

NLS PRE-ANALYSIS DESTINATION PLAN  
MARCH 4, 2018

## 1 Overview

This document presents a description of the 2017-2018 No Lean Season randomized impact evaluation experiment conducted in collaboration between Evidence Action and researchers from Yale University, the London School of Economics, and the University of California, Davis. There are two main goals for this study:

1. A replication of previous findings showing positive impact of incentivized migration on seasonal migration, caloric intake, food and non-food expenditure, income, and food security. Our aim is to estimate impact of a scaled version of the No Lean Season program: intensifying program implementation within branches and expanding the provision of loans to all eligible households.
2. Investigating the programs spillover effects on workers at the migration destination who are not offered migration incentives. Given the scale of the No Lean Season program, we anticipate that there will be enough migration to noticeably affect destination labor markets. Destination workers include those who permanently reside at migration destinations as well as seasonal migrants from other areas. We aim to evaluate the effect of the program on these workers income and location choice.

In this document we describe the data to be collected from workers and employers in common migration destinations as well as the primary destination analysis. In particular, we explain how we will compute the treatment intensity of each destination market and identify the primary variables of interest when analyzing destination effects.

Research team:

Role	
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## 2 Timing and Survey

### 2.1 Destination Worker Survey

Workers will be interviewed via a phone survey starting in March 2018. We will randomly select twelve workers from each destination labor market and three workers from each destination rickshaw garage to survey, yielding approximately 2,000 observations from each sector.

### **2.1.1 Labor market outcomes (section 1)**

This section contains the data for the main analysis. The first part asks about days employed, earnings conditional on employment, and time unemployed, which comprise our primary measures of labor market spillovers.

Subsequent questions in this section ask about food insecurity and borrowing as measures of the real cost of labor market competition. Finally, this section includes questions about travel to home and joint employment to understand the role of social networks in the labor market.

### **2.1.2 Labor market and migration attitudes (section 2)**

This section asks questions about the respondents subjective perception of labor market conditions over the migration season. We then ask about the respondents attitudes towards migration policy and their perception of their own socioeconomic status.

## **2.2 Employer Survey**

Employers will be interviewed in late March and early April, 2018. Of the 250 workers contacted to find labor market employers, 173 were able to give contact information for an employer at that market. In addition to these employers, we will survey the owners of a subset of the rickshaw garages originally identified as potential migrant destinations. All destination employer data will be use din secondary analysis.

### **2.2.1 Labor market outcomes (section 1)**

This section asks about labor demand from employer of migrant labor. For rickshaw garage owners, we ask about the rental price and quantity of rickshaws rented. For employers of manual labor, we ask about the wage and total quantity hired, as well as the wage and quantity hired in higher-skill labor categories. Higher-skill categories are not a common destination for seasonal migrant labor, but may be complementary in the same labor market.

### **2.2.2 Labor market and migration attitudes (section 2)**

This section asks questions about the respondents subjective perceptions of crime, congestion, and other social ills often attributed to migrants. The aim of this section is to evaluate whether an increase in migration draws a backlash from a segment of the population not directly in competition with migrants.

## **3 Experimental Design**

The treatment status of each destination market is based on the initial assignment of villages to treatment and control. To do this, we first provisionally assign workers to treatment, control, or excluded. We then compute a market's treatment status as a function of the treatment status of its

workers. For analysis, each worker inherits their treatment status from the market in which they were enumerated.

### 3.1 Model Indices

We use the following convention:

1. Workers are indexed by  $i$ .
2. Markets are indexed by  $j$ .

In this case, a market refers to either a labor market or a rickshaw garage. Each worker is assigned to the market in which they were originally enumerated.

### 3.2 Provisional Assignment of Workers

At the time of enumeration, we record the home village of each worker  $i$ . To provisionally assign workers to treatment, control, or excluded, we geocode their home locations. Let the provisional assignment be defined by  $Z_i^w \in \{t, c, e\}$ .

Workers from outside of the catchment area of both treatment and control branches are assigned to  $e$  (excluded). If a worker hails from the catchment area of a pure control branch, we consider them to be  $c$  (control). Workers are originating from villages in the catchment area of a treated branch are assigned based on where in the catchment area their home village is located.

In treated branches, we divide the branch catchment area into a treated slice, with the remainder being untreated, according to the treatment mechanism in the experimental design. The treated slice can be defined as the portion of the catchment area bounded by the rays from the centroid that capture the two most extreme treated villages on the circle projection. If a worker's home village falls within the treated slice, they are assigned to  $t$  (treated); if their village is in the catchment area outside of the treated slice then they are assigned to  $c$ .

### 3.3 Assignment of Markets

For each market  $j$ , we define two terms  $S_j$  and  $T_j$  to be the fraction of workers in market  $j$  that originate from the experiment area and from the treatment area, respectively. Formally, define

$$S_j = \frac{1}{N_j} \sum_{\{i|M_i=j\}} \mathbf{1}[Z_i^w \in \{t, c\}]$$

$$T_j = \frac{1}{N_j} \sum_{\{i|M_i=j\}} \mathbf{1}[Z_i^w = t]$$

where  $M_i$  identifies the market in which worker  $i$  was enumerated and  $N_j$  is the total number of workers enumerated in market  $j$ .

Each worker is assigned a treatment status  $S_{ij}$  and  $T_{ij}$  corresponding to the values of these variables for the market in which they were enumerated. In analysis, these two terms capture the workers' exposure to migrants from the experiment region in general and to the treatment in particular.

## 4 Outcomes

We will evaluate the effect of exposure to the migration program on workers at the destination labor markets. The primary outcomes we will evaluate are

- Total earnings.
- Food security, defined as running out of money such that the worker was unable to buy food.
- Migration, defined as the number of times the worker had to change residence for work.

## 5 Primary Impact Estimands

Analysis will center around estimating equations of the form

$$Y_{ij} = \beta T_j + \gamma S_j + \alpha + \epsilon_{ij}$$

for a given outcome  $Y_{ij}$ . The coefficient of interest is  $\beta$ , which measures the effect of program exposure at the destination market. This estimation is only valid conditional on total exposure to the experimental region, so we control for  $S_j$  through  $\gamma$ . The coefficient  $\beta$  can be interpreted as measuring, conditional on total exposure to migrants from the experiment region, the effect of a marginal increase in treatment exposure of likely labor market competitors.