OW4/1171: Final pre-analysis plan for permanent migrants
1 message

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Dear Ashima,

please find attached the final pre-analysis plan for the short-run effects of enhanced pre-departure training for permanent migrants, which we would now like to archive with 3ie. The document also contains the questionnaire for the first follow-up survey. Fieldwork for the follow-up survey has not started yet and is planned to begin at the end of September / early October this year.

There are a couple of changes in the pre-analysis plan compared to the version that we submitted at the end of last year:

1) A more detailed description of the randomization procedure reflecting the simplification of our treatment arms (based on the comments we received from the reviewer).

2) We have added specific control variables from the baseline survey for each hypothesis to reduce heterogeneity.

3) We have revised the estimation of treatment effects to reflect the simplification of our treatment arms; the same applies to the power calculations.

The corresponding pre-analysis plan for temporary migrants will be submitted separately at a later stage.

Best wishes,
Toman

📄 **PAP short-run effects permanent migrants.pdf**
388K

Pre-analysis plan:
Short-run effects of enhanced pre-departure training for permanent migrants

17 September 2014

1 Introduction

This pre-analysis plan (PAP) outlines the analysis of the short-run effects of enhanced pre-departure orientation seminars (PDOS) for permanent migrants.[1] It focuses on short-term outcomes for which data will be collected in survey wave 2 (wave 1 is the baseline survey). It will thus primarily focus on the effects of the enhanced PDOS modules on migrant settlement in the destination country. In a later stage of the project a second PAP will outline the analysis for the medium- and long-term effects, which will have a stronger focus on feedback effects from migrants on their peers in the Philippines and on diaspora engagement. This analysis will be conducted with data collected in survey waves 3 and 4.

The hypotheses we present below are at the center of our research interest and we will give most weight to the results that we find for this part of the analysis. These results have a confirmatory character and the analysis will therefore be conducted with special scrutiny and we will discuss in detail how the analysis will be conducted. The PAP will be archived before we start data collection of wave 2.

In addition to the confirmatory analysis we will use the data for additional exploratory analysis that is not detailed out beforehand. The exploratory analysis allows for more surprise findings and gives a chance to explore research questions that only become evident once the data is available. Due to the exploratory nature we will treat these findings differently and will give less weight to them. We will also separate the publication of confirmatory and exploratory findings.

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[1] This PAP draws on similar PAPs by Almeida et al. (2012) and Finkelstein et al. (2010).

2 Overview of the study

This study aims to investigate the effects of enhanced pre-departure orientation seminars (PDOS) for Filipino migrants using a randomized control trial. The study consists of two parts: the evaluation of PDOS for permanent migrants and the evaluation of PDOS for temporary migrants (Overseas Filipino Workers (OFWs)). This pre-analysis plan only covers the evaluation of PDOS for permanent migrants.

Every permanent Filipino migrant is required by law to attend a brief pre-departure training, which is conducted by the Commission on Filipinos Overseas (CFO). This training covers various topics, but has a strong focus on travel regulations and immigration procedures. CFO, the key government agency tasked to manage permanent migration from the Philippines, is now planning to introduce enhanced pre-departure training to foster the development benefits of migration for migrants, their families and the Philippines at large. In particular, the enhanced training aims to foster settlement and labor market integration and increase migrants' engagement in diaspora activities that contribute to development in the Philippines. The enhanced training will first be implemented for migrants to the US, who constitute by far the most important group of permanent migrants from the Philippines.

This study will use a randomized control trial to evaluate the effectiveness of the enhanced training. It will survey 1,272 permanent migrants and their families over a period of two years after the training takes place. The results of the evaluation will be directly incorporated into CFO's future PDOS and will be highly informative for deriving best practices for other migrant sending countries.

Description of the interventions

We test two versions of the enhanced pre-departure training. The core version (henceforth "**enhanced PDOS without employment module**") consists of the following components:

Settlement module: This is the broadest of all modules and covers general issues related to migration and to migration to the US in particular. The module addresses topics such as cultural differences and culture shock, rights and obligations of US permanent residents, important things to take care of after arrival (social security, health insurance, driver's license, etc.) as well as information about housing and education. The module will also contain an extensive Q&A part.

Financial literacy module: This module is based on the fact that migrants often experience a substantial increase in income when starting a job abroad. The module teaches basic rules of thumb on opening a bank account, financial planning, savings, sending remittances including an overview of the advantages, disadvantages, and cost of remittance channels, making a joint financial plan with the family in the Philippines on the amount and use of remittances.

(Filipino) associations in the US: Filipino associations, but also non-Filipino associations such as neighborhood associations, may be an important provider of post-arrival support for migrants. The module informs migrants about the potential benefits of associations for expanding their social network, which may ultimately help them to integrate into the US and

find a decent job. Upon arrival in the US, a sub-group of migrants from the treatment group will receive further encouragement via email to get in touch with a Filipino association. Migrants from the control group receive neither an encouragement to reach out to associations nor an email encouragement to do so.

Diaspora engagement: This module aims to strengthen the links between Filipino migrants and the Philippines. It covers Filipino culture and values, overseas voting rights, the right to re-acquire Filipino citizenship and government programs such as BalinkBayan and LINKAPIL, which help migrants to stay in touch with their home country and give migrants the possibility to contribute to development causes in the Philippines. Upon settlement in the US, a sub-group of migrants from the treatment group will receive further information via email to learn about donations opportunities. Migrants from the control group receive neither information on donation opportunities nor an email reminder to do so.

The second version contains all the modules mentioned above plus an additional module that covers employment-related topics (henceforth "**enhanced PDOS with employment module**"):

Employment module: The employment module aims to help migrants to find a decent job in the US, which typically constitutes the biggest challenge for Philippine migrants upon arrival in the US. The module informs about the US labor market and addresses important issues such as the recognition of certificates and diplomas, job search strategies, how to prepare a CV and cover letter and behave in a job interview.

We use the term "**enhanced PDOS**" to refer to either version of the enhanced PDOS (without and with the employment module). All migrants who participate in the enhanced PDOS will also receive a comprehensive handbook that covers the above topics in great detail. The handbook is an integral part of the treatment as it provides the possibility to look up the information covered in the enhanced PDOS at the time it is actually needed. There are also two versions of the handbook, one without and one with a chapter corresponding to the employment module.

The third intervention is an email intervention (henceforth "**association email"**). About one month after arrival in the US, selected migrants receive an email encouragement to reach out to migrant associations in the US. The email contains contact information of migrant associations that are located in the same US state the migrant has moved to. A second email with the same content is sent about two months after arrival in the US. This intervention will be randomized among migrants who receive a version of the enhanced PDOS.

Selection of the interventions

The specific modules that will be evaluated have been chosen after extensive discussions with senior CFO staff and PDOS officers and other stakeholders and experts such as IOM staff who conduct the Canadian Orientation Abroad for permanent migrants to Canada. In collaboration with CFO, the research team conducted a pre-survey among current and prospective migrants to assess their needs and expectation.

The current PDOS has a very strong focus on issues related to travel and airport procedures and touches only marginally on issues such as cultural differences, getting settled or finding employment. The new modules of the enhanced PDOS will therefore be in stark contrast to the current seminars that the control group will receive.

Sample selection

The evaluation sample for permanent migrants consists of 1,272 permanent migrants going to the United States. It only includes regular migrants. Individuals who migrate to the US as partner of foreign nationals (marriage migrants) are not included. During the intervention period more than those 1,272 migrants will attend standard and enhanced PDOS sessions but not all of them will be interviewed and thus be included in our evaluation sample.

The procedure to select participants for the evaluation is as follows. Migrants tend to come to CFO relatively early to register for the training. After registration they usually have a longer waiting period. Migrants who fit the criteria to be part of the evaluation sample will be encouraged at the registration counter to participate in the study. The registration officer will then refer them to an enumerator who will conduct the interview.

All migrants participating in this PDOS on a given day will be exposed to either the standard or the enhanced PDOS but we restrict the evaluation sample to a subgroup that is expected to benefit most from the training. Only one person per family will be included in the sample. Migrants will be selected based on the following characteristics:

- Age between 20 and 50 years
- Never lived in the United States before for three months or longer
- Planned departure date is within three month of interview date
- No other family member has been interviewed

This subgroup of migrants is most likely to be active on the labor market and can therefore benefit most from support for facilitating the transition from the Philippines to the United States.

Randomization

In order to establish causality, prospective migrants will be randomly assigned to different versions of the pre-departure training. Pre-departure training is mandatory for all migrants. Hence, non-compliance with the treatment is of no concern. Spillover effects and control group contamination may arise if prospective migrants in the treatment group share information with migrants in the control group. To avoid such effects, randomization takes place at the session level. There is one session per weekday. Hence, treatment and control trainings will be scheduled at different days of the week to minimize the possibility of interaction between the two groups.

Depending on which day prospective migrants register for their pre-departure training, they will attend one of the following three versions of the pre-departure training.

1) Standard PDOS. This is the control condition. Migrants attend the mandatory standard pre-departure training as currently provided by CFO.
2) Enhanced PDOS without employment module. As detailed above, this core version of the enhanced PDOS contains new modules on settlement, financial literacy, associations in the US, and diaspora engagement.
3) Enhanced PDOS with employment module. This version of the enhanced PDOS contains all the modules mentioned in 2) plus an additional module that covers employment-related topics.

Randomization of the enhanced PDOS modules takes place at the session level. 40% of all sessions are assigned to the control group, and 30% to the enhanced PDOS without employment and 30% to the enhanced PDOS with employment.

Table 1: Sample size for group-level intervention

	Share (of total sample)	Observations (approximately)
Control	40%	508
Enhanced PDOS without employment module	30%	381
Enhanced PDOS with employment module	30%	381

Randomization of the associations email takes place at the individual level and only among those migrants who are assigned to one of the enhanced PDOS. This group is furthermore restricted to migrants who a) provide a valid email address and b) migrate to a US state with active and CFO-approved Filipino diaspora associations. In the preliminary baseline data, out of the 60% who are assigned to an enhanced PDOS, 73% meet criteria a) and b), which corresponds to 44% of the total sample. Among these, 50% are randomly assigned to the treatment group.

Table 2: Sample size for email intervention

	Share (of total sample)	Observations (approximately)
Control	22%	280
Associations email	22%	280

Data sources

The measurement of all outcomes of interest will be based on surveys conducted with migrants and their families remaining in the Philippines. All survey instruments will be extensively pretested before the actual survey. In total, there will be four rounds of data

collection. All of them will be computer-assisted to facilitate tracking over time and improve accuracy through automated routing and error checks.

CFO administrative data
Administrative data from CFO contain basic demographic information on all Filipino emigrants. We currently use it to plan the evaluation. During the intervention phase it can be used to test balance between treatment and control group on some characteristics of all participants and not only those who are part of the evaluation sample.

Baseline surveys with migrants and their families
During round one of data collection, prospective migrants will be surveyed in personal interviews immediately before attending the PDOS. This survey will collect baseline information about the prospective migrant. Conducting the interview before the training ensures that the willingness to participate in the survey is not influenced by the treatment and that responses are not primed by the training. To ensure high re-contact rates for the future rounds of data collection, migrants will be asked to provide the prospective address in the destination country (if already known), a permanent email address and other contact information as well as contact information of family members who remain in the Philippines.

The family member, who is identified as the main contact person in the Philippines, will be contacted by phone at the end of the interview to ensure the correctness of the contact information and to schedule a baseline interview with family members. These baseline interviews with the family members will take place in the two weeks after the interview with the migrant and therefore before or immediately after the migrant leaves the country.

Immediate feedback form
In addition, a very short paper-based feedback questionnaire will be administered directly after the PDOS to all participants in the seminar, not only to those who will be surveyed later on. The aim is to evaluate the immediate impression participants have about the usefulness of the PDOS and give them the opportunity to suggest improvements. It is important to note that these feedback forms cannot be linked on an individual level to the other questionnaires. The analysis of the feedback forms will therefore not be part of the main evaluation but will be used to complement and interpret the main results.

Follow-up survey with migrants
Round 2 will measure the short-run effects of the intervention. It will take place four months after the departure of each migrant (which typically happens within few days after attendance of the PDOS) and interview migrants at their destination on the phone. The interviews will mainly focus on the migration experience and the process of establishing in and adapting to the destination country. Many of the topics covered in the PDOS focus on this part of the migration process. The outcomes measured in this period will therefore be of particular relevance. The questionnaire is attached at the end of this document. In case a migrant cannot be reached for the interview even after several attempts, a knowledgeable family member in the Philippines will be interviewed instead to provide proxy information about the most important indicators. While these indicators are likely to be measured with error, the proxy interviews help to keep attrition as low as possible.

Future follow-up surveys
Round 3 and 4 of data collection will take place 12 and 24 months after the departure of the migrant and will be conducted with both migrants and their families in the Philippines. The current PAP focuses only on the short-term impact and does thus not cover round 3 and 4.

3 Hypotheses

The enhanced PDOS has several components that might influence different outcome dimensions. We will collect a rich dataset that will allow us to test a number of hypotheses. Most importantly the evaluation does not only seek to understand the overall impact on the various outcome dimensions but also to understand the causal chain that leads to these effects. The very idea of the PDOS is that migrants make suboptimal choices because they do not have sufficient information before they leave. The causal chain that we have in mind is that changes in knowledge lead to changes in behaviors, which leads to changes in outcomes.

We can group our hypotheses along two dimensions. First, we can group them along the causal chain:

- Impact on knowledge: Enhanced PDOS provide prospective migrants with additional information relevant for migration and settlement in the destination country.
- Impact on behavior: Enhanced PDOS change the behavior of the migrants. Individuals will make different choices based on the additional knowledge they gained in the PDOS.
- Impact on outcomes: Enhanced PDOS have a positive effect on outcomes of migrants and their families as migrants make more informed choices.

Second, we can group our outcomes by thematic fields (domains). We will distinguish between the following domains:

1. Migration and settlement
2. Employment
3. Networks and Filipino Diaspora
4. Individual well-being
5. Finances

Within each domain we test whether a specific treatment has an impact. We condense the information from various indicators related to a specific hypothesis in order to reduce the number of hypotheses to be tested and therefore to increase statistical power. Where feasible we will create meaningful indicators based on various questions in the questionnaire. Where the creation of such an indicator is not possible we construct standardized treatment effects as suggested by Kling, Katz, and Liebman (2007) and employed by Finkelstein et al. (2010) and Almeida et al. (2012) (see description in Section 4: Power calculations and multiple hypotheses testing).

Impact on outcomes

Hypothesis domain 1: Migration and settlement

Hypothesis 1.1: Being exposed to the **enhanced PDOS** affects travel related problems.

Indicator:

- Number of problems experienced during the travel
  i. Sum of answers with "yes" on question Q_TRAVEL_PROBLEMS (see attached questionnaire below)

Specific controls from baseline survey:

- Has lived abroad before (37, this number refers to the respective question in the baseline questionnaire)
- Has been in the US before (131)

We do not expect this hypothesis to be confirmed. Although the enhanced PDOS spends less time on travel-related issues, comprehensive information is provided in the handbook.

Hypothesis 1.2: Being exposed to the **enhanced PDOS** leads migrants to settle administrative matters in the destination country more quickly.

Indicators:

- Number of administrative matters settled at the time of second interview
  i. Sum of answers with "yes" on questions Q_SOCIAL_SEC, Q_HEALTH_INSURANCE, Q_DRIVERS_LICENCE, Q_BANK_ACCOUNT (answer categories 1 and 2)
  ii. Any item where more than 95% of the control group answer with "yes" will be removed from the indicator

Specific controls from baseline survey:

- Has bank account in the Philippines (169)

For explanatory purposes we will also examine the items separately, but we will use the index as the main outcome to avoid loss of statistical power due to multiple hypothesis testing.

Hypothesis domain 2: Employment

Hypothesis 2.1: Being exposed to the **enhanced PDOS** has a positive average impact on employment outcomes – both in the time needed to find employment and also in terms of the quality of work.

Hypothesis 2.2: Being exposed to the **enhanced PDOS with employment module** has an even more positive average impact on employment outcomes – both in the time needed to find employment and also in terms of the quality of work.

Indicators:

- Individual has paid employment (Q_EMPLOYED)
- Number of invitations to job interviews (Q_INTERVIEWS)
- Individual monthly income before taxes (Q_INCOME)
    i. Will be coded as zero for individuals who are not working
- The logarithmic transformation of monthly income
    i. For zero income we will use log(1)
- Expected chance of having a job in 9 months (at wave 3) (Q_EXPECT_JOB)
    i. Will be zero for individuals who do not intend to work
    ii. This question will be dropped if more than 95% of the control group answer 100%
- Expected chance of having a job that corresponds to the initial educational level (at wave 3) (Q_EXPECT_QUALJOB)
    i. Will be zero for individuals who do not intend to work
    ii. This question will be dropped if more than 95% of the control group answer 100%

Specific controls from baseline survey:

- Has applied to have qualifications recognized (150)
- Number of correct answers regarding resume content (152)
- Self-assessed probability to have a job after one year (144)
- Employment plans (138)

In order to increase statistical power we aggregate the various outcomes in this domain into a standardized treatment effect as described in Section 4. This aggregation allows us to investigate whether the enhanced PDOS has any effect on employment related outcomes.

The sample for this analysis will be based only on individuals who did not state in the baseline interview that they already had a job waiting for them in the US (approximately 17% of the sample).

In addition to the outcomes described above we will explore whether income and occupational quality are higher conditional on working. As these are endogenous outcomes, they will not be part of the formal analysis but will be used for exploratory purposes. As we expect a relatively high share of migrants not to be working at the time of the wave 2 interviews, we also do not expect that a bounds analysis would lead to conclusive results. A more rigorous analysis of job quality will be conducted in the later waves when we expect more migrants to be employed.

Hypothesis domain 3: Networks and Filipino Diaspora

Hypothesis 3.1: Encouraging migrants in the **enhanced PDOS** to reach out to Filipino and Non-Filipino organizations in the United States increases the size of the personal network.

Hypothesis 3.2: Providing migrants with encouragement to reach out to Filipino and Non-Filipino organizations and providing them with specific contact information through the **association email** increases the size of the personal network.

Indicators:

- Migrant has received support from a club or organization in the United States
    i. This will be coded as 1 if either Q_FIL_SUPPORT or Q_US_SUPPORT is "yes"
- Number of new people the migrant knows on a personal basis (Q_NO_FRIENDS)

Specific controls from baseline survey:

- Knows Filipino association in the US (135)
- Wants to join Filipino association in the US (136)
- Wants to join other club/association in the US (137)

We will construct a standardized treatment effect for this outcome domain.

Hypothesis domain 4: Individual well-being

Hypothesis 4.1: Being exposed to the **enhanced PDOS** has a positive impact on individual well-being of the migrant.

Indicators:

- Mental health measured by the MHI-5 index developed by Veit and Ware (1983).
    i. This index has also been used in a study on migrant well-being by Stillman et al. (2012).
    ii. The MHI-5 is a 5-item scale with a score range from 5 to 25. Higher scores indicate better mental health. The MHI-5 is the sum of responses to Q_MHI-1 – Q_MHI-5 with reverse coding of Q_MHI-1 and Q_MHI-2.
- Migrant specific well-being
    i. This is a self-developed variant of the MHI score to measure well-being related to migration. The score is the sum of responses on two questions (Q_MHI_M1 and Q_MHI_M2) and ranges from 2 to 10. Higher scores indicate better migrant specific well-being.

Specific controls:

- MHI-5 index from baseline survey (210)

In this domain we will test the effect of the enhanced PDOS on both well-being indicators.

Hypothesis domain 5: Finances

We expect financial literacy training to matter primarily in the medium- and long-run. After three months, regular migrants are only in the process of setting themselves up and are unlikely to save money or send remittances. We will not include hypotheses on financial outcomes but hypotheses on behavior changes and knowledge with respect to financial matters.

Mechanisms

Any effects of the enhanced PDOS on the various outcome domains must result from a change in behavior induced by the enhanced PDOS. The second set of hypotheses investigates whether such changes in behavior can be observed in order to learn more about the mechanisms behind potential effects on the outcomes. We primarily look at behavior related to job search and establishing a social network.

Hypothesis M.1: Being exposed to the **enhanced PDOS with employment model** changes the job search behavior of migrants.

Indicators:

- Migrant has actively searched for a job during the past four weeks (Q_SEARCH)
- Number of means used for job search in the United States
    i. Sum of means mentioned in question Q_TYPE_SEARCH
- Number of applications sent out since arrival in the United States (Q_APPLICATIONS)
- Migrant has initiated a process to have his/her qualifications recognized (Q_QUALIFICATIONS)

Specific controls from baseline survey:

- Has applied to have qualifications recognized (150)
- Number of correct answers regarding resume content (152)
- Self-assessed probability to have a job after one year (144)
- Employment plans (138)

This analysis has two caveats. The first is that job search behavior is a function of having a job and vice versa. We will restrict the analysis to the sample of individuals who do not have a job at the time of the interview. The second is that it is relatively difficult to collect information on qualitative changes in job search behavior. For example, the enhanced PDOS teaches migrants how to write application letters and résumés. Information on the content of these documents is difficult to collect in a telephone survey.

We will construct a standardized treatment effect for this outcome domain.

Hypothesis M.2.1: Being exposed to the **enhanced PDOS** affects the way migrants establish networks and try to integrate.

Hypothesis M.2.2: Receiving the **associations email** changes the way migrants establish networks and try to integrate.

Indicators:

- Migrant had contact with a non-Filipino organization in the United States (Q_CONTACT_US_ASSOCIATION)
- Migrant had contact with a Filipino association in the United States (Q_CONTACT_FIL_ASSOCIATION)
- Migrant has enrolled in a class to improve English skills (Q_ENGLISH_CLASS)

Specific controls:

- Knows Filipino association in the US (135)
- Wants to join Filipino association in the US (136)
- Wants to join other club/association in the US (137)
- Number of people known in the US (116/117)

We will construct a standardized treatment effect for this outcome domain.

Hypothesis M.3: Being exposed to the **enhanced PDOS** encourages migrants to discuss with their families a detailed plan about the level of remittances.

Indicator:

- Migrant discussed with the family the amount of remittances (Q_AGREE_AMOUNT_REMIT = 1 or 2)

Specific controls:

- Plans to send remittances (183)
- Has discussed use of remittances (186)

Hypothesis M.4: Being exposed to the **enhanced PDOS with employment module** increases the knowledge about information relevant for job search in the United States.

Indicators:

- Number of websites relevant for job search known (Q_JOBPORTAL)
- Number of correct answers on what to include in a résumé (Q_RESUME)

Specific controls:

- Has applied to have qualifications recognized (150)
- Number of correct answers regarding resume content (152)
- Self-assessed probability to have a job after one year (144)

- Employment plans (138)

We will construct a standardized treatment effect for this outcome domain.

Impact heterogeneity

<u>Hypothesis Het.1</u>: Treatment effects are higher for individuals who would have voluntarily participated in the PDOS (self-selection on expected gains).

Relevant characteristic:

- Answer "yes" on question Q_VOLPART in the migrant baseline questionnaire.

In the preliminary baseline data almost 90% answered "yes" on this hypothetical question. Given the very uneven sample split, we will most likely not be able to test this hypothesis.

<u>Hypothesis Het.2</u>: Treatment effects are higher for individuals with lower education.

Relevant characteristic:

- Education (college graduate or higher)

<u>Hypothesis Het.3</u>: Treatment effects are higher for individuals with lower baseline knowledge.

Relevant characteristic:

- Sum of correct answers on questions 153-159, 163 in the baseline survey. Sample will be split at the median.

<u>Hypothesis Het.4</u>: Are treatment effects different for men and women? We have no prior about the relationship by sex and will test whether effects are different for women and men.

Relevant characteristic:

- Gender

4 Estimation

Estimation of main effects

For outcomes where no pre-treatment measurements are available, we estimate the following equation:

$$Y_{i,t=2} = \beta_0 + \beta_1 T_i + \beta_3 P_{i,t=2} + X_S'\theta + \varepsilon_i \qquad (1)$$

$Y_{i,t=2}$ is the outcome measured in wave 2 and $P_{i,t=2}$ is an indicator whether this outcome was collected in a proxy interview with a family member in the Philippines. T_i is an indicator for being exposed to the enhanced PDOS in either version and β_1 will thus provide the treatment effect of interest. Note that a subsample of treated observations also receives the associations email intervention. β_1 therefore captures the overall effect. Equation (3) below estimates the separate effect of the email interventions. X_S' is a vector of pre-treatment covariates that are expected to be strongly correlated with the outcome. Their inclusion in the model should reduce the error variance and improve balance. We include in this vector age, squared age, gender, education, time since arrival in the US (log days), an indicator whether the person migrates alone or with family members, indicators for migrants going to Hawaii and California, an indicator for frequent internet use, self-assessed English skills, and an indicator whether a person already has a job waiting in the US. Hypothesis-specific control variables are indicated at the respective hypothesis description.

Hypothesis that specifically test the effect of the employment module are estimated with the following equation:

$$Y_{i,t=2} = \beta_0 + \beta_1 T_i + \beta_2 TE_i + \beta_3 P_{i,t=2} + X_S'\theta + \varepsilon_i \qquad (2)$$

T_i is an indicator for being exposed to the enhanced PDOS in either version. TE_i is an indicator for being exposed to the enhanced PDOS with employment module. β_2 captures the additional effect of the employment module. $\beta_1 + \beta_2$ capture the total effect of the enhanced PDOS including the employment module.

Finally, to test the effect of the associations email, we estimate the following equation for the sample of migrants who a) provide a valid email address and b) migrate to a US state with active and CFO-approved Filipino diaspora associations:

$$Y_{i,t=2} = \beta_0 + \beta_1 T_i + \beta_2 AE_i + \beta_3 P_{i,t=2} + X_S'\theta + \varepsilon_i \qquad (3)$$

AE_i is an indicator whether an individual received the associations email. β_2 captures the additional effect of the associations email. $\beta_1 + \beta_2$ capture the total effect of the enhanced PDOS including the associations email.

Depending on the frequency of proxy interviews with family members we will also estimate all equations only for the sample of migrants who were interviewed directly.

Calculation of standard errors

As we do not expect intra-class correlation in the outcomes (see below), we will use heteroscedasticity robust Huber-White standard errors.

Estimation of heterogeneous impacts

We will estimate heterogeneous treatment effects by interacting the treatment status with the variable of interest.

Power calculations and multiple hypotheses testing

In the power calculations in the original application we assumed an intra-class correlation coefficient of 0.02. This was under the assumption that we would survey migrants going to various destinations. The reviewers pointed out that we should focus on a more homogenous sample and suggested collecting more information that would justify the choice of the intra-class correlation coefficient. The focus on migrants to the United States and the sample restrictions outlined above allows having a more homogenous sample. Furthermore, access to administrative data from previous seminars allows us to investigate the intra-class correlation of relevant baseline characteristics such as socio-demographic characteristics and origin and destination region.

We use data from PDOS conducted in Manila in the year 2012. We expect relatively low intra-class correlation as migrants are allocated to specific PDOS solely on the basis of the date they register with CFO. This prior is confirmed by the data (Table 1). Intra-class correlation is below 0.02 for all covariates and not significantly different from zero in many cases. The very small but positive intra-class correlation in the PDOS in some categories is most likely the result of couples/families attending the PDOS together. These individuals would have similar characteristics, in particular identical origin and destination region. As we only include one family member per day in the evaluation sample, intra-class correlation generated by multiple family members attending the same session will not be a problem.

Table 3: Intra-class correlation in CFO trainings for US migrants in 2012

Female (0/1)	0.000
Age	0.014
Married (0/1)	0.013
Higher education (0/1)	0.004
Origin: National Capital Region (0/1)	0.016
Destination: California (0/1)	0.012

These findings make us confident that intra-class correlation in other migrant characteristics that might be related to outcomes is also very low. Strong variation in the content and quality of the individual training sessions might lead to some intra-class correlation. However, as the content of the training and the material used are very standardized and the training lasts only for two to three hours, we do not expect this to be the case. We therefore argue that clustering of standard errors by training session is not necessary. A review of related literature on migrant trainings (see for example Gibson et al., 2014; Doi et al., 2014; Seshan and Yang, 2014) and other forms of training programs (see for example Lechner, 2002 for an evaluation of active labor market programs) revealed that clustering of standard errors at a session level is not common for the evaluation of training programs. None of the reviewed papers clusters standard errors by training session.

Our power calculations are thus based on the assumption of no intra-class correlations. We assume attrition in the second wave to be 10 percent. Initial sample sizes in the various treatment arms are as displayed in Tables 1 and 2. For the enhanced PDOS we conduct the power calculations for the comparison of one version of the enhanced PDOS vs. the control group. We conduct our power calculations for significance levels of 10 and 5 percent.

Table 4: Power-calculations (assumed attrition of 10%)

Enhanced PDOS intervention (Control group size 508 and treatment group size 381)

	10% significance level		5% significance level	
	Normal	With pre-treatment	Normal	With pre-treatment
0.2 st.dev.	0.88	0.94	0.80	0.90
0.5 st.dev.	1.00	1.00	1.00	1.00
0.8 st.dev.	1.00	1.00	1.00	1.00

Associations email intervention (Control and treatment group size 280)

	10% significance level		5% significance level	
	Normal	With pre-treatment	Normal	With pre-treatment
0.2 st.dev.	0.72	0.83	0.61	0.73
0.5 st.dev.	1.00	1.00	1.00	1.00
0.8 st.dev.	1.00	1.00	1.00	1.00

For the PDOS intervention and a continuous variable such as the standardized indicators we would be able to detect an effect in the order of 0.2 standard deviations with a power of 0.88 at the 10% significance level. At the 5% significance level such an effect would be detected with a power of 0.8. Effects of 0.5 standard deviations or larger can be detected with a power of almost one at all significance level (see Cohen, 1988 for a discussion on effect sizes). This relatively high power allows us to detect effects also after adjusting for multiple testing (as explained below). For some variables we collect pre-treatment information already at baseline, e.g. for measures of subjective well-being. Including these pre-treatment measures in the estimation reduces error variance and therefore increases statistical power. For subjective well-being Ehrhardt et al. (2000) suggest a year-to-year correlation of about 0.5. Using pre-treatment information increases statistical power to detect an effect of 0.2 standard deviations considerably from 0.8 to 0.9 at the 5% significance level.

For other covariates where no pre-treatment information is available (as those variables are not defined for non-migrants), we will include a set of covariates that are likely predictors of the outcome to increase statistical power.

Due to the smaller sample size, power to detect effects for the email intervention is somewhat lower for small effects. For medium and large effects, power is close to one.

To account for problems with multiple hypothesis testing we follow the approaches by Finkelstein et al. (2010) and Almeida et al. (2012). As described above, we group our outcomes into domains and estimate the effects on an overall index or we estimate standardized treatment effects within each domain.

To estimate the standardized treatment effects we follow the procedure of Kling et al. (2007). We normalize each outcome within a domain by subtracting the mean of the control group and dividing by the standard deviation of the control group. Let Y_k be the kth of K outcomes, let μ_k be the control group mean, and let σ_k be the control group standard deviation. The normalized outcome is $Y_k^* = (Y_k - \mu_k)/\sigma_k$. The summary index is $Y^* = 1/K \sum_K Y_k^*$. We reverse the signs for adverse outcomes, so that a higher value means a more beneficial outcome. These estimates show us whether there is an overall effect of an intervention on an outcome domain.

We will look at the effects on the individual indicators to examine which dimensions are driving a potential overall effect. We will treat the results with extra care if we do not find an overall effect but an effect on an individual indicator. In order to account for multiple

hypotheses testing, we will apply the Westfall and Young step-down resampling methods for the hypotheses tests for the effects on individual indicators.

For the investigation of heterogeneous treatment effects we will follow the recommendations of Fink et al. (2010) and employ the Benjamin and Hochberg step-down procedure. We will only investigate treatment effect heterogeneity for the overall effects and not for the individual indicators to reduce the number of hypotheses.

Strategies to deal with attrition

Attrition is a serious concern in any longitudinal study and for a study that seeks to track migrants over space and time in particular. To keep attrition as low as possible we employ four strategies. First, in the baseline interviews migrants will be asked to provide their contact details in the destination country, a permanent email address, contacts in social networks, as well as contact details of family members who remain in the Philippines. In case we fail to re-contact a migrant in the destination country directly, the survey company will contact her family members to obtain updated contact information. Second, to ensure a sustained willingness to participate in all survey rounds, migrants will already be informed before the baseline interview that their participation in future rounds is highly desired. Third, an incentive to take part in the various rounds of the survey, interviewed migrants and their family will be given a token after the interview. Fourth, in case we still fail to re-contact a migrant in the destination country, a knowledgeable family member of that migrant in the Philippines will be interviewed instead to provide proxy information on the most important indicators.

Nevertheless, selective attrition remains a serious concern. In a first step we will estimate whether attrition itself is a function of one of the interventions. We will do so by using an indicator whether a migrant could be re-contacted as outcome in equation (1). If an F-test of joint significance of all treatment indicators does not reject the null of no effects at the 5% level, we will conduct the analysis without adjustments for attrition and assume that attrition is random conditional on the covariates included in equation (1). If we find a significant relationship between treatment status and attrition we will construct non-parametric Lee bounds on our treatment estimates.

5 Literature

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