large public sector organization in Sierra Leone. Created in 2012, it seeks to strengthen the provision of primary health care in Sierra Leone, one of the poorest countries in the world with the highest maternal mortality rate and the 5th highest child mortality rate. The program is organized around small health posts (called peripheral health units or PHUs) staffed with doctors (when available), nurses, and midwives. Community Health Workers (CHWs) provide a package of healthcare services at the community level. They do so by making home visits to households with expecting mothers or young children during which they provide health education, pre- and post-natal check-ups, and basic medical care and referrals to health clinics. This model of local preventative health service provision has been shown to increase the use of maternal and child health services; improve child health; and reduce child mortality.

In the field experiment a random number of CHWs were moved to a system that promotes the best-performing CHWs, Deserranno found that meritocratic promotions lead to higher productivity especially when workers expect a steep increase. Furthermore, when promotions are non-meritocratic, a higher pay progression demotivates workers, causing a reduction in their productivity. Therefore, organizations seeking to increase the productivity of lower-tier workers should simultaneously enforce promotion rules that reward performance and ensure that the prize associated with promotions is large enough. This is important because a large number or organizations in private and public sector adopt only one of these two components rather than both.

Lack of meritocratic promotions and steep pay progression may also constrain the state's ability to provide high-quality public services. While raising pay at the top of the organization may improve the quality of managerial staff, the result of this paper show that this can come at the expense of demotivating workers at the bottom of the organization if the promotion system is not meritocratic enough. When, however, the promotion system is meritocratic, higher pay progression instead unambiguously increases the productivity of bottom-tier workers.

## GPRL in the news

*Coverage of our research in various news outlets*

*How Debit Cards Are Helping Low-Income Households Save—and Benefiting Their Neighbors Too*
by Katie Gilbert | KelloggInsight

*How helpful is the sell 1, donate 1 business model?*
by Marielle Segarra | Marketplace

*China Must Embrace Remote Work*
by Nancy Qian | Project Syndicate

# FAREWELL & WELCOME

The Global Poverty Research Lab bids farewell to a few of our research analysts who are leaving to start their next chapter. **Natasha Ahuja** is going to work as an RA for Noam Angrist and Stefan Dercon at CSAE, University of Oxford. **Tyler Box** is entering a master's program at Georgetown University. **Peter Lugthart** is starting a doctoral program at Wharton. **Diego Santa Maria** is entering the economics doctoral program at Harvard. We will miss them and wish them the best of luck!

A few new staff are joining the Global Poverty Research Lab this summer. **Lauriane Yehouenou** recently earned a PhD in food and resource economics at the University of Florida; she will serve as a research manager. We have three new research analysts: **Mike Qiyuan Feng** graduated with a bachelor's from Tufts this year. **Mika Inoue** recently earned her bachelor's from Notre Dame. **Sean Ho June Rhee** joins us after earning a bachelor's from Middlebury. Welcome to GPRL!

# FEATURED WORKING PAPERS

*visit our website* to see all GPRL working papers

## Just Launched! Research Methods Notes Series

The Research Methods Notes series, a collaboration between Global Poverty Research Lab and Innovations for Poverty Action, was launched in April 2021. The purpose is to serve as practical guides for collecting "good" data, an essential complement to statistical rigor in providing answers to global poverty questions. The two inaugural notes are summarized below.

## Understanding Response Rates in Random Digit Dial Surveys

Andrew Dillon (GPRL) and Steven Glazerman (IPA), and Michael Rosenbaum (IPA)
*April 2021*

Data on response rates from random digit dial (RDD) surveys are analyzed from nine countries. The brief identifies the two points where most respondents drop out: non-contact, where respondents do not pick up the phone, and early refusal, where respondents terminate the interview before the survey begins. This evidence suggests that the most promising ways to increase response rates are strategies that increase pick-up rates and improve the first impression respondents have of the interviewer. Improving response rates in this way will increase cost-effectiveness. An area of future research is how this method may affect the characteristics of respondents who choose to participate.

## Messaging to Improve Response Rates: Effectiveness of Pre-Survey SMS Messages

Andrew Dillon (GPRL), Steven Glazerman (IPA), and Michael Rosenbaum (IPA)
*April 2021*

This brief presents early evidence from a series of experiments IPA conducted in four countries during 2020 to learn whether pre-survey messages, typically SMS texts, improve the rates at which respondents answer the phone, and complete the interview, with the ultimate goal of increasing the productivity of phone surveys. On average, SMS messages improve the rate at which respondents complete the survey relative to no message. This change is not driven by the rate at which respondents answer the phone, but by survey completion conditional on starting the survey. When using SMS messages to boost response rates, the resulting study sample was on average younger and less likely to be predicted to be in poverty than if no SMS messages were sent.

## Using Machine Learning and Qualitative Interviews to Design a Five-Question Women's Agency Index

Seema Jayachandran (GPRL), Monica Biradavolu (QualAnalytics), and Jan Cooper (Harvard University)
*March 2021*

Open-ended interview questions elicit rich information about people's lives, but for large-scale data collection, social scientists often need to measure complex concepts – such as women's agency – with a few close-ended (e.g., multiple choice) questions. This study introduces a new method for selecting the best close-ended questions to use. The researchers ask 200 women about their agency in two ways, with open-ended questions and with many candidate close-ended questions. The best close-ended questions are then identified based on how well they statistically correspond to that score. The researchers use this method to create a survey module to measure women's agency in north India.

# GPRL Staff Interview

## DIEGO SANTA MARIA
### *Senior Research Analyst*

Diego Santa Maria joined GPRL as a research analyst (RA) in the summer of 2018 after working as a research assistant at the Universidad del Pacífico in Lima, Peru, where he grew up and earned his bachelor's degree. Within the last year he was promoted to senior research analyst, which had him take on greater independence and leadership within the Lab. He is heading to Harvard in the fall to start a PhD in Economics.

The following is a summary of an interview with Diego.

*What got you interested in development economics?*
I always knew I liked social policy and development generally. In school I did an internship at the Peruvian Ministry of Education, where they had a strong culture of doing evidence-based policy. I wanted to come to GPRL to broaden my exposure to development issues and policy outside Peru and to learn from Chris Udry and Dean Karlan, GPRL's co-directors.

*You did some field work in India in 2019 for GPRL. What was that like?*
One of my favorite GPRL experiences was spending 3 months in Kolkata working on a vegetable market study. The goal was to better understand how these markets work in a big Indian city. At first sight it seems they are inefficient because many small vendors are selling the same product close to each other at low prices, so it seems one could gain easily by differentiating. Why not differentiate? We designed a subsidy to pay vendors who sell more of a vegetable they did not usually sell, to see if this would change their practices. We collected daily data from a large sample of vendors in multiple markets. This is challenging because you have to figure out the logistics of how to weigh the vegetables in stock to calculate the subsidy payments, and deal with issues such as differences in the quality of the vegetables sold by different vendors and seasonal variations in the availability of certain vegetables. It was important to have someone on the ground that understood the theory behind the design of the experiment and could find solutions to these issues in real time.

*What did you learn from this experience?*
I learned that from the desk at GPRL everything may seem simple, but in the field it's very dynamic and lots can go wrong. What you think might work may not because it requires too much training for surveyors, or a survey question may be too hard to answer and then the vendor gets bored or they are focused on selling their product to customers. It's important to pay close attention to the fieldwork because everything rides on that. Even in analyzing the data once the study was complete I saw how it could have been improved had we changed this thing or that. So much of the study design and implementation was made possible by talking with people from Kolkata, both with the implementing partner and with the vendors (with the help of a translator).

*What changes were made as a result of your visit?*
The study provided a gift to every vendor who answered the survey as an incentive to participate, but not all vendors were assigned to receive the subsidy. This led to issues because some vendors found that the design of the subsidy was unfair. In response, we updated the study design and re-randomized the subsidy each week so each vendor had a chance to be selected.

*What was your role in this study?*
I supervised the interview process, coordinated with the field team, checked the incoming data every day and corrected any problems to ensure they were reliable and consistent across the study time frame. I also analyze the data now that the field work is over.

*What would you like to focus on as you establish your own career in development?*
I really liked working in a city. I believe that urban areas in developing countries are a little understudied. Coming from big developing country city myself, I feel motivated to understand how markets operate in such settings and the institutional barriers that prevent their development. Ultimately, I aspire to help identify effective solutions to increase the welfare of the urban poor.

It's challenging to implement RCTs in very dense urban settings because you have to account for spatial dynamics and spillover effects. In the future I expect to integrate the skills I have acquired at GPRL with new empirical techniques that will allow me to effectively tackle this type of questions.