The Making of a Public Sector Worker: The Causal Effects of Temporary Work Assignments to Poor Areas*

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Abstract

Can temporary work assignments to poor areas affect worker preferences, beliefs, and career choices? We provide evidence on this question using random variation in the assignment of psychologists within a one-year mandatory rural service program in Peru. Psychologists that completed the program in poorer places are later 15% more likely to work for the public sector and 86% more likely to work in the poorest districts in the country. We provide survey evidence that points to increased prosociality as an important mechanism.

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1 Introduction

A growing body of research shows that beliefs and preferences are malleable (Kosse et al., 2020; Cappelen et al., 2020; Abeler et al., 2021; Rao, 2019; Alan et al., 2022). While most of the existing work is based on low-stakes decisions in lab-in-the-field experiments, these insights have the potential to address broader economic behavior and inform the optimal designs of markets. Policies that aim to harness the endogeneity of preferences and beliefs could thus supplement existing approaches like monetary incentives to induce desired behaviors. For example, making individuals more patient could increase educational investments, while higher levels of prosociality could reduce conflict, decrease shirking, and affect occupational choices.

We focus on a particular policy problem – the unequal distribution of health workers in urban versus rural areas in many developed and developing countries – and ask whether temporary assignments of health workers to poorer areas can affect subsequent career decisions. The question is motivated by previous research showing that contact with disadvantaged communities increases prosocial behavior and reduces stereotypes (Rao, 2019; Lowe, 2021; Mousa, 2020) and that public sector workers, who are often the only providers in remote areas, tend to be more prosocial (Cowley and Smith, 2014; Banuri and Keefer, 2013). To study this question, we use random variation in the location assignment of psychologists within a mandatory 12-month rural service program (SERUMS) in Peru.[1] As part of the program, health workers are sent to remote public primary healthcare facilities to provide services to local communities after the completion of their medical degree. Participation in this program is mandatory for all health workers who ever want to work in the public sector. Similar policies are used by more than 70 countries (Frehywot et al., 2010).

Our econometric strategy exploits exogenous variation in psychologists' location choice sets: psychologists are given their choice over facilities based on a randomized ranking (the individual who is drawn first gets first pick over locations, the individual who is drawn second gets their pick among the remaining locations, etc.). We collaborated with the Ministry of Health in Peru to access administrative data on health worker placements and conduct an

[1]The acronym stands for the *Servicio Rural y Urbano Marginal de Salud*.

online survey with 559 psychologists who completed the rural service program 3-33 months prior. As part of the survey, we collected information on employment outcomes, the respondent's rank during the assignment progress, preferences, beliefs, and the development of skills and networks during the rural service program. We create a prosociality index based on stated job preferences, redistributive preferences, and (past, hypothetical, and incentivized) donation decisions.

We start by documenting that psychologists who chose later during the lottery process completed the rural service program in poorer and more remote locations. We then show that this experience affects subsequent career outcomes. Relative to psychologists who were given first choice over locations, respondents in the bottom rank tercile are 8.8 percentage points, or 16%, more likely to work for the public sector after the program. These effects are concentrated in facilities that provide healthcare services to poor households. Besides changes in the type of employer, we also observe a change in respondents' later career location. Psychologists in the bottom tercile of lottery ranks are 8.7 percentage points, or 86%, more likely to subsequently work in the poorest districts in the country. We show that these effects are not driven by inertia since less than 5% of respondents continue to stay at the facility or district in which they completed the rural service program. Importantly, we do not observe a difference in monthly income based on the respondent's rank. Instead, psychologists seem to face a trade-off between public sector work in remote areas with fewer amenities and lower living costs, and private sector jobs in cities.

What is driving these career effects? Guided by a simple framework of two-sided labor market matching, we consider four primary explanations: a) increased prosociality (e.g., stronger preferences for helping the poor), b) changes in beliefs about job attributes, c) changes in other job preferences, and d) differences in hireability due to differential skill and network formation during the rural service program. We discuss each explanation in turn. We first show that psychologists in the bottom tercile of lottery ranks score 0.17 standard deviations higher on a prosociality index than psychologists in the top tercile. They are more likely to say that opportunities to help the poor are very important for their job choice, more likely to support that the government should increase aid to the poor, and more likely to donate. We show that respondents in the bottom rank tercile also seem to update

their beliefs on the effectiveness of the public sector relative to the private sector but find no differences in the perceived attributes of jobs in rich versus poor areas. We do not observe changes in other job preferences.

An alternative explanation for the differences in employment outcomes could be differences in the hireability of psychologists. For example, psychologists who complete the mandatory service program in poorer areas might receive worse training, which could make them less attractive to the private sector. Similarly, workers in poorer areas might have fewer opportunities to develop their professional networks, which could make it harder to find a private sector job. We address these concerns in four ways. First, we show that respondents in the bottom rank tercile are more likely to say that the rural service program increased their willingness to work for the Ministry of Health, providing additional evidence that the program location led to a change in the supply side. Further, consistent with an increase in prosociality, 54% of respondents say that the rural service program made them more willing to work for the Ministry of Health because it became more important for them to have a job in which they can help the poorest. Second, we show that the rank tercile did not affect the perceptions of how the rural service program impacted skill formation and professional networks. We also do not find that respondents that chose later give different answers about how the changes in skills and networks helped them with getting their current job. Overall, only 20% of respondents say that someone they met through the rural service program helped them to get their current job, emphasizing that network formation is not a core feature of the program. Finally, we show that the lottery rank does not affect the perceived availability of job options in the public and private sectors.

We argue that contact with rural poverty increased prosociality, thereby increasing the willingness to work for the public sector in poor areas. We provide qualitative evidence that documents how the experience affected the perspective of respondents. Furthermore, consistent with this explanation, we show suggestive evidence that the effects are larger for respondents who had less contact with rural poverty prior to the program.

This paper relates to three bodies of research. We show that temporary assignments to poor areas make health workers more likely to subsequently work in the public sector and in poor areas. These findings supplement existing work on how to address imbalances

in geographic distribution of health workers (Dal Bó et al., 2013; Bobba et al., 2021; Costa et al., 2021). We also contribute to a nascent literature on the endogeneity of preferences and beliefs (Kremer et al., 2019; Kosse et al., 2020). Previous studies have shown that contact with disadvantaged communities can reduce stereotypes, change redistributive preferences, and increase prosocial behavior (Lowe, 2021; Rao, 2019; Londoño-Vélez, 2022; Mo and Conn, 2018; Mousa, 2020). We add to this literature by showing that contact with the poor through temporary work assignments can also affect high-stake decisions like career outcomes. In related work, Dobbie and Fryer Jr (2015) show that participation in the volunteer program "Teach for America" make participants more likely to work in the education sector after the program. We extend these findings by studying a public policy that is implemented by more than 70 countries and examining a broader range of employment outcomes. We also focus on variation in assignments within such a program instead of studying the extensive margin effect of program participation, allowing us to rule out that the effects are driven by other program components like training content. Finally, our paper speaks to existing work on the long-run effects of early career experiences (Oreopoulos et al., 2012; Fadlon et al., 2022; Angrist and Chen, 2011). Our paper is related to Fadlon et al. (2022) who find that female physicians in Denmark who received unfavorable internship positions are more likely to sort into less desirable local labor markets in the long run, partly due to worse professional networks. Our setting differs from theirs since network effects are much less important for rural service programs than for internships during residency. Instead, we show that our career effects are driven by changes in prosociality.

The rest of the paper is organized as follows. Section 2 describes the institutional setting and the conceptual framework. In Section 3, we describe the study design. Section 4 reports our results. Section 5 concludes.

2 Background

We begin by describing the healthcare sector and the mandatory rural service program in Peru. We then describe a basic framework of how temporary assignments to poorer locations can affect career choices.

2.1 Context

The health workforce in Peru. Similar to many other countries, Peru faces a geographical imbalance of health workers. The health worker density is almost twice as high in urban than in rural areas (PAHO, 2017). Appendix Figure A1 shows the relationship between the number of psychologists in the public sector per 100,000 people and a district-level poverty index.[2] The index is created by FONCODES, a government agency, based on poverty indicators in the 2007 census.[3] The index ranges from 0 to 1 and indicates the percentile rank of the district relative to the rest of the country. The government uses this ranking to classify districts into poverty quintiles such that each quintile has roughly the same population.[4] We use the poverty index and the poverty quintiles throughout the paper as our preferred measure of location classifications. The blue line in Appendix Figure A1 shows that the richest districts have around 22 psychologists per 100,000 people, whereas the poorest districts only have a psychology density of around 13. At the same time, the need for better access to healthcare services is often larger in poorer areas. For example, the share of people with mental health conditions who seek care is only half as large in the poorest districts as the in the richest districts in the country (orange line). We find a similar pattern when looking at a proxy of unfilled vacancies at public facilities. Whereas 51% of public primary facilities that are supposed to provide mental healthcare services do not have a psychologist in districts in the poorest quintile, this share is only 17% in districts in the richest quintile. This is consistent with the unmet demand for psychologists in remote health centers. Evidence from a Regional Health Management Office in Lima (DIRIS) reports that in 2023, a call for 36 psychologists across 27 health centers that received 152 eligible applicants resulted in 5 health centers with unfilled positions at the end of the process. All of the unfilled positions were located in rural and semi-urban areas.

The mandatory rural service program. To address the shortage of healthcare pro-

[2]Districts are the third-level administrative unit in Peru and have a median population of 4,366 people according to the 2007 census.

[3]The index is based on the following indicators: the share of homes without drinking water, the share of homes without proper sanitation, the share of homes without electricity, the share of households with at least one malnourished member, the illiteracy rate of women aged 15 and over, and the population share of children aged 0-12 years.

[4]Since poorer districts tend to have a smaller population, the poorest quintile consists of more districts.

fessionals in rural areas, the government launched the *Servicio Rural y Urbano Marginal de Salud* (SERUMS) program in 1972. The law requires that healthcare professionals have to work for one year in a rural or semi-urban area if they ever want to apply to the public sector.[5] Psychologists can apply to SERUMS after the completion of a 3-year bachelor program. According to anecdotal evidence, many psychologists still apply to the program even if they do not intend to immediately work for the public sector to maximize future career options. A back-of-the-envelope calculation suggests that roughly 70% of psychology graduates apply to SERUMS.[6]

Assignments are either paid or unpaid. Paid positions are only available in districts that are in the three poorest quintiles. Unpaid positions are usually offered in richer locations and are assigned separately. The tasks of psychologists during the rural service program are the same nationwide and range from the diagnosis and treatment of mental health conditions, such as depression, anxiety, schizophrenia, and alcoholism, to providing support to victims of domestic violence.

While all positions are located in rural or semi-urban areas, there is a substantial variation in the poverty level of SERUMS locations. Appendix Figure A3 shows the distribution of the poverty level of SERUMS locations within our sample. Positions are available across the country (see Appendix Figure A4 for a map). All positions are paid the same (nominal) salary except for approximately 20% of positions that are located in emergency or border areas and receive around 30% higher salaries. In addition, the government offers bonus points to health workers according to the classification of districts into poverty quintiles. Psychologists can use the points when applying for public sector jobs (see Appendix Table A1 for details). However, since 87% of positions are located in the two poorest quintiles, the variation in bonus points is relatively small. Most of the psychologists in our pilot activities were not aware that the bonus points even applied to them and only 26% of our

[5]Some professions, including physicians, are also required to complete SERUMS to apply for residency programs.

[6]The calculation is based on the following statistics: (i) university records document that there were 2,537 psychology graduates in 2015, (ii) there were 1,723 SERUMS positions for 3,505 unique psychology applicants across both lottery rounds in 2019, (iii) the average respondent in our survey applied to SERUMS three times. If we assume that the numbers are roughly constant across years and that psychologists stop applying after five times, we would predict that $\sum_{i=0}^{4} 2537 * 0.51^i = 4998$ psychologists should apply in a given year. Comparing this to the actual number of applicants in 2019 leads to an application rate of 70%.

survey respondents say that the bonus points were important for them when they chose their SERUMS location.[7]

The assignment process. The assignment process to healthcare facilities differs across professions. Professions with a nationwide exam like physicians and nurses choose facilities based on merit, while professions without a nationwide exam choose based on a randomized order. We focus on psychologists in our study since they are the largest profession for which the assignment is based on a lottery. Assignments occur twice per year. The government publishes a list of vacancies one month before the lottery process. The list only contains information on the geographical location of the vacancy, the institution that manages the facility, the facility size, the poverty quintile, and whether the position is located in an emergency or border area. The poverty quintile of the position is the most salient characteristic since applicants use it as a proxy for the remoteness and safety level of the location. Applicants often also obtain additional information through personal networks and social media groups.

Based on the location of the university, applicants are either assigned to the central lottery site in Lima or to one of eight regional lottery sites. During the registration process, applicants then self-select into one of the regions that are available at their lottery site and decide to which institution they want to apply.[8] With the region-institution combination, applicants are called upon in a random order to select one of the remaining facilities on the list.[9] The government conducts the randomization digitally through the website random.org. Applicants also have the option to withdraw from the lottery when it is their turn. In that case, they can either enter a separate lottery for unpaid positions that takes place in another week or they can wait six months until the next lottery cycle. However, active withdrawal for paid places is rare in practice. A more common occurrence is that applicants are absent when called (10%) or make mistakes (5%). The latter includes applicants who forget to bring the correct documents or who accidentally choose facilities that have already been selected.

[7]The bonus points are more important for other professions like physicians and nurses since they are also relevant for residency program applications.

[8]87% of SERUMS positions for psychologists are located at Ministry of Health facilities. Regional lottery sites usually only offer positions within the same region, whereas the central lottery offers positions across eleven regions. 52% of applicants are assigned through the central lottery site.

[9]Exceptions are special cases (pregnant women, women with infants, and applicants with a disability) that are allowed to choose facilities first.

As we discuss later, we do not find significant differences in acceptance rates based on the lottery position. The process stops once all facilities have been assigned. For psychologists, the program is heavily oversubscribed. In the first round of 2021, 3,886 psychologists applied but only 336 paid positions and 717 unpaid positions were available. Applicants whose names are not drawn have to wait until the next lottery cycle.

Career choices after SERUMS. After the mandatory service program, psychologists can make job choices without further restrictions. Less than 5% of respondents continue to stay at the facility in which they completed SERUMS. Psychologists have various career options. According to our survey, 68% work in the health sector after SERUMS. Another 18% work in the education sector, while the rest works in a variety of areas, including public administration, marketing, and human resource management. Within the healthcare sector, most psychologists either work for the Ministry of Health, ESSALUD, or private facilities. The facilities of the Ministry of Health provide healthcare to beneficiaries of the public social protection scheme, *Seguro Integral de Salud* (SIS), consisting of poor households and informal workers. ESSALUD is a public contribution-based social security system for salaried workers with a separate network of facilities. Private facilities consist of individual practices or larger hospitals for which patients either have to pay out-of-pocket or receive coverage through private insurance schemes. As shown in Figure 1, the large majority of poor households receive healthcare from Ministry of Health facilities. Ministry of Health facilities are usually also the only formal healthcare providers in poorer districts (Appendix Figure A2). For psychologists, the salaries across the different institutions are similar. Instead, the main difference between the institutions is that vacancies at the Ministry of Health tend to be located in more remote areas. In our sample, 58% of private sector jobs are located in the two richest district categories, whereas only 24% of public sector jobs are located in the same areas.

Multiple studies have shown that health workers overall have strong preferences to live in cities (Miranda et al., 2012). Incorrect perceptions about life in rural areas are also likely to contribute to location decisions since health workers tend to come from better socio-economic backgrounds. Relative to the general population, psychologists in our sample come from more urban areas (78% vs 70%), have more educated parents (67% vs 47% have mothers

that completed secondary school), and are less likely to speak an indigenous language as their mother tongue (7% vs 21%). Those who still decide to work in poor areas tend to be more prosocial. We find that psychologists who work in the poorest districts score 0.19 standard deviations ($p = 0.003$) higher on a prosociality index than other psychologists.

2.2 Conceptual Framework

We consider a basic framework of labor market matches to understand how SERUMS assignments to poor areas can affect later labor market outcomes. We start with considering the decision of a worker to accept a public sector job in a rural area or a private sector job in an urban area. The worker will accept the public sector job if the utility he gets from the job is higher than the utility from the private sector job ($u_{public}(\beta\tilde{X}, \alpha\tilde{Y}) > u_{private}$). We assume that the utility function consists of two main components, the private component ($\beta\tilde{X}$) and the prosocial component ($\alpha\tilde{Y}$), where β represents the worker's preferences, $\tilde{X}$ stands for the worker's expectation over the job attributes, α represents altruism, and $\tilde{Y}$ stands for the worker's expectation over the change in community welfare if he accepts the job.

Inspired by previous work that shows how contact with disadvantaged communities can increase the prosocial behavior of individuals (Rao, 2019), we hypothesize that assignments to poor areas can increase a worker's willingness to work for the public sector in remote areas by making them more prosocial. This could either occur because they start to care more about helping others (α) or because they update their beliefs about how much community welfare would change if they accept public sector jobs ($\tilde{Y}$). These beliefs consist of several factors, including the perceived effectiveness of the public sector, the perceived size of the beneficiary pool, and the perceived causes that underlie poverty.

Assignments to poor areas could further affect other preferences (β), e.g. how much the worker cares about salaries, or beliefs about other job characteristics ($\tilde{X}$), e.g. the perceived difference in available amenities between rural and urban areas. More broadly, labor market outcomes are based on two-sided matches and assignments to poor areas could also affect labor demand. Positions in poorer areas might provide worse training, e.g. due to worse equipment or lack of medicines, which could make workers who went to poor areas less attractive for the private sector. Similarly, workers in poorer areas might have

fewer opportunities to develop their professional networks since there might be fewer or less qualified peers in poor areas. This could make it harder to find a job in the private sector after the initial assignment.

We will use this basic framework to guide our analysis and distinguish between different mechanisms. Overall, the relationship between the poverty level of the SERUMS location and subsequent public sector employment is ambiguous ex ante. For example, while contact with disadvantaged communities might make the worker more altruistic, a lack of infrastructure in remote facilities could also make the worker disillusioned about the effectiveness of public sector work.

3 Study Design

Our primary data source is an online survey that we conducted in 2022. Our main sample consists of 1,106 psychologists who have completed a paid SERUMS assignment at a Ministry of Health facility between November 2019 and May 2022.[10] For this sample, we obtained the name, email address, phone number, university, SERUMS placement, and SERUMS lottery details from the Ministry of Health.

Figure 2 documents the data collection process. All respondents received an initial email with the link to the online survey on August 17th, 2022. They were informed that the survey is conducted by an independent research team to analyze potential improvements to the SERUMS program. Respondents were offered an incentive payment of 19 soles ($\approx$ 10 USD PPP). After the initial email, we used a call center to make follow-up calls and remind respondents to fill out the survey. Respondents could also request to be sent a WhatsApp message with the survey link. In addition to the follow-up calls, we sent two reminder emails over the course of 1.5 weeks. In the final stage of the data collection, we conducted an abbreviated phone survey with respondents who had not filled out the online survey by that time. We further sent the online surveys to respondents who performed the SERUMS program at the time of the survey to understand at what point the effects emerge. These

[10] We also sent the survey to nutritionists, the second-largest profession that chooses SERUMS facilities in a randomized order. However, we do not find that their lottery rank affects the poverty level of the SERUMS location (Appendix Table A2). This is partly driven by less variation in the poverty status of available vacancies. We thus exclude them from our analysis.

respondents received a shorter survey and were not offered an incentive payment.

63% of the main sample either completed the online or the phone survey, which is high compared to similar studies (Dobbie and Fryer Jr, 2015; Mo and Conn, 2018). When we restrict the sample to online survey responses, our completion rate is 53%. Another 4.2% of respondents started but did not complete the online survey. In our preferred specification, we always pool phone survey responses, partial online survey responses, and completed online survey responses. We show in the appendix that the results also hold when we restrict the sample to respondents who completed the online survey.

Unfortunately, the administrative data do not contain information on lottery rank. Our main measure of an applicant's position in the lottery thus comes from survey data. However, we managed to obtain Zoom video recordings of 18 lotteries that cover a total of 349 applicants and were done between 2020 and 2022. We use this subsample to conduct internal validity checks. Columns 1-2 in Table 1 show that an applicant's rank is not correlated with gender or type of university. We also do not observe that acceptance rates vary significantly based on lottery ranks (columns 3-6). Appendix Table A3 further shows that we do not observe differential survey attrition ranks based on an applicant's lottery rank. Appendix Table A4 further reports a balance check among survey respondents. Psychologists that chose later do not differ along time-invariant characteristics like university status, age, gender, and birthplace. We also cannot reject a joint test of the hypotheses that each of these differences is zero ($p = 0.52$). We further included a retrospective question on their career plans before doing the SERUMS program and do not find any significant differences. We next describe our survey components.

Lottery Rank: Our main independent variable is based on the self-reported rank during the lottery assignment. We ask respondents about the number of positions that were available, their position in the lottery, and the number of places left when it was their turn to choose. If the answers were internally inconsistent or the reported total number of positions was inconsistent with administrative data, we tried to call back the respondents to clarify their answers. We use the actual rank from the zoom recordings whenever possible. Reassuringly, we find that the self-reported and observed lottery rank for the video recordings subsample is highly correlated (the Pearson correlation coefficient is equal to 0.77). Overall,

76% of respondents say that they are certain or very certain about their answers regarding the lottery assignment.

Employment: Our employment module asked whether the respondent worked for pay in the past week and, if they worked, in which sector, institution, and district their current job is located. The survey also asked about secondary jobs at other institutions as well as the respondent's monthly salary for each job (based on six salary categories).

Measures of Prosociality: We collect measures of prosociality across three dimensions. First, we ask respondents about how important it is for them to have a job that provides opportunities to help the poor on a scale from 1 to 7. Second, we ask respondents whether they think that the government should increase aid to the poor. Third, we collect four different measures of donation behavior. We ask respondents whether they donated time or money to an organization that supports those in need in the past 30 days. We also adopt a measure from the Global Preference Survey that asks how much the respondents would donate to a good cause if they were to receive 300 soles ($\approx$ 158 USD PPP) unexpectedly (Falk et al., 2018). Previous research has shown that this is correlated with incentivized decisions in a dictator game (Falk et al., 2016). In addition, we conducted our own dictator game where we asked respondents whether they want to donate part of the incentive payment (19 soles) to two local nonprofit organizations. Respondents could decide to donate to one or both organizations. We selected two unknown NGOs to avoid concerns that the location of the SERUMS assignment could affect the respondent's knowledge about larger nonprofit organizations. The first organization provides vitamin A supplements to children in rural areas in Peru. The script informed respondents that 12% of Peruvian children suffered from vitamin A deficiency and provided estimates of the cost-effectiveness of vitamin A supplementation based on calculations of GiveWell, a nonprofit organization that assesses charities. We provided this information to hold the knowledge of participants fixed and focus on how much they care about helping the beneficiaries of the organization. The second nonprofit organization organizes arts and cultural programs in urban Peru and was intended to differentiate between changes in general generosity and generosity towards the rural poor.

Job preferences and beliefs about job attributes: We asked respondents to rate six additional job attributes from 1 to 7 according to their importance. These measures were salary,

work-life balance, intellectual satisfaction, compatibility with a partner, work environment, and local infrastructure. We further asked respondents to compare positions at the Ministry of Health and in the private sector according to their salary, their opportunities to help the poor, and their work-life balance on a 5-point scale. Similarly, we also ask them to compare jobs at the Ministry of Health in the poorest and richest districts according to their local infrastructure, their opportunities to help the poor, their safety levels, and their compatibility with a partner. We further collected the respondent's opinions on whether they agree that the SERUMS experience increased their willingness to work for the Ministry of Health and to work in rural areas.

Skills and network formation: We obtained information on how much the respondents believe that the SERUMS experience improved their theoretical knowledge, clinical skills, language abilities, and professional networks. We ask whether these changes in skills directly helped the respondents to get their current jobs. For networks, we included the following question: "did any member of your professional network that you met through SERUMS help you find or get hired at your current job?". We also obtained information on the perceived availability of jobs by asking whether respondents agree that they could get a job at the Ministry of Health, at ESSALUD, and in the private sector if they wanted.

4 Results

Our empirical strategy exploits that psychologists choose facilities for the SERUMS program in randomized order, creating exogenous variation in choice sets. We restrict our sample to Ministry of Health lotteries with at least six facilities to ensure sufficient variation in the percentile rank. We exclude respondents that were classified as special cases and were allowed to choose first. We estimate the following specification for psychologist i:

$$y_i = \alpha + \gamma f(PercentileRank_i) + \delta_i + X_i + \epsilon_i. \tag{1}$$

$f(PercentileRank_i)$ is a flexible function of the respondent's rank. We show results based on tercile dummies as well as based on a linear specification of the respondent's rank. Our preferred specification is the tercile dummies since they do not assume a linear relationship

between the respondent's rank and the outcome of interest. The tercile dummies are also less likely to be affected by measurement error since respondents might not recall their exact position in the lottery but remember whether they chose positions at the beginning or at the end of the assignment process. y_i is the outcome for respondent i, δ_i are lottery fixed effects defined as a combination of site, type of institution, and lottery year; and X_i is a vector of controls that consists of age, gender, a dummy for whether the respondent's university was public, a dummy for whether Spanish is the respondent's native language, birth region fixed effects, and a dummy variable that indicates whether the survey was done over the phone. We always report robust standard errors.

Table 2 shows that respondents who chose later during the lottery process went to poorer places during the SERUMS program (Panel A). Relative to psychologists whose rank was in the top tercile, psychologists in the bottom tercile go to districts that rank 6.7 percentile points ($p = 0.008$) higher in the government poverty index (Panel B). The share of the population that is rural in the district also increases by 6.4 percentage points ($p = 0.013$). For the rest of the paper, we assume that less desirable positions are equivalent to poorer and more remote locations.[11]

We next examine the effects on subsequent career outcomes in Table 3. We first show that the lottery rank does not predict whether a respondent worked for pay in the past week.[12] We then investigate changes in the type of employment. Respondents in the bottom rank tercile are 8.8 percentage points ($p = 0.087$) more likely to work for the public sector than respondents in the upper rank tercile (column 2). These effects are driven by an increase of 12.2 percentage points ($p = 0.016$) in Ministry of Health employment (column 3), the institution that provides healthcare services to the poor. Columns 4-5 show that the gains

[11] In Appendix Table A5, we regress a respondent's lottery rank on various SERUMS position characteristics. We find that the poverty index is the main characteristic that is significantly correlated with the percentile ranking. Psychologists who chose later also tend to go to smaller facilities. We find no significant correlation between a respondent's rank and net salaries or whether the district is located in the same department (aka state) as the respondent's birthplace. While these are the official position characteristics that the government provides as part of the lottery process, we cannot rule out that positions that were chosen later might also differ along other dimensions.

[12] 23% of respondents report that did not have a paid job at the time of the survey. While some of the respondents were full-time students or took care of family members, 73% of unemployed respondents said that they are currently looking for a job. The high unemployment rate is in part driven by psychologists who had just completed SERUMS 3 months prior to the survey since they just entered the job market recently. For this subsample, only 63% of respondents worked for pay in the past week.

in public sector employment come at the expense of private sector employment (including private sector work at secondary jobs). We find positive but insignificant effects on whether the jobs continue to be in the health sector (column 6).

After documenting differences in the type of employer, we also examine changes in location choices. We first show that psychologists rarely stay in the same district in which they did their SERUMS assignment and that this also does not differ by lottery ranks (column 1, Table 4), ruling out inertia as a potential driver for results. We then use the government's classification of districts into poverty quintiles to characterize location choices. Column 6 shows that the share of respondents that work in the poorest districts is 8.7 percentage points ($p = 0.021$), or 86%, higher for psychologists in the bottom rank tercile. This increase seems to come in part from psychologists who would otherwise work in medium or poor (quintile 2 and 3) districts. As a benchmark, Miranda et al. (2012) finds in a discrete choice experiment with physicians in Peru that introducing an allowance that would increase the salary for rural jobs by 50% would increase the share of physicians willing to work in rural areas by 86%. The similarity in the relative magnitude of the effects emphasizes the policy importance of the change in employment outcomes due to differences in SERUMS assignments. Column 7 shows that we do not observe changes in the monthly income of respondents. As described in Section 2, psychologists seem to face instead a decision between public sector jobs in remote areas (with fewer amenities) and private sector jobs in urban areas.

Taken together, these results document a substantial change in the employment status of respondents up to 33 months after the end of the program, based on their rank in the SERUMS lottery. Respondents in the bottom tercile rank are more likely to work for the public sector and in poorer areas. What is driving these results? We use our conceptual framework to guide our analysis and differentiate between changes in preferences, beliefs, skill development, and network formation.

We examine whether changes in prosociality can explain the results in Table 5. Our preferred outcome is a prosociality index that captures job preferences, redistributional preferences, and donating behavior. Relative to psychologists in the top lottery tercile, respondents in the bottom lottery tercile score 0.17 standard deviations ($p = 0.004$) in the prosociality index (column 1). We also observe significant increases in each of the index components. Re-

spondents in the bottom tercile are 9,9 percentage points ($p = 0.079$) more likely to say that opportunities to help the poor are very important for choosing a job, 8.1 percentage points ($p = 0.070$) more likely to say that the government should increase to the poor, and score 0.09 standard deviations ($p = 0.164$) higher in a donation subindex (columns 2-4). Appendix Table A6 shows the results for each component of the subindex. A potential concern is that the relationship between public sector work and prosociality is reversed and that it is public sector work that makes individuals more prosocial instead of the other way around. To rule this out and understand the timing of the effects, we replicate the analysis for respondents who either did SERUMS at the time of the survey or completed the program three months prior (columns 5-8). We find similar effects for this subgroup which suggests that it is the increase in prosociality that leads to an increased willingness to work for the public sector.

We interpret the changes in the prosociality index as an increase in the overall prosociality component ($\alpha\tilde{Y}$). Separating between a change in altruism and beliefs is difficult since e.g. opinions on government aid are affected by how much respondents care about helping and by how much they think government aid will help the beneficiaries. The higher share of respondents in the bottom tercile who answer that opportunities to help the poor are very important for choosing a job already point to a change in preferences. As an additional test, we also examine the amount that was donated to the Vitamin A NGO. We provided detailed information on the cost-effectiveness of the intervention as well as the share of children with vitamin A deficiency in Peru to keep beliefs fixed. The comparison between donations to the Vitamin A NGO and the urban culture NGO was further intended to differentiate changes in general prosociality and prosociality towards the rural poor. Appendix Table A7 shows that we find noisy and insignificant effects for both outcomes.. However, we caution against the interpretation of the results, since it might be the case that more prosocial respondents already donate to other organizations or that increased public sector work in poor areas crowds out alternative ways of supporting the poor. Consistent with this, we find suggestive evidence that respondents in the bottom rank tercile tend to be more likely to say that they did not donate in the dictator game because they are already supporting other organizations or because they are already helping the poor through their current work (Appendix Table A7, columns 5-6).

We also collected direct information on beliefs. We consider four main beliefs that could limit interest in public sector work: (i) respondents might think that people are poor because of a lack of individual effort so any contributions might have limited effect, (ii) respondents might underestimate the share of patients who benefit from the public sector, (iii) respondents might have limited trust in the public sector and (iv) respondents might perceive the private sector provides more opportunities to help the poor than the public sector. Column 1 in Table A8 examines whether the locations of the SERUMS assignments change what respondents perceive to be the underlying reasons for poverty. Across both specifications, we find positive (but noisy and insignificant) effects for whether respondents who chose later are more likely to think that circumstances beyond a person's control, instead of lack of individual effort, are the main reason for poverty. We do not find differences in government trust (column 2) and even slightly negative effects when looking at the perceived share of the population that is covered by the government's social protection scheme that provides healthcare to poor households and informal workers. The last result stands in contrast to Londoño-Vélez (2022) who finds that contact with poor students in the classrooms affects perceptions about the income distribution of a country. A potential explanation is that respondents already seem to have accurate beliefs about the government's social protection scheme: the outcome mean of the omitted group (63%) is very close to the actual share of the population that is covered by the scheme (66%).

However, we do find positive effects when considering perceptions about the relative effectiveness of the public sector. In this exercise, we asked respondents to compare job attributes in the public and private sectors based on a 5-point scale, where 5 corresponds to better attributes in the public sector. Column 4 shows that respondents who chose later in the lottery rate tend to have a more favorable view of the public sector in terms of the opportunities it provides to help the poor. This pattern also remains when we restrict the sample to respondents who are either currently doing the SERUMS program or who completed the program just three months before our survey. We do not observe similar effects when we asked respondents to compare jobs in the public and private sectors along other attributes (Appendix Table A9). An exception is that respondents in the bottom tercile also seem to have a more favorable view of the public sector in terms of salaries. However,

these differences are smaller and noisier when restricting the sample to current and recent SERUMS participants. In a similar exercise, we also asked respondents to compare jobs at the Ministry of Health in the poorest and richest districts. Appendix Table A10 documents that we do not observe differences along this dimension. Appendix Table A11 further shows that respondents have similar answers when asked about other job preferences.

Finally, we consider whether changes in the hireability of respondents due to differential changes in network or skill formation can explain the results. The concern is that psychologists who completed the SERUMS program in poorer areas had fewer opportunities to develop their professional skills. This could make them less attractive to the private sector, so changes in demand and not changes in beliefs or preferences could drive the increase in public sector employment. Similarly, psychologists that went to poor areas might be exposed to fewer or less-qualified peers which could make it harder to find a job in the private sector after SERUMS.

We start by showing additional evidence for a change in the supply side. We directly asked respondents currently working whether they would agree that the SERUMS experience increased their willingness to work for the Ministry of Health or to work in the poorest districts in the country. Table 6 shows that psychologists in the bottom lottery tercile are 10.5 percentage points ($p = 0.035$) more likely to strongly agree that SERUMS made them more willing to work for the Ministry of Health. When asked about why their willingness to work for the Ministry of Health increased, 54% of respondents say that SERUMS made it more important for them to have a job where they can help the poorest. We only asked the follow-up question in the phone survey but we consider it as additional evidence that an increase in prosociality is driving the results.

We next examine whether lottery rank affects the perceptions of how the rural service program improved three sets of skills: theoretical knowledge, clinical skills, and indigenous language skills. Columns 1-3 in Table 7 show that we do not find any evidence for differential skill gains based on the lottery rank. Respondents in the bottom lottery tercile are also not less likely to say that the improvements in these attributes helped them to find their current job. We then also asked similar questions about network formation. Columns 4 and 8 in Table 7 report that we also do not find changes in outcomes based on a respondent's

lottery rank along this margin. We also note that only 20% of all psychologists say that someone they met through SERUMS helped them to find or get hired at their current job. This emphasizes that a rural service program like SERUMS differs from residency programs for physicians that have been examined in previous work (Fadlon et al., 2022) and play a much more pivotal role in the network formation of participants. Finally, we also asked respondents whether they could get a job at the Ministry of Health, at ESSALUD, and at private facilities if they wanted. Table 8 shows that the lottery rank does not affect the perceived availability of job options.[13] These results are also consistent with qualitative interviews with former SERUMS participants who told us that employers care about whether an applicant participated in SERUMS but not where the assignment was completed.

Overall, these results suggest that the career effects are driven by changes in the prosociality of respondents. Qualitative evidence adds to how the SERUMS experiences affected the perspective of psychologists. One of our respondents told us that through SERUMS she "learned that it is not only enough to put all your effort to be able to study ([she] also worked and studied since [she] was a child) but the distance from schools, the lack of public services in their villages, the type of upbringing, the training received and the example to follow greatly influence many to reject studying and/or progressing". Similarly, another respondent mentioned that the SERUMS program should be expanded so more people are "able to live that great experience in order to have a better identification with the other realities of our Peru." These quotes emphasize how the SERUMS assignments were a significant experience in respondents' lives and led them to change their perspectives. Since healthcare professionals come from better socio-economic backgrounds (as discussed in Section 2), many of them come in contact with rural poverty through SERUMS for the first time. Consistent with this explanation, we also find suggestive evidence that the effects on our main outcomes are concentrated in respondents with less contact with rural poverty prior to the program, measured as being born in Lima (Appendix Table A12).[14]

[13]This further helps us to address the potential concern that the career effects are caused by the additional bonus points that psychologists in poorer SERUMS locations receive. The average psychologists in the bottom lottery tercile only receive 0.65 additional bonus percentage points relative to psychologists in the top lottery tercile, which makes it unlikely that the differences in bonus points can explain the career effects.

[14]Due to small sample size, we pool the medium and bottom rank tercile in this specification.

We conduct various robustness checks for our main results (Appendix Tables A5-A8). Our findings hold if (i) we exclude controls, (ii) restrict the sample to respondents who at least partially completed the online survey, (iii) restrict the sample to respondents who completed the online survey, (iv) and exclude respondents that are uncertain or very uncertain about their lottery rank. The only exception is the effect on overall public sector employment, for which the size of the coefficients remains similar but the estimates become insignificant if we restrict the sample size. Another concern is that the Covid-19 pandemic affects the external validity of the findings. We show that we find similar but nosier results if we either restrict the sample to respondents who completed SERUMS before the pandemic but entered the labor market when the first wave of cases in Peru emerged or restrict the sample to respondents who completed SERUMS during the pandemic but entered the labor market when vaccines were already widely available.[15] Finally, we also report p-values based on randomization inference by reassigning the lottery rank to each respondent 2,000 times (Appendix Table A13. The adjusted p-value on the coefficient for the bottom rank tercile increases to 0.162 for overall public sector employment but remains below 0.06 for the other main outcomes.

5 Conclusion

This paper uses exogenous variation in choice sets within a mandatory rural service program in Peru to demonstrate that temporary work assignments to poor areas can increase prosociality and affect career decisions. It adds to a nascent literature that shows how contact with disadvantaged communities in a variety of settings can increase prosocial behavior (Rao, 2019). Our findings document that these changes in prosociality can affect influence important policy outcomes like public sector employment and emphasize the importance of taking into account the endogeneity of preferences and beliefs in economic theory and the design of public policies.

The insights speak to the optimal design of recruitment and posting policies for public sector workers. Compensation schemes should take into account that preferences and beliefs might change because of the assignment itself, so it could be efficient to e.g. offer high

[15] An exception is the likelihood to work in the poorest districts for respondents who entered the labor market during the pandemic. However, the results are very noisy and we cannot rule out that the effect size is the same.

lump-sum payments upfront to encourage workers to take up work in poor areas for at least some time. The findings further provide justification for a variety of social service programs, including mandatory rural service programs like SERUMS, voluntary schemes like 'Teach for America', and corporate efforts to encourage social work among employees. Taking into account the endogeneity of preferences and beliefs could further resolve a potential trade-off between hiring intrinsically and extrinsically motivated candidates (Ashraf et al., 2020), as the work itself might affect a worker's intrinsic motivation. It must be noted, however, that psychologists don't rely heavily on infrastructure that could shape the work experience obtained from the program through work in remote areas; by contrast, physicians and nurses could become disillusioned about public sector work due to the lack of infrastructure in remote facilities. More evidence will be needed to explore the validity of our results for other professions.

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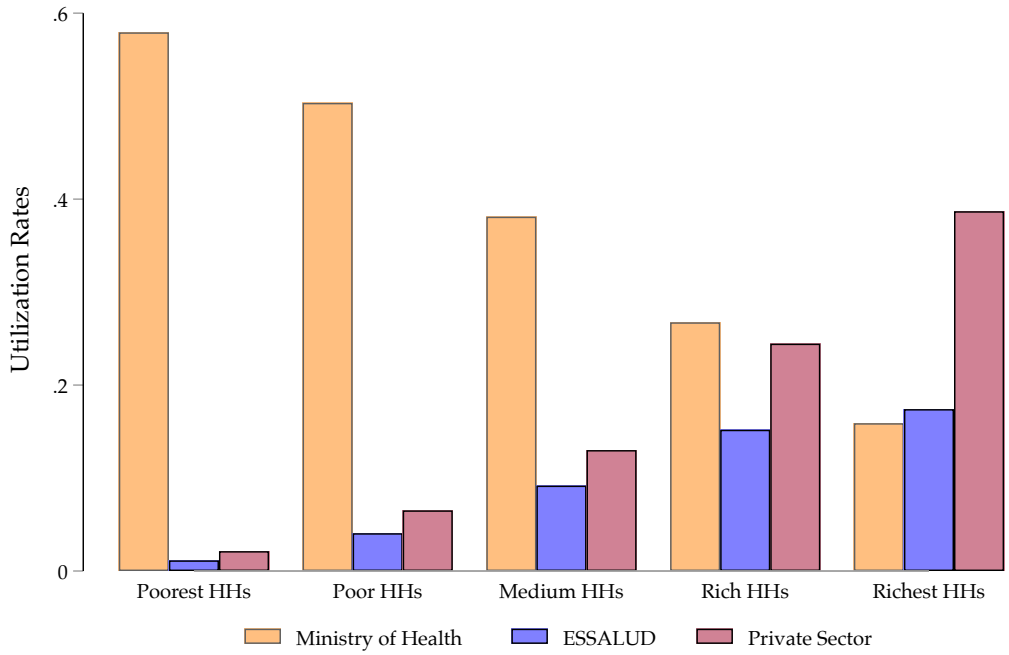
Figure 1: Healthcare Utilization by Household Wealth



Notes: The data consists of the Peru Demographic Health Surveys from 2003 until 2017. The x-axis shows DHS wealth quintiles. The y-axis shows healthcare utilization rates for under 5-year old children who suffered from fever in the past two weeks. Omitted outcomes include visits to private pharmacies, healthcare from friends and family, and no treatment at all.

Figure 2: Timeline of Data Collection

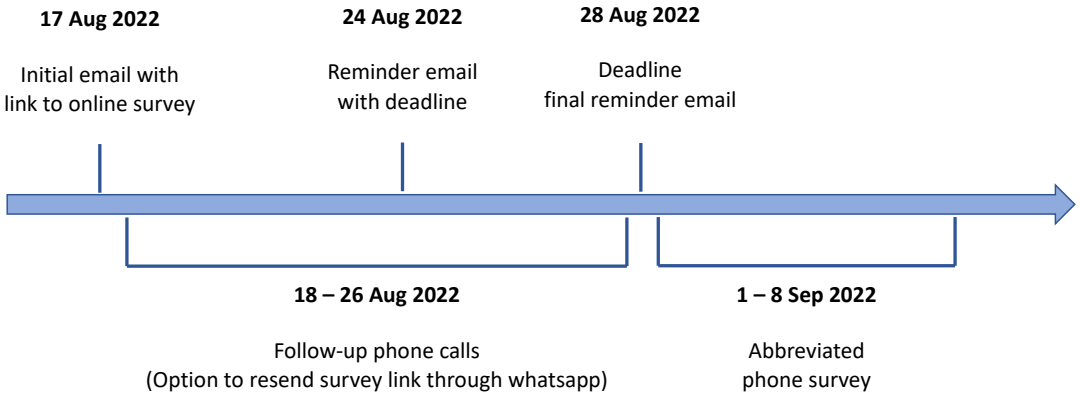


Table 1: Internal Validity Checks

	Balance		Assignment Decision			
	Female	Public University	Accepted	Rejected	Mistake	Absent
	(1)	(2)	(3)	(4)	(5)	(6)
Panel A: Linear Specification						
Percentile Rank	-0.072	-0.025	-0.069	0.030	0.022	0.018
	(0.078)	(0.045)	(0.078)	(0.040)	(0.041)	(0.063)
Panel B: Discrete Specification						
Medium Rank Tercile	-0.011	0.037	0.017	-0.007	0.046*	-0.056
	(0.050)	(0.035)	(0.050)	(0.023)	(0.026)	(0.039)
Bottom Rank Tercile	-0.059	-0.007	-0.044	0.017	0.029	-0.002
	(0.052)	(0.031)	(0.053)	(0.027)	(0.026)	(0.043)
pval: Medium Tercile = Bottom Tercile	0.367	0.201	0.226	0.330	0.576	0.148
Outcome Mean	0.853	0.059	0.816	0.039	0.019	0.126
Observations	325	325	330	330	330	330

Notes: Robust standard errors appear in parentheses. All regressions include lottery stratification fixed effects.

Table 2: Effect of Lottery Rank on SERUMS Location

	Government Poverty index (1)	Rural Share (2)
Panel A: Linear Specification		
Percentile Rank	0.094***	0.089**
	(0.035)	(0.036)
Panel B: Discrete Specification		
Medium Rank Tercile	0.035	0.037
	(0.026)	(0.026)
Bottom Rank Tercile	0.067***	0.064**
	(0.025)	(0.026)
pval: Medium Tercile = Bottom Tercile	0.253	0.333
Outcome Mean	0.549	0.563
Included in Phone Survey	Yes	Yes
Observations	557	557

Notes: Robust standard errors appear in parentheses. All regressions include lottery stratification fixed effects and a vector of controls that consists of age, gender, a dummy for whether the respondent's university was public, a dummy for whether Spanish is the respondent's native language, birth region fixed effects, and a dummy variable that indicates whether the survey was done over the phone.

Table 3: Effect of Lottery Rank on Employment Outcomes

	Any Work for Pay	Works in Public Sector	Works for Ministry of Health	Works for ESSALUD	Works in Private Sector	Works in Health Sector
	(1)	(2)	(3)	(4)	(5)	(6)
Panel A: Linear Specification						
Percentile Rank	0.028	0.119*	0.187***	-0.008	-0.134**	0.086
	(0.065)	(0.071)	(0.071)	(0.014)	(0.062)	(0.076)
Panel B: Discrete Specification						
Medium Rank Tercile	-0.097**	-0.032	0.034	-0.012*	-0.088*	-0.025
	(0.046)	(0.054)	(0.052)	(0.007)	(0.045)	(0.054)
Bottom Rank Tercile	0.018	0.088*	0.122**	0.002	-0.091**	0.067
	(0.045)	(0.052)	(0.051)	(0.009)	(0.046)	(0.054)
pval: Medium Tercile = Bottom Tercile	0.022	0.026	0.107	0.133	0.952	0.117
Outcome Mean	0.808	0.579	0.332	0.009	0.271	0.519
Observations	559	559	559	559	559	552

Notes: Robust standard errors appear in parentheses. All regressions include lottery stratification fixed effects and a vector of controls that consists of age, gender, and a dummy for whether the respondent's university was public. Columns 1-6 were also asked as part of the phone survey and include further a dummy variable for whether the survey was done by phone.

Table 4: Effect of Lottery Rank on Additional Employment Outcomes

	Works in...						
	Same District as SERUMS	Richest Districts	Rich Districts	Medium Districts	Poor Districts	Poorest Districts	Monthly Salary
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Panel A: Linear Specification							
Percentile Rank	0.053	-0.006	0.012	-0.031	-0.049	0.110**	190.424
	(0.032)	(0.048)	(0.048)	(0.058)	(0.065)	(0.052)	(210.830)
Panel B: Discrete Specification							
Medium Rank Tercile	0.018	-0.044	-0.024	-0.030	-0.045	0.041	-275.440*
	(0.024)	(0.038)	(0.036)	(0.038)	(0.046)	(0.037)	(162.203)
Bottom Rank Tercile	0.032	-0.036	0.004	-0.014	-0.018	0.087**	167.275
	(0.024)	(0.036)	(0.034)	(0.041)	(0.045)	(0.037)	(153.625)
pval: Medium Tercile = Bottom Tercile	0.589	0.843	0.446	0.692	0.546	0.282	0.006
Outcome Mean	0.034	0.150	0.145	0.159	0.246	0.101	1957.447
Observations	542	542	542	542	542	542	486

Notes: Robust standard errors appear in parentheses. All regressions include lottery stratification fixed effects and a vector of controls that consists of age, gender, a dummy for whether the respondent's university was public, a dummy for whether Spanish is the respondent's native language, and birth region fixed effects. Columns 1-6 were also asked as part of the phone survey and include further a dummy variable for whether the survey was done by phone.

Table 5: Effect of Lottery Rank on Prosociality

	Main Sample				Current And Recent Participants			
		Index Components				Index Components		
	Prosociality Index	Opportunities to Help the Poor are Very Important	Government Should Increase Aid to the Poor	Donation Subindex	Prosociality Index	Opportunities to Help the Poor are Very Important	Government Should Increase Aid to the Poor	Donation Subindex
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Panel A: Linear Specification								
Percentile Rank	0.233***	0.136*	0.129**	0.094	0.357***	0.170	0.275***	0.095
	(0.085)	(0.079)	(0.064)	(0.095)	(0.108)	(0.107)	(0.090)	(0.129)
Panel B: Discrete Specification								
Medium Rank Tercile	0.076	0.075	-0.003	0.037	-0.013	-0.049	0.051	-0.045
	(0.064)	(0.057)	(0.050)	(0.068)	(0.082)	(0.075)	(0.068)	(0.095)
Bottom Rank Tercile	0.169***	0.099*	0.081*	0.094	0.240***	0.107	0.182***	0.083
	(0.059)	(0.056)	(0.045)	(0.067)	(0.077)	(0.077)	(0.067)	(0.095)
pval: Medium Tercile = Bottom Tercile	0.142	0.680	0.092	0.426	0.001	0.043	0.049	0.218
Outcome Mean	-0.018	0.434	0.756	0.020	-0.004	0.504	0.700	0.017
Included in Phone Survey	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	555	553	549	532	317	313	317	310

Notes: Robust standard errors appear in parentheses. All regressions include lottery stratification fixed effects and a vector of controls that consists of age, gender, a dummy for whether the respondent's university was public, a dummy for whether Spanish is the respondent's native language, birth region fixed effects, and a dummy variable that indicates whether the survey was done over the phone. The sample in columns 1-4 consists of psychologists who completed SERUMS at the point of the survey. The sample in columns 5-8 consists of psychologists who were currently doing SERUMS or who completed the program three months prior.

Table 6: Additional Evidence for Supply-Side Channels

	SERUMS Increased Willingness to Work for Ministry of Health		SERUMS Increased Willingness to Work in Poor Areas	
	Agree	Strongly Agree	Agree	Strongly Agree
	(1)	(2)	(3)	(4)
Panel A: Linear Specification				
Percentile Rank	0.129**	0.182***	0.059	-0.038
	(0.062)	(0.068)	(0.070)	(0.075)
Panel B: Discrete Specification				
Medium Rank Tercile	0.156***	0.120**	0.097**	0.082
	(0.042)	(0.052)	(0.048)	(0.058)
Bottom Rank Tercile	0.069	0.105**	0.026	-0.048
	(0.046)	(0.049)	(0.051)	(0.052)
pval: Medium Tercile = Bottom Tercile	0.050	0.772	0.159	0.026
Outcome Mean	0.751	0.215	0.764	0.230
Included in Phone Survey	Yes	Yes	No	No
Observations	552	552	483	483

Notes: Robust standard errors appear in parentheses. All regressions include lottery stratification fixed effects and a vector of controls that consists of age, gender, a dummy for whether the respondent's university was public, a dummy for whether Spanish is the respondent's native language, and birth region fixed effects. Columns 1-2 were also asked as part of the phone survey and include further a dummy variable for whether the survey was done by phone.

Table 7: Effect of Lottery Rank on Skill and Network Formation

	Sample: Current Workers							
	SERUMS Helped to Improve				Improvements in ... Helped with Getting Job			
	Knowledge	Clinical Skills	Language Skills	Networks	Knowledge	Clinical Skills	Language Skills	Networks
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Panel A: Linear Specification								
Percentile Rank	-0.128	-0.042	-0.244	-0.210	-0.031	0.152	0.079	0.015
	(0.171)	(0.142)	(0.205)	(0.195)	(0.098)	(0.095)	(0.099)	(0.084)
Panel B: Discrete Specification								
Medium Rank Tercile	0.219*	0.038	0.206	0.020	0.099	0.191***	0.093	0.015
	(0.126)	(0.105)	(0.156)	(0.129)	(0.072)	(0.069)	(0.070)	(0.067)
Bottom Rank Tercile	-0.014	-0.022	-0.125	-0.102	-0.002	0.102	0.029	0.033
	(0.123)	(0.102)	(0.150)	(0.139)	(0.069)	(0.067)	(0.069)	(0.057)
pval: Medium Tercile = Bottom Tercile	0.072	0.607	0.058	0.361	0.185	0.199	0.394	0.800
Outcome Mean	3.301	3.549	2.294	3.157	0.644	0.676	0.203	0.201
Included in Phone Survey	No	No	No	No	No	No	No	No
Observations	361	360	360	360	354	350	347	353

Notes: Robust standard errors appear in parentheses. All regressions include lottery stratification fixed effects and a vector of controls that consists of age, gender, a dummy for whether the respondent's university was public, a dummy for whether Spanish is the respondent's native language, and birth region fixed effects. The sample is restricted to respondents who were currently working for pay at the point of the survey.

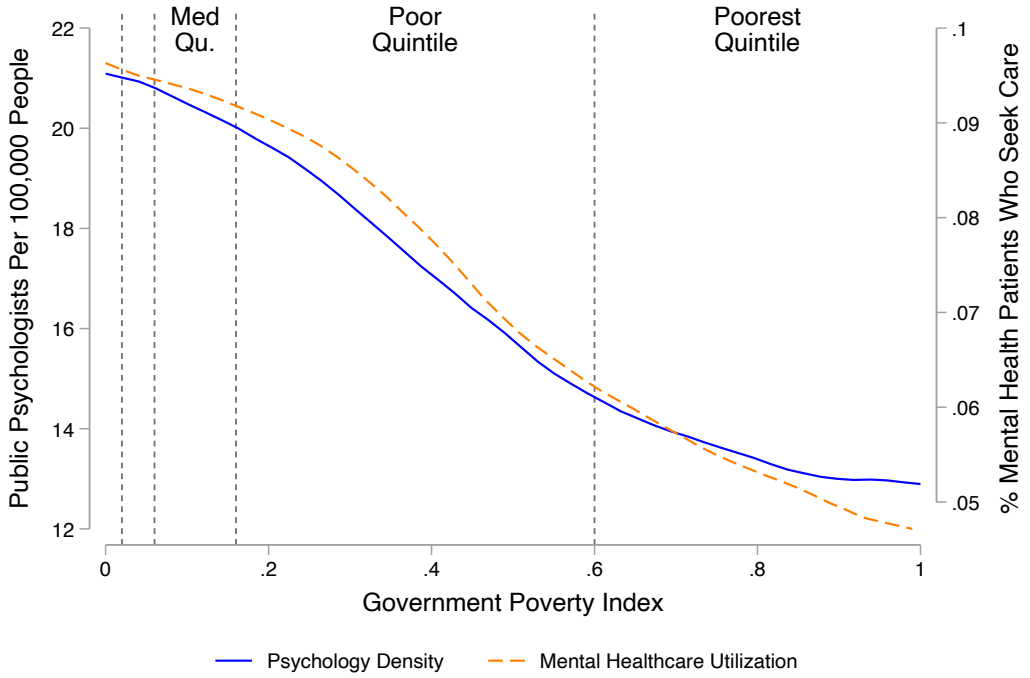
Table 8: Effect of Lottery Rank on Job Availability

	Respondent Could Get a Job at Ministry of Health		Respondent Could Get a Job at ESSALUD		Respondent Could Get a Job in Private Sector	
	Agree	Strongly Agree	Agree	Strongly Agree	Agree	Strongly Agree
	(1)	(2)	(3)	(4)	(5)	(6)
Panel A: Linear Specification						
Percentile Rank	-0.035	0.043	-0.052	0.015	-0.011	0.013
	(0.082)	(0.070)	(0.084)	(0.058)	(0.073)	(0.060)
Panel B: Discrete Specification						
Medium Rank Tercile	0.017	0.039	0.012	0.010	-0.021	0.009
	(0.058)	(0.049)	(0.062)	(0.041)	(0.055)	(0.043)
Bottom Rank Tercile	0.015	0.048	0.003	0.010	-0.001	0.005
	(0.058)	(0.052)	(0.060)	(0.041)	(0.051)	(0.043)
pval: Medium Tercile = Bottom Tercile	0.971	0.863	0.886	0.995	0.717	0.922
Outcome Mean	0.681	0.186	0.511	0.128	0.777	0.160
Included in Phone Survey	No	No	No	No	No	No
Observations	478	478	478	478	478	478

Notes: Robust standard errors appear in parentheses. All regressions include lottery stratification fixed effects and a vector of controls that consists of age, gender, a dummy for whether the respondent's university was public, a dummy for whether Spanish is the respondent's native language, and birth region fixed effects.

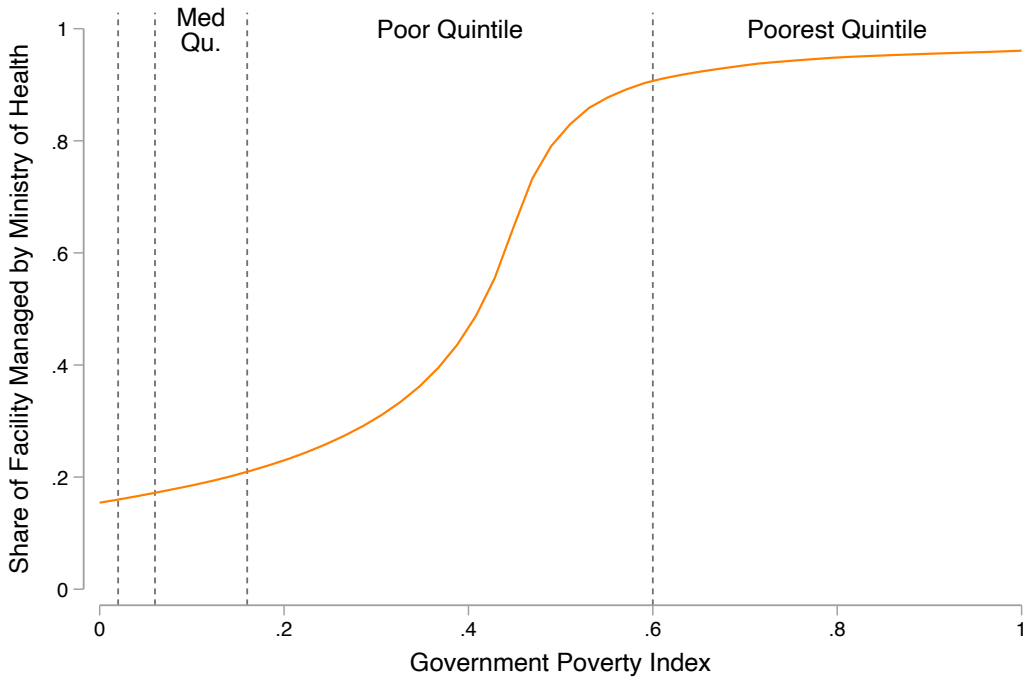
A. Appendix Tables and Figures

Figure A1: Psychologist Density and Mental Healthcare Utilization by District Poverty



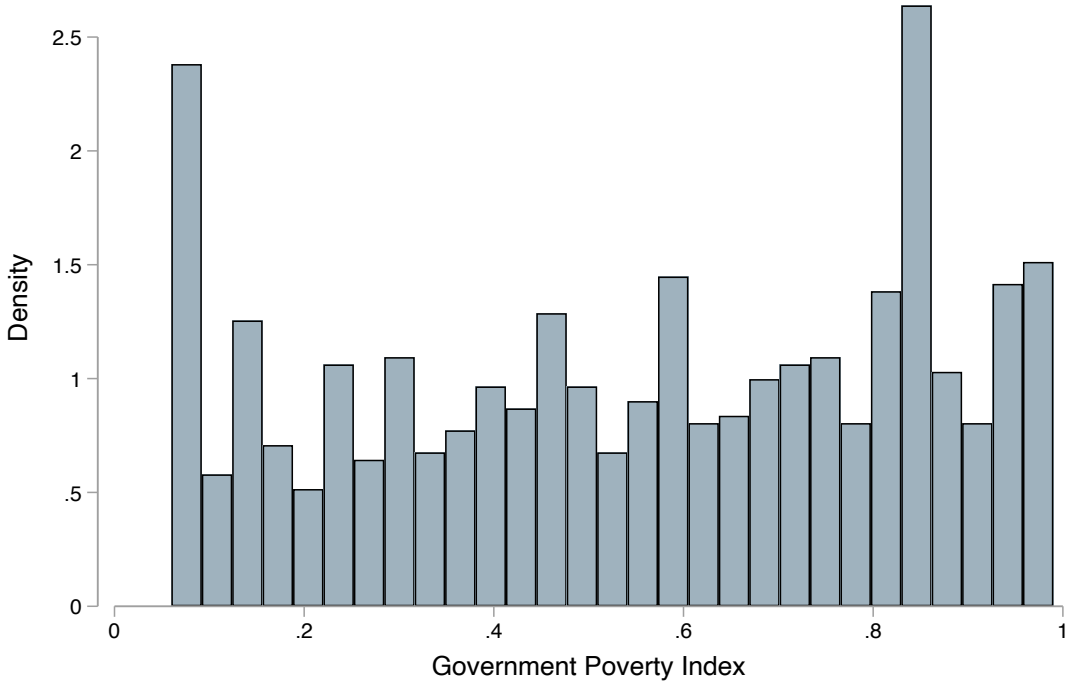
Notes: The blue line shows psychology density and corresponds to the left y-axis. The orange line shows mental healthcare utilization and corresponds to the right y-axis. Psychology density is based on administrative data from the Ministry of Health and mental healthcare utilization is based on the National Household Survey (ENAHO). The x-axis shows the district-level government poverty index from FONCODES. The vertical lines indicate the poverty quintile cutoffs from FONCODES.

Figure A2: Share of Health Facilities Managed by Ministry of Health by District Poverty



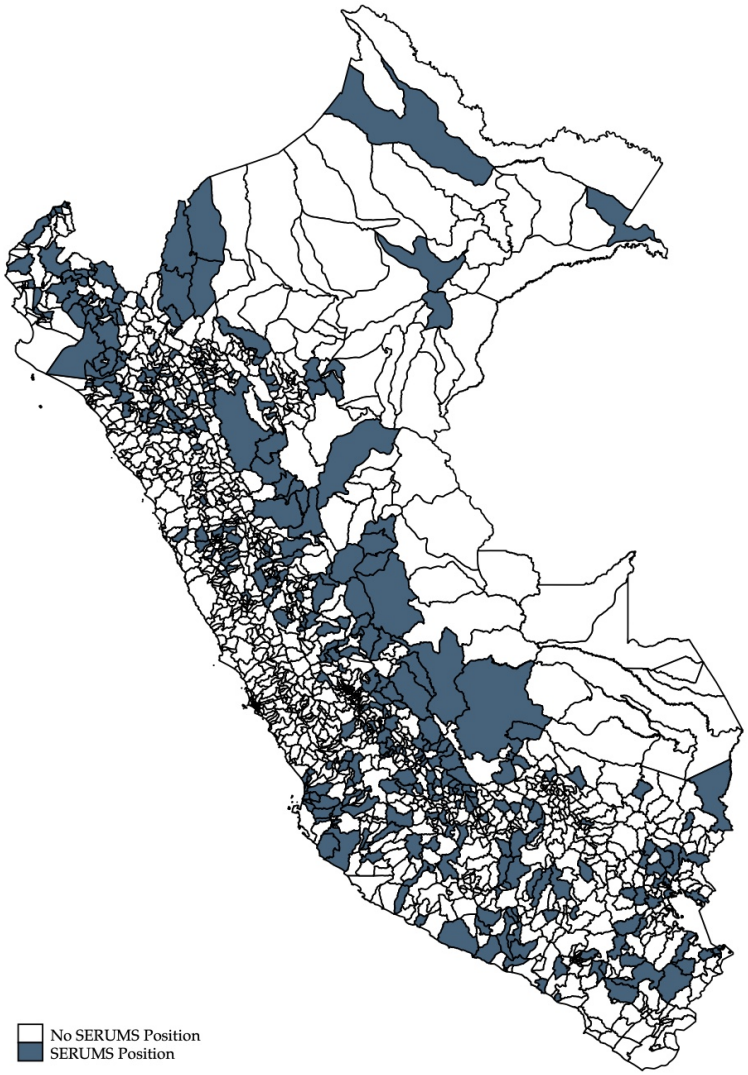
Notes: The y-axis shows the district-level share of facilities managed by the Ministry of Health according to the National Registry of Health Establishments. The x-axis shows the district-level government poverty index from FONCODES. The vertical lines indicate the poverty quintile cutoffs from FONCODES.

Figure A3: Distribution of Government Poverty Index Across SERUMS Positions



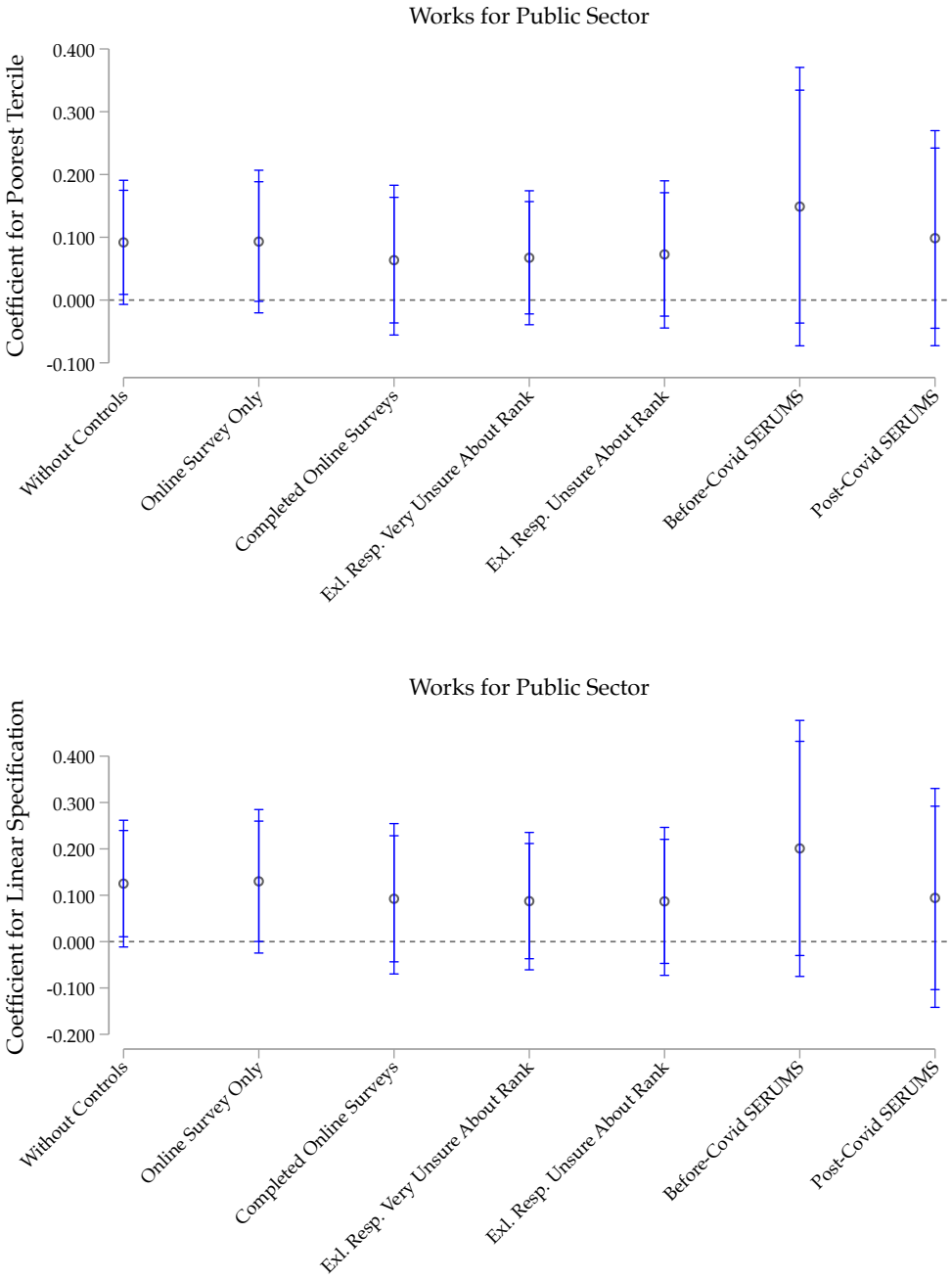
Notes: The figure plots the distribution of the district-level government poverty index from FONCODES.

Figure A4: Map of SERUMS Position



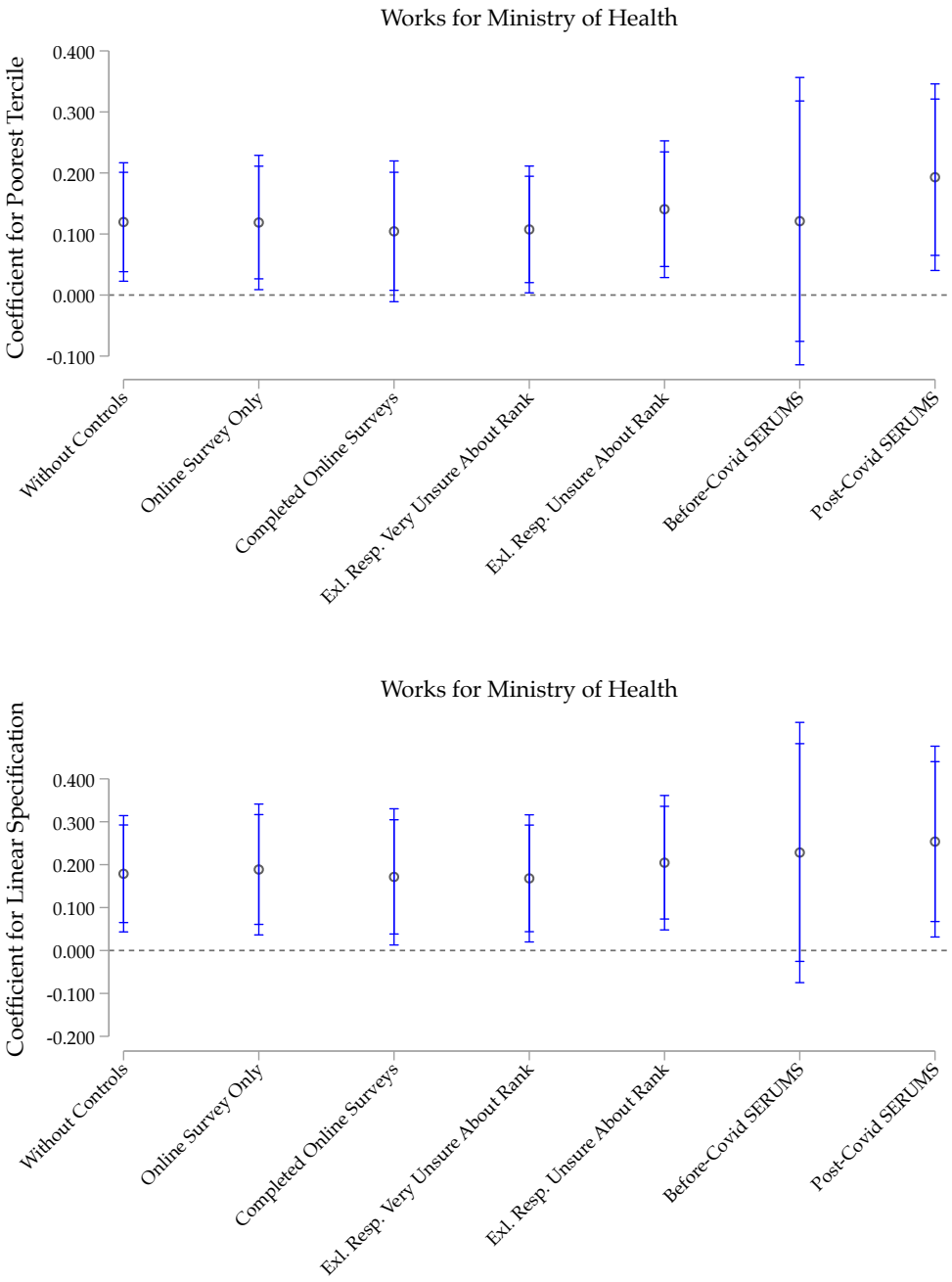
Notes: Each polgyon corresponds to a district in Peru. Areas in dark blue received a SERUMS psychologists during our sample period.

Figure A5: Robustness Checks: Public Sector Employment



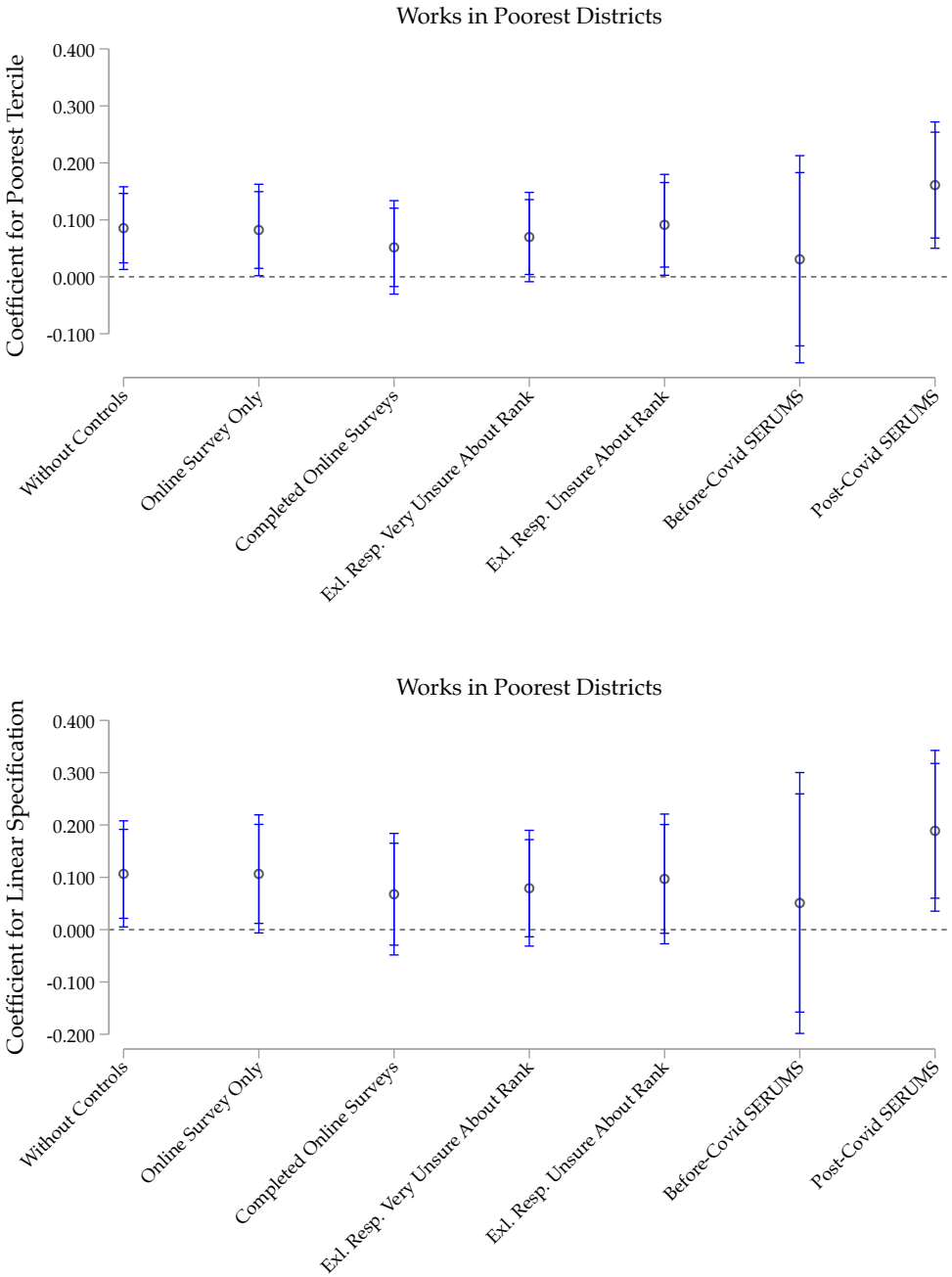
Notes: The first figure plots the regression coefficients for the poorest poverty tercile dummy and the second figure plots the regression coefficient for the linear poverty score variable. The figures show 90 and 95 percent confidence intervals.

Figure A6: Robustness Checks: Ministry of Health Employment



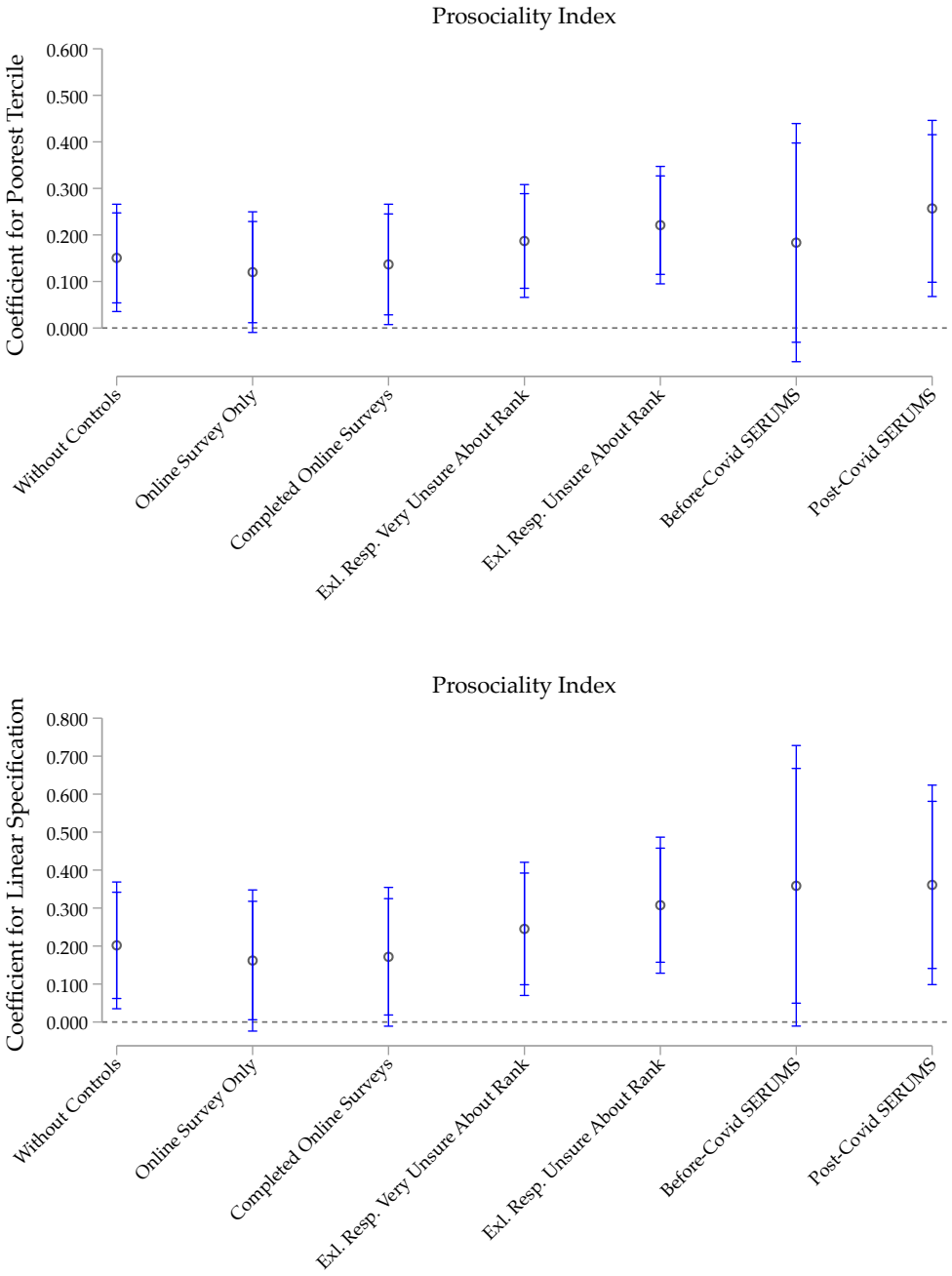
Notes: The first figure plots the regression coefficients for the poorest poverty tercile dummy and the second figure plots the regression coefficient for the linear poverty score variable. The figures show 90 and 95 percent confidence intervals.

Figure A7: Robustness Checks: Employment in Poorest Districts



Notes: The first figure plots the regression coefficients for the poorest poverty tercile dummy and the second figure plots the regression coefficient for the linear poverty score variable. The figures show 90 and 95 percent confidence intervals.

Figure A8: Robustness Checks: Prosociality Index



Notes: The first figure plots the regression coefficients for the poorest poverty tercile dummy and the second figure plots the regression coefficient for the linear poverty score variable. The figures show 90 and 95 percent confidence intervals.

Table A1: Bonus Point Structure

	Poverty Index	Public Sector
Poverty Q1	$0.6 - 1.0$	15%
Poverty Q2	$0.15 - 0.59$	10%
Poverty Q3	$0.06 - 0.14$	5%
Poverty Q4	$0.03 - 0.05$	2%
Poverty Q5	$0 - 0.02$	0%

Notes: The second column shows the cutoff points for the poverty quintile definitions. The third column shows the bonus points that are given to psychologists for public sector application based on the poverty quintile of the SERUMS location.

Table A2: Effect of Lottery Rank on SERUMS Location for Nutritionists

	Government Poverty index (1)	Rural Share (2)
Panel A: Linear Specification		
Percentile Rank	0.026	-0.029
	(0.059)	(0.057)
Panel B: Discrete Specification		
Medium Rank Tercile	0.009	0.026
	(0.048)	(0.046)
Bottom Rank Tercile	0.016	-0.020
	(0.042)	(0.039)
pval: Medium Tercile = Bottom Tercile	0.891	0.350
Outcome Mean	0.454	0.480
Included in Phone Survey	Yes	Yes
Observations	185	185

Notes: Robust standard errors appear in parentheses. All regressions include lottery stratification fixed effects and a vector of controls that consists of age, gender, a dummy for whether the respondent's university was public, a dummy for whether Spanish is the respondent's native language, birth region fixed effects, and a dummy variable that indicates whether the survey was done over the phone.

Table A3: Attrition Check

	Started Survey (1)	Finished Survey (2)
Panel A: Linear Specification		
Percentile Rank	0.039	0.033
	(0.129)	(0.132)
Panel B: Discrete Specification		
Medium Rank Tercile	0.019	-0.033
	(0.100)	(0.102)
Bottom Rank Tercile	0.045	0.040
	(0.098)	(0.099)
pval: Medium Tercile = Bottom Tercile	0.741	0.387
Outcome Mean	0.604	0.583
Observations	192	192

Notes: Robust standard errors appear in parentheses. All regressions include lottery stratification fixed effects.

Table A4: Balance Check Conditional on Survey Completion

	Public University	Age at SERUMS Start	Born in Lima	Native Language is Spanish	Female	Wanted to Work for Public Sector	Wanted to Work for Ministry of Health
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Panel A: Linear Specification							
Percentile Rank	-0.014	-0.451	-0.071	-0.025	-0.008	0.014	-0.112
	(0.034)	(1.303)	(0.055)	(0.047)	(0.066)	(0.063)	(0.082)
Panel B: Discrete Specification							
Medium Rank Tercile	0.000	-0.591	-0.029	-0.022	-0.004	0.098**	-0.002
	(0.021)	(0.957)	(0.039)	(0.034)	(0.047)	(0.042)	(0.060)
Bottom Rank Tercile	-0.007	-0.173	-0.041	-0.009	-0.007	-0.000	-0.103*
	(0.023)	(0.918)	(0.040)	(0.034)	(0.048)	(0.046)	(0.059)
pval: Medium Tercile = Worst Tercile	0.750	0.687	0.773	0.733	0.959	0.029	0.114
Outcome Mean	0.173	27.069	0.201	0.883	0.706	0.828	0.478
Included in Phone Survey	Yes	Yes	Yes	Yes	Yes	No	No
Observations	611	611	557	611	611	475	475

Notes: Robust standard errors appear in parentheses. All regressions include lottery stratification fixed effects. The sample consists of survey respondents. Column 1 comes from administrative data. Columns 2-8 come from survey data.

Table A5: Relationship Between Lottery Rank and SERUMS Location Attributes

	Bottom Rank Tercile
	(1)
Government Poverty Index	0.307**
	(0.149)
Mid-sized Primary Healthcare Facility	-0.256*
	(0.153)
Large Primary Healthcare Facility	-0.140
	(0.160)
Hospital	-0.426**
	(0.192)
Same Department as Birthplace	-0.119
	(0.117)
Monthly Salary (in 1,000 Soles)	0.013
	(0.073)
Outcome Mean	0.445
Observations	384

Notes: Robust standard errors appear in parentheses. All regressions include lottery stratification fixed effects.

Table A6: Effect of Lottery Rank on Donation Subindex Components

	Main Sample				Current And Recent Participants		
	Past 30 Days		Donates Everything		Past 30 Days		Donates Everything
	Donated Time	Donated Money	Hypothetical Scenario	Dictator Game	Donated Time	Donated Money	Hypothetical Scenario
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Panel A: Linear Specification							
Percentile Rank	0.127	-0.003	0.027	0.014	0.057	-0.079	0.108
	(0.077)	(0.077)	(0.054)	(0.071)	(0.104)	(0.097)	(0.075)
Panel B: Discrete Specification							
Medium Rank Tercile	0.046	-0.044	0.018	0.003	-0.075	-0.032	0.026
	(0.060)	(0.058)	(0.040)	(0.048)	(0.081)	(0.072)	(0.051)
Bottom Rank Tercile	0.077	0.019	0.047	-0.015	0.039	-0.054	0.091*
	(0.055)	(0.055)	(0.038)	(0.050)	(0.077)	(0.073)	(0.053)
pval: Medium Tercile = Bottom Tercile	0.600	0.287	0.494	0.729	0.158	0.774	0.242
Outcome Mean	0.567	0.383	0.134	0.190	0.462	0.605	0.126
Included in Phone Survey	Yes	Yes	Yes	No	Yes	Yes	Yes
Observations	528	527	529	457	310	310	310

Notes: Robust standard errors appear in parentheses. All regressions include lottery stratification fixed effects and a vector of controls that consists of age, gender, a dummy for whether the respondent's university was public, a dummy for whether Spanish is the respondent's native language, and birth region fixed effects. Columns 1-3 and 5-7 were also asked as part of the phone survey and include further a dummy variable for whether the survey was done by phone. The sample in columns 1-4 consists of psychologists who completed SERUMS at the point of the survey. The sample in columns 5-7 consists of psychologists who were currently doing SERUMS or who completed the program three months prior.

Table A7: Effect of Lottery Rank on Additional Donation Outcomes

	Total Donation to		Reason for Not Donating					
	Vitamin A NGO	Urban Culture NGO	Needs More Info	Mistrust	Already Donates	Helps Through Work	Does Not Support NGOs	Needs Money
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Panel A: Linear Specification								
Percentile Rank	-0.060*	0.028	0.005	-0.007	0.128	0.123	-0.063	-0.184
	(0.036)	(0.018)	(0.163)	(0.168)	(0.129)	(0.150)	(0.097)	(0.138)
Panel B: Discrete Specification								
Medium Rank Tercile	-0.499	0.756	0.106	-0.053	-0.146*	-0.072	-0.053	-0.008
	(0.572)	(0.523)	(0.111)	(0.114)	(0.085)	(0.115)	(0.053)	(0.106)
Bottom Rank Tercile	-0.508	0.459	0.045	-0.012	0.058	0.077	-0.047	-0.165*
	(0.636)	(0.498)	(0.119)	(0.123)	(0.109)	(0.119)	(0.068)	(0.096)
pval: Medium Tercile = Worst Tercile	0.987	0.604	0.604	0.750	0.026	0.210	0.905	0.084
Outcome Mean	2.503	1.536	0.200	0.217	0.167	0.300	0.050	0.200
Included in Phone Survey	No	No	No	No	No	No	No	No
Observations	457	457	153	153	153	153	153	153

Notes: Robust standard errors appear in parentheses. All regressions include lottery stratification fixed effects and a vector of controls that consists of age, gender, a dummy for whether the respondent's university was public, a dummy for whether Spanish is the respondent's native language, and birth region fixed effects. Columns 3-8 are restricted to respondents who did not donate anything as part of the dictator game.

Table A8: Effect of Lottery Rank on Beliefs

	Main Sample				Current And Recent Participants			
	External Circumstances Are Reason for Poverty	Trust in Government	Perceived Population Share Covered by Social Protection Scheme	Public vs. Private: Opportunities to Help the Poor	External Circumstances Are Reason for Poverty	Trust in Government	Perceived Population Share Covered by Social Protection Scheme	Public vs. Private: Opportunities to Help the Poor
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Panel A: Linear Specification								
Percentile Rank	0.071	0.040	-6.191**	0.687***	0.019	-0.148	-2.278	0.600**
	(0.074)	(0.113)	(2.888)	(0.192)	(0.107)	(0.158)	(4.393)	(0.282)
Panel B: Discrete Specification								
Medium Rank Tercile	0.052	-0.009	-3.316	0.043	0.040	-0.153	1.045	0.285
	(0.058)	(0.086)	(2.186)	(0.153)	(0.077)	(0.127)	(2.973)	(0.210)
Bottom Rank Tercile	0.079	0.045	-3.453*	0.372***	-0.006	-0.070	-0.454	0.364*
	(0.053)	(0.080)	(2.070)	(0.134)	(0.078)	(0.115)	(3.146)	(0.195)
pval: Medium Tercile = Bottom Tercile	0.632	0.553	0.954	0.037	0.558	0.476	0.610	0.716
Outcome Mean	0.560	3.129	63.387	3.630	0.658	3.104	62.304	3.424
Included in Phone Survey	Yes	No	No	No	Yes	No	No	No
Observations	549	475	475	481	317	298	298	302

Notes: Robust standard errors appear in parentheses. All regressions include lottery stratification fixed effects and a vector of controls that consists of age, gender, a dummy for whether the respondent's university was public, a dummy for whether Spanish is the respondent's native language, and birth region fixed effects. Column 1 was also asked as part of the phone survey and includes further a dummy variable for whether the survey was done by phone.

Table A9: Effect of Lottery Rank on Perceptions of Jobs in Public Sector

	Private vs. Public Sector					
	Main Sample			Current And Recent Participants		
	Work-Life Balance	Salary	Intellectual Satisfaction	Work-Life Balance	Salary	Intellectual Satisfaction
	(1)	(2)	(3)	(4)	(5)	(6)
Panel A: Linear Specification						
Percentile Rank	0.238	0.629***	0.123	0.144	0.485*	0.186
	(0.194)	(0.204)	(0.186)	(0.268)	(0.286)	(0.266)
Panel B: Discrete Specification						
Medium Rank Tercile	0.046	-0.031	0.017	0.009	0.053	-0.086
	(0.142)	(0.148)	(0.139)	(0.177)	(0.209)	(0.179)
Bottom Rank Tercile	0.092	0.359**	0.127	0.058	0.291	0.202
	(0.140)	(0.152)	(0.133)	(0.197)	(0.207)	(0.188)
pval: Medium Tercile = Bottom Tercile	0.770	0.014	0.456	0.817	0.270	0.137
Outcome Mean	3.016	2.953	3.197	2.898	2.992	3.154
Included in Phone Survey	No	No	No	No	No	No
Observations	480	482	479	302	302	301

Notes: Robust standard errors appear in parentheses. All regressions include lottery stratification fixed effects and a vector of controls that consists of age, gender, a dummy for whether the respondent's university was public, a dummy for whether Spanish is the respondent's native language, birth region fixed effects, and a dummy variable that indicates whether the survey was done over the phone.

Table A10: Effect of Lottery Rank on Perceptions of Jobs in Poorest Districts

	Richest vs. Poorest Districts							
	Main Sample				Current And Recent Participants			
	Opportunities to Help the Poor	Local Infrastructure	Safety Situation	Compability with Spouse	Opportunities to Help the Poor	Local Infrastructure	Safety Situation	Compability with Spouse
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Panel A: Linear Specification								
Percentile Rank	0.057	-0.199	0.108	-0.005	0.021	-0.088	-0.185	-0.143
	(0.220)	(0.220)	(0.210)	(0.179)	(0.310)	(0.302)	(0.282)	(0.257)
Panel B: Discrete Specification								
Medium Rank Tercile	-0.218	0.058	0.114	-0.148	-0.032	-0.044	-0.168	-0.325*
	(0.172)	(0.166)	(0.158)	(0.142)	(0.210)	(0.210)	(0.195)	(0.180)
Bottom Rank Tercile	-0.052	-0.139	0.051	-0.057	-0.014	-0.136	-0.163	-0.150
	(0.157)	(0.158)	(0.152)	(0.129)	(0.226)	(0.221)	(0.207)	(0.194)
pval: Medium Tercile = Bottom Tercile	0.353	0.254	0.706	0.528	0.944	0.677	0.983	0.398
Outcome Mean	3.580	2.314	2.883	2.697	3.440	2.427	2.957	2.774
Included in Phone Survey	No	No	No	No	No	No	No	No
Observations	479	479	479	478	300	301	299	298

Notes: Robust standard errors appear in parentheses. All regressions include lottery stratification fixed effects and a vector of controls that consists of age, gender, a dummy for whether the respondent's university was public, a dummy for whether Spanish is the respondent's native language, and birth region fixed effects. The sample in columns 1-4 consists of psychologists who completed SERUMS at the point of the survey. The sample in columns 5-8 consists of psychologists who were currently doing SERUMS or who completed the program three months prior.

Table A11: Effect of Lottery Rank on Additional Job Preferences

	... Is Very Important for Choosing a Job						
	Salary	Work-Life Balance	Safety	Compability with Spouse	Intellectual Satisfaction	Work Environment	Local Infrastructure
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Panel A: Linear Specification							
Percentile Rank	-0.018	0.290	-0.088	-0.111	0.169	0.153	0.057
	(0.187)	(0.177)	(0.207)	(0.275)	(0.174)	(0.230)	(0.251)
Panel B: Discrete Specification							
Medium Rank Tercile	-0.008	0.059	-0.033	-0.043	0.044	0.038	-0.027
	(0.056)	(0.058)	(0.059)	(0.045)	(0.058)	(0.059)	(0.048)
Bottom Rank Tercile	0.005	0.088	0.004	0.017	0.095*	0.088	0.033
	(0.052)	(0.054)	(0.054)	(0.041)	(0.056)	(0.055)	(0.047)
pval: Medium Tercile = Bottom Tercile	0.818	0.618	0.531	0.198	0.399	0.402	0.227
Outcome Mean	0.384	0.434	0.397	0.206	0.410	0.483	0.249
Included in Phone Survey	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	551	553	550	535	552	547	549

Notes: Robust standard errors appear in parentheses. All regressions include lottery stratification fixed effects and a vector of controls that consists of age, gender, a dummy for whether the respondent's university was public, a dummy for whether Spanish is the respondent's native language, birth region fixed effects, and a dummy variable that indicates whether the survey was done over the phone.

Table A12: Effect of Lottery Rank on Main Outcomes by Birthplace

		Index Components			
	Outcome Index	Works for Ministry of Health	Altruism Index	More Willing to Work for MoH	More Willing to Work in Poor Areas
	(1)	(2)	(3)	(4)	(5)
Medium or Bottom Rank Tercile × Born in Lima	0.234*	0.096	0.078	0.131	0.171
	(0.124)	(0.105)	(0.058)	(0.094)	(0.115)
Medium or Bottom Rank Tercile	0.076	0.069	0.028	0.081*	-0.028
	(0.058)	(0.048)	(0.027)	(0.048)	(0.050)
Born in Lima	-0.200**	-0.114	-0.074	-0.083	-0.118
	(0.097)	(0.086)	(0.048)	(0.078)	(0.089)
Outcome Mean	-0.043	0.332	0.503	0.215	0.230
Observations	557	557	553	550	481

Notes: Robust standard errors appear in parentheses. All regressions include lottery stratification fixed effects and a vector of controls that consists of age, gender, a dummy for whether the respondent's university was public, and a dummy for whether Spanish is the respondent's native language.

Table A13: Randomization Inference

Variable	p-value (Bottom Rank Tercile)	p-value (Percentile Rank)
Works For Public Sector	0.162	0.186
Works for Ministry of Health	0.035	0.024
Works in Poorest Districts	0.053	0.092
Prosociality Index	0.023	0.027

Notes: The exercise randomly re-assigns the lottery rank to each respondent 2,000 times. For each iteration, we then repeat our analysis. The p-value is calculated as the share of the placebo coefficients that are larger in magnitude than the actual coefficient (in absolute terms).