

The Borrowing Puzzle: Why Do Filipino Domestic Workers in Hong Kong, China Borrow Rather than Dissave?

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Despite their predictable and regular incomes, Filipino domestic workers in Hong Kong, China commonly finance large expenses through interest-bearing loans rather than savings. Our analysis of survey data and records of a credit cooperative for migrant workers suggests that this cannot be explained by their inability to save, financial illiteracy, short time horizon, or limited liability. Instead, we speculate that the strict schedules and high interest rates of these loans create a disciplining effect that these individuals find desirable. This may help them avoid unnecessary consumption or demands from their social network. However, interventions should also consider that these workers often receive nonmonetary reciprocal benefits from members of their social network.

Keywords: coholding, loans, migrants, savings

JEL codes: O15, O16

I. Introduction

Domestic workers make up a significant flow of migrants in Asia. Employers from several higher-income regions such as Malaysia; Singapore; and Hong Kong, China recruit live-in domestic help from countries such as the Philippines and Indonesia. This migration is low-skilled, temporary, and almost entirely motivated by economic gain. However, our understanding of the benefits of such migration on the migrant's household is sparse. Migrant remittances have been shown to improve dependents' contemporaneous living standards and educational

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investments (Yang 2011), but does this migration enable long-term economic gains and opportunities for upward mobility? In particular, are these migrants economically self-sufficient when they retire and return to their home countries? Does this migration successfully lead the next generation to move into higher-wage occupations?

Definitive answers to these questions require large-scale and long-term data collection and plausibly exogenous variation in the migration decision. However, even in their absence, we can observe and analyze migrants' constraints and choices and make inroads toward an understanding. This paper begins with the observation that migrants' financial choices during their tenure in the host country greatly influence their own and their households' future outcomes. Whether their incomes are spent only on consumption or also saved, and whether they make productive investments for financial gain, will determine whether they will retire comfortably and whether migration will improve their economic status.

Our study population is Filipino domestic workers in Hong Kong, China. We examine how they manage their finances, specifically, their choice between savings and loans. As we will document, it would appear that their financial choices do not maximize their economic gains. We find that they commonly finance foreseen, discretionary investments through debt rather than savings—taking interest-bearing loans from moneylending companies rather than building up their savings and then dissaving cheaply. In fact, we find evidence of “coholding,” that is, they hold borrowings and liquid savings at the same time. We will argue that this imposes a significant financial cost and yet offers no financial benefit: debt contracts are not designed to transfer project risk to the lender, interest rates are nonnegligible, and, in fact, loan default imposes a heavy cost, with the real risk of losing their job and cutting off future earnings potential.

To identify and examine this “borrowing puzzle,” we draw on data collected from different sources. In 2017, we interviewed a sample of 136 Filipino domestic workers and asked about their employment history, wage income, remittances, savings, and loans. Subjects also participated in a lab-in-the-field experiment where they allocated a given endowment across a set of options with differing risks and returns. We also rely on the records of a credit cooperative that caters to migrant workers.

We document the following facts. First, as expected, most Filipino domestic workers remit to their home country regularly. These remittances often support not just their immediate nuclear family but also educational and health expenses for their extended family as well. Thus, these migrants take on the responsibility of supporting several individuals back home.

Second, although the majority of migrants have bank accounts, they do not appear to use them as a savings device. Bank balances tend to be low and monthly inflows into the accounts are small. However, this is not to say that their entire monthly salary is consumed. Anecdotal evidence suggests that many of them invest

in “projects” in the Philippines, such as land purchase, house construction, house renovation and repair, and small businesses.

Third, it is common for these workers to borrow from moneylending companies in Hong Kong, China. On average, these companies charge an interest rate of 25% per annum. Migrants repay these loans from the salaries they earn. Our data suggest that only a small fraction of these loans are used for unforeseen emergency expenses; the majority are remitted home for school fees, consumption needs, or investment.

This leads us to the central observation in this paper: Filipino domestic workers appear to routinely finance their investments through loans rather than savings. Moneylending companies have standard contracts for loans to overseas workers, where repayment begins the very next month after the loan is disbursed. Workers’ investments generally do not start generating immediate returns, so repayment is usually financed from workers’ wages. These wages are contracted and regular and therefore predictable. Default carries heavy penalties; thus, borrowing does not transfer risk to the lender.

Our data allow us to examine the plausibility of different explanations for why many migrants would rather finance investments through borrowing than dissaving. Although we cannot conclusively accept or reject a particular hypothesis, we discuss possibilities for future research that could shed light on this issue.

The paper is organized as follows. In the next section, we describe the empirical background against which this paper is set. In section III, we describe how we collected our data, and in section IV we use these data to present a picture of how these domestic workers manage their finances. Sections V and VI discuss explanations for their high indebtedness and overborrowing. Section VII presents our proposed explanation. In conclusion, section VIII discusses avenues for future research and some broad implications for policy and practice.

II. The Context

Migrant domestic workers made up 9.3% of the workforce in Hong Kong, China in 2016. More than half of these workers were from the Philippines (Government of the Hong Kong SAR 2017). They performed a range of services for their employers, including cleaning, cooking, shopping for groceries, babysitting, ferrying children to and from school and extra-curricular activities, and caring for the employers’ aged parents and pets. Their services facilitated the labor force participation of working-age women in Hong Kong, China especially mothers with young children (Cortes and Pan 2013).¹

¹The benefits from employing foreign domestic workers likely extend beyond the effect on female labor supply. Tan and Gibson (2013) argue that domestic workers do not increase female labor force participation in

The Philippines was one of the first countries to send workers through the foreign domestic helper program that began in the 1970s. This program grants migrants a special “foreign domestic helper” visa, which entitles them to work for a single employer. Employers are required to pay at least a “minimum allowable wage.” In 2020, this minimum wage was HK\$4,630. The minimum wage is usually revised once a year to adjust for changes in the cost of living.² Foreign domestic helpers cannot qualify for permanent residence in Hong Kong, China. They can continue to reside there as long as they are gainfully employed as domestic workers, but the employment contract and visa must be renewed every 2 years.³ Thus, these individuals are temporary economic migrants: they live in Hong Kong, China only for as long as they can be gainfully legally employed. They are generally aware that employers become less likely to employ them as they get older and that they will retire in their home country.

These migrants’ wages are lower than most of the population in Hong Kong, China.⁴ They do not qualify for pensions or other financial benefits. Commercial banks usually target higher-income groups; as a result, foreign domestic workers have only limited access to formal banking services. However, the local laws put no restrictions on whether and how much migrants can borrow from moneylending companies.⁵ This creates a dichotomy where they have only limited access to formal savings accounts but extensive access to formal loans. This paper examines how they manage their finances against this backdrop.

III. Data Collection

In 2017, we enrolled 141 Filipino domestic workers to participate in our survey and lab-in-the-field experiment. Of these, we have survey data from the 136 who successfully completed both parts of our interview.⁶ Below we describe the process by which this sample was created.

Malaysia, but they speculate that Malaysian employers can enjoy increased leisure and can specialize in child-rearing, with possible gains in their children’s human capital.

²Note that by law, the worker must live in the residence of the employer, and so she is not expected to incur any housing costs.

³If they become unemployed, migrant domestic workers must leave within 2 weeks and may only reenter after an employer has signed a new 2-year contract. Note that when employers fire a domestic worker, they are required to pay for the worker’s travel back to her home country.

⁴There are no regulations about or definitive data on the number of hours that migrants work per day. However, taking a conservative estimate of 10 hours per day for 6 days a week, the monthly minimum allowable wage for domestic helpers in 2019 translates to an hourly rate just below HK\$20 or roughly 50% of the minimum wage in Hong Kong, China. Domestic helpers do not fall under the purview of the minimum wage ordinance.

⁵In contrast, in 2019, the Government of Singapore placed a limit on how much individuals can borrow from Singaporean moneylenders. Some have even argued that domestic workers’ loan applications should be preapproved by their employers (Ng and Tan 2019).

⁶All 141 participated in the first face-to-face interview, but only 136 could be contacted 4–8 weeks later for a follow-up phone interview to report financial transactions that had occurred since the first interview and answer additional questions that helped to compute loan interest rates.

Migrant domestic workers in Hong Kong, China are required by law to live in their employer's house. They usually work 6 days per week. Their hours of work are not specified in their contract, although the law states they are allowed one rest day per week. This rest day is generally spent outside their employer's residence. This makes it very difficult for investigators to survey them in their residence. Given the length of our survey and experimental sessions, we believed it would be difficult to enroll participants by approaching them on the street or in public places.⁷ We therefore advertised our study through WhatsApp and Facebook with certain nodal Filipino domestic workers and asked them to pass the advertisement on.⁸ Interested persons could click on a web link and answer a short enrollment questionnaire. We then contacted these enrollees and reserved a study session slot for them.⁹ In this way, we created a respondent-driven sample.

A respondent-driven sample may not be representative of the underlying population of interest. The nodes that we began with were not randomly chosen, and if we had only relied on the nodes to spread the word, we might have only reached their friends. We therefore attempted to create a "snowball" by offering participants a bonus for each person we recruited through their referral. This created an incentive for every participant to spread the word to her friends. To avoid swamping the sample with acquaintances of the more popular participants, we offered this bonus for only four referrals and no more. However, snowball samples only approximate random samples in the limit, and our sample of 136 respondents is unlikely to be sufficiently large (McKenzie and Mistiaen 2009). We therefore present reweighted descriptive statistics that better approximate the true population of Filipino domestic workers living in Hong Kong, China.¹⁰

We also draw on the records of the Asian Migrants Credit Union, a credit cooperative in Hong Kong, China that primarily targets migrant domestic workers. All individuals who join the cooperative are provided a savings account. Six months after they enroll, members become eligible to use the credit facility. First-time borrowers may only borrow up to two times their savings. The entire loan is collateralized by the savings balance of the borrowing member as well as the savings of the guarantors, who are other members of the cooperative. The interest rate is set at 1% per month and repayment is on a monthly schedule. We look at the contracts of all loans that were approved by the cooperative in 2017–2018 to examine the

⁷Relatedly, Barua, Shastry, and Yang (2019) found that domestic workers recruited in public places in Singapore were unlikely to sustain participation in their study.

⁸These nodal persons were elected officers of the credit cooperative that we also use data from.

⁹Nearly all migrant domestic workers in Hong Kong, China use smartphones, and a very large fraction use social media, so it was fairly easy for them to view and answer our enrollment questionnaire. Once we received their online submission, we called them to explain the details of the study session and register them into a time slot.

¹⁰We draw the weights from the distribution of Filipino domestic workers' age, education level, and length of stay in the 5% microsample of the Hong Kong 2016 Population By-census. Appendix 3 provides further information about this microsample and how we use it.

stated purposes of these loans. We also analyze members' saving and borrowing balances during the period 2011–2018.¹¹

Finally, we draw on the findings of a lab-in-the-field experiment with all 141 subjects who participated in our study. The goal of the experiment was to examine how participants respond to the rate of return when making savings choices. All subjects were given an endowment of 100 tokens (1 token was equivalent to HK\$1), and in each round they were asked to allocate these tokens across three accounts: a savings account that generated a sure return, an investment account that would generate a return of 10% but with uncertainty, and a lottery account where each token would give them a chance of winning a handbag as a prize. Subjects were randomly assigned to groups and played multiple rounds within each group. Further details about this study are provided in Appendix 1.

IV. Some Facts

Table 1 presents reweighted descriptive statistics for the respondents in our survey. The average Filipino domestic worker was 36.5 years old. She had left the Philippines for work about 6.5 years prior to our study and had been living in Hong Kong, China for nearly 5 of those years, three of them with her current employer. Given their profession, domestic workers reported relatively high education levels. A third of the workers had studied further after high school, and a fifth had acquired an additional academic qualification after their high school diploma.¹²

As we mentioned before, migrant domestic workers must work for only one employer. Contracts are signed for a 2-year duration. Our study took place between January and May 2017, thus the workers we interviewed would have signed their current contracts any time in or after January 2015. The minimum allowable wage was set at HK\$4,310 for contracts signed between October 2016 and September 2017 and HK\$4,210 for contracts signed between October 2015 and September 2016. The median worker in our sample received exactly HK\$4,210, but the mean was slightly lower at HK\$4,150. Overall, the evidence suggests that employers comply with the minimum allowable wage regulation.¹³ More than 80% of workers received their wages as cash, which is indicative of the limited use of formal banking or other financial services.

¹¹ Although we have the credit union's transaction records for the period 2011–2018, we only have access to loan applications during 2017–2018.

¹² This includes associate degrees, vocational training and professional courses, as well as university degrees.

¹³ Of course, it is possible that domestic workers who received lower than the minimum allowable wage did not participate in our study. However, since the contract is a formal document that is approved by the Immigration Department, it cannot state a wage lower than the minimum. Most observers believe that domestic workers generally do receive the contracted wage.

Table 1. Descriptive Statistics of Survey Respondents

| | Mean (1) | Standard Error (2) |
|--|-------------|-----------------------|
| Age | 36.5 | 0.09 |
| Education | | |
| Less than high school | 0.49 | 0.01 |
| High school | 0.08 | 0.00 |
| Some post-high school | 0.24 | 0.01 |
| Post-high school completed | 0.19 | 0.01 |
| Number of children | 2.33 | 0.02 |
| Number of dependents | 3.72 | 0.03 |
| Years since leaving the Philippines | 6.59 | 0.09 |
| Years in Hong Kong, China | 4.84 | 0.08 |
| Years with current employer | 3.26 | 0.06 |
| Mean salary (HKD per month) | 4,150.3 | 16.6 |
| Paid in cash | 0.81 | 0.01 |
| Food provided | 0.90 | 0.00 |
| Food allowance provided | 0.10 | 0.00 |
| Remitted in past 2 months | 0.88 | 0.00 |
| Mean remittances (HKD per month) | 2,163.5 | 20.2 |
| Fraction of income remitted | 0.52 | 0.00 |
| Remittance method | | |
| Bank | 0.09 | 0.00 |
| Money service operator | 0.64 | 0.01 |
| Online | 0.01 | 0.00 |
| Other | 0.17 | 0.01 |
| Has bank account | 0.83 | 0.01 |
| HKD account | 0.32 | 0.01 |
| PHP account | 0.91 | 0.00 |
| Has single-holder account | 0.97 | 0.00 |
| Has joint account | 0.06 | 0.00 |
| Total bank balance (HKD) | 5,839.4 | 206.5 |
| Mean savings per month (HKD) | -39.8 | 18.7 |
| ROSCA member | 0.11 | 0.00 |
| Uses a money guard | 0.00 | 0.00 |
| Has outstanding debt | 0.37 | 0.01 |
| If yes: | | |
| Total amount borrowed (HKD) | 21,445.8 | 296.4 |
| Total repayment amount (HKD) | 27,200.3 | 406.7 |
| Monthly repayment amount as fraction of salary | 0.55 | 0.01 |
| Has outstanding credit | 0.14 | 0.03 |

HKD = Hong Kong dollar, PHP = Philippine peso, ROSCA = Rotating Savings and Credit Association.

Note: The survey sample is reweighted to match the distribution of Filipino domestic workers in the population of Hong Kong, China, as estimated in the 5% microsample of the Hong Kong 2016 Population By-census.

Source: Authors' calculation.

As is to be expected, workers remitted a large part of their salaries to their households in the Philippines. Eighty-eight percent of the sample had remitted money home within the 2 months prior to the survey. On average, they remitted HK\$2,164 or 52% of their monthly salary. These remittances supported on average

3.7 individuals, which included not just their immediate family but their extended family as well.¹⁴

A. Savings

Strikingly, 83% of our sample had active bank accounts at the time of the survey. Of these, 91% of workers had accounts in the Philippines, whereas a much lower 32% had accounts in Hong Kong, China. Nearly all bank accounts were single-holder accounts; only 6% of account holders reported having joint accounts. However, bank balances were low. Across both locations, the average respondent held only about HK\$5,840 or 1.4 months' salary in the bank. Net inflows were actually negative during the 2 months prior to the interview. Other saving devices were not very common. Only 11% reported membership in a rotating savings and credit association (ROSCA), where they made an average monthly contribution of HK\$340. Nobody reported using a money-guarding arrangement.¹⁵

Migrant workers may have held small bank balances because the accounts offered low rates of return.¹⁶ To examine whether their savings balances would respond to interest rates, our experiment randomly assigned participants to a safe "savings product" with one of two rates of return: a low 3% rate or a high 10% rate. Strikingly, we find no evidence that participants assigned to the high-return condition allocated more tokens into the safe account. Respondents in the low-return condition placed HK\$53.3 out of HK\$100 worth of tokens into the safe account, and those in the high-return condition placed a nearly identical HK\$51.7 (difference = 1.6, $p = 0.68$). The rates of return on savings also did not affect allocation to the investment and lottery accounts.¹⁷

To understand whether this behavior can be explained by migrant characteristics, we examine in Table 2 whether respondents with different characteristics respond differently to a change in the rate of return. Our data consist of 324 person-round-level observations across the 141 respondents who participated in the experiment. Our regressions include dummy variables for the round in which the allocation was made. This controls for round-specific effects or learning over time. In column (1), we include as an explanatory variable a measure of the respondent's risk aversion.¹⁸ As expected, we find that more risk-averse respondents

¹⁴Fifty-six percent were supporting their parents, and 34% were supporting other dependents, such as grandchildren, siblings, nieces and nephews, cousins, or grandparents.

¹⁵A money guard is a person who holds money for the subject to help her avoid spending or losing it (Collins et al. 2009).

¹⁶Hong Kong, China's savings interest rates are nearly 0%. At 0.1%, interest rates in the Philippines are only slightly higher. Inflation rates in 2017 were 1.48% in Hong Kong, China and 2.85% in the Philippines.

¹⁷Investment accounts: HK\$32.2 in the low savings return condition vs. HK\$30.5 in the high return condition (difference = 1.7, $p = 0.64$); lottery accounts: HK\$23.3 vs. HK\$24.4 (difference = 1.1, $p = 0.73$).

¹⁸Risk preferences were elicited using an incentivized Lowry list method where participants were asked to choose between a safe option and a lottery with a high and low payout, where the probability of a high payout

Table 2. Heterogeneous Treatment Effects of a High Rate of Return on Token Allocation

| | Risk Aversion | | | | Financial Literacy | | | |
|--|--------------------|--------------------|--------------------|---------------------|--------------------|---------------------|---------------------|---------------------|
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
| Characteristic | 1.50*** (0.51) | 1.24** (0.52) | 1.24** (0.52) | 0.14 (0.84) | 0.72 (2.05) | -0.20 (2.09) | 0.03 (2.11) | -3.81 (3.31) |
| High interest rate | | | -2.62 (3.38) | -21.63* (11.98) | | | -2.54 (3.45) | -17.57* (10.60) |
| Characteristic × High interest rate | | | | 1.77* (1.07) | | | | 6.34 (4.23) |
| Age | | 0.19 (0.27) | 0.17 (0.27) | 0.22 (0.27) | | 0.25 (0.27) | 0.24 (0.27) | 0.23 (0.27) |
| Length of stay | | -0.04 (0.28) | -0.02 (0.28) | -0.10 (0.28) | | -0.04 (0.28) | -0.03 (0.28) | -0.01 (0.28) |
| Education | | | | | | | | |
| High school | | -3.26 (5.95) | -3.29 (5.96) | -4.40 (5.98) | | -4.02 (6.04) | -3.98 (6.05) | -4.08 (6.04) |
| Some post-high school | | 6.76 (4.85) | 6.75 (4.86) | 6.10 (4.86) | | 6.61 (4.90) | 6.63 (4.91) | 7.56 (4.94) |
| Completed post-high school | | 10.07** (4.81) | 9.95** (4.82) | 9.55** (4.81) | | 10.70** (4.85) | 10.56** (4.85) | 11.30** (4.87) |
| Constant | 35.18*** (5.89) | 24.27** (11.09) | 26.37** (11.43) | 37.71*** (13.30) | 49.71*** (5.36) | 35.69*** (11.87) | 37.11*** (12.04) | 45.41*** (13.23) |
| R-squared | 0.03 | 0.07 | 0.07 | 0.08 | 0.01 | 0.05 | 0.05 | 0.06 |
| No. of observations | 324 | 324 | 324 | 324 | 324 | 324 | 324 | 324 |

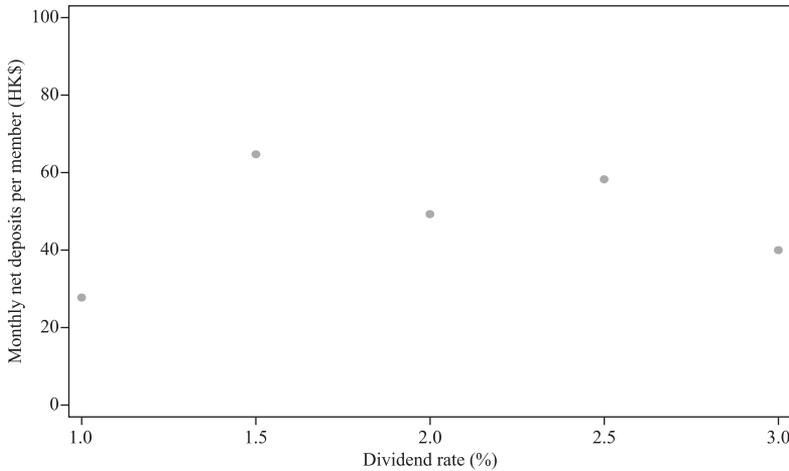
Notes: The dependent variable is the number of tokens (out of 100) that the respondent allocated to the safe account in a round. Respondents were randomly assigned to a group of 4 or 5 members (say n members) and then played n rounds with that group before being reassigned to a new group. The data contain observations of the first round they played with each group they were assigned to. We include round dummy variables to control for round-specific effects. Standard errors in parentheses. ***p < 0.01, **p < 0.05, *p < 0.1.
Source: Authors' calculation.

placed a larger number of tokens in the safe return box. In column (2), we include controls for age, education, and length of stay in Hong Kong, China; this does not change the coefficient on risk aversion significantly. In column (3), we add a dummy variable for whether the respondent faced a 10% return on savings. Controlling for risk aversion, we do not find that respondents who faced a higher rate of return placed more tokens than comparable respondents with a lower rate of return. Finally, in column (4), we interact the risk aversion measure with the dummy variable for the high-return treatment. There is no evidence that more risk-averse individuals responded differently to the rate of return than the less risk averse. In columns (5)–(8), we consider heterogeneous effects by the respondent's financial literacy.¹⁹ Again, there is no evidence that financial literacy levels affected how participants responded to the rate of return. To the extent that these results can be translated into

successively increased. In line with Yu, Zhang, and Zuo (2019), respondents were encouraged to choose a single switching point from safe option to lottery.

¹⁹In section V.C, we describe how we measured financial literacy.

Figure 1. Relationship between Average Monthly Savings per Member in the Credit Cooperative and Previous Year's Dividend Rate



Source: Authors' calculation.

their behavior in daily life, it does not appear that migrants' disinterest in saving is driven by low rates of return.²⁰

Note also that the credit cooperative paid considerably higher dividends (1%–3% per annum) than the interest rate of commercial banks in Hong Kong, China during this period. Despite this, we find a low savings rate among members of the credit cooperative. The average member made a net deposit of only HK\$44 per month into her account. There is also no evidence that the members' savings rates responded to dividends. In Figure 1, we plot the monthly net deposits per member against the dividend rate that the credit union paid in the previous year.²¹ There is no indication that members saved more per month when dividends were higher.

B. Credit

Loans allow individuals with small cash inflows to consume or invest in the present, instead of having to postpone or forgo these activities. They can also help smooth consumption in the face of negative shocks. Below we examine the nature of borrowing by our survey respondents.

²⁰As we see across the table, respondents with more education placed more tokens in the safe return box. However, there is no evidence that they increased their safe token allocation when they faced a higher safe return (results available upon request).

²¹Each year's dividends are announced at the end of the year and depend on the credit union's profits during the year. Arguably, members could not have known the dividend when they made the savings decision, but they could have used the previous year's dividends as a predictor.

Table 3. Loan Characteristics

| | Overall (1) | Moneylender (2) | Credit Cooperative (3) | Employer (4) | Friend or Relative (5) |
|------------------------|---------------------|---------------------|------------------------------|-----------------------|------------------------------|
| Fraction of loans | 1.00 | 0.88 | 0.03 | 0.03 | 0.04 |
| Principal (HKD) | 20,453.5 (272.8) | 22,176.2 (279.5) | 13,153.9 (182.44) | 15,339.0 (943.0) | 1,480.8 (159.98) |
| Repayment amount (HKD) | 31,619.9 (439.6) | 34,577.6 (449.2) | 19,426.5 (423.9) | 17,322.0 (1,239.9) | 1,480.8 (160.0) |
| Interest rate (%) | 23 (0.00) | 26 (0.00) | 7 (0.00) | — | — |
| With monthly repayment | 0.98 (0.00) | 1.00 (0.00) | 1.00 (0.00) | 1.00 (0.00) | 0.53 (0.06) |
| Loan duration (months) | 9.8 (0.12) | 11.0 (0.10) | 5.1 (0.20) | — | — |

— = data are not specified as these are flexible duration loans, HKD = Hong Kong dollar.

Notes: The survey sample is reweighted to match the distribution of Filipino domestic workers in the population of Hong Kong, China, as estimated in the 5% microsample of the Hong Kong 2016 Population By-census. The annual inflation rate in Hong Kong, China in 2017 was 1.48%. Standard errors in parentheses.

Source: Authors' calculation.

In Table 3, our summary statistics once again have been reweighted to match the distribution of Filipino domestic workers in the Hong Kong 2016 Population By-census (Government of the Hong Kong SAR, Census and Statistics Department 2017). Forty-six respondents (or 37% of our reweighted sample) reported having an outstanding loan from a lender in Hong Kong, China at the time of the survey.

When we computed their monthly repayment obligation we found that they had committed to paying on average 55% of their salary in loan installments each month. Table 3 also shows that 88% of the loans were taken from moneylending companies. The cooperative gave out only 3% of the loans. The other sources were informal: either informal borrowing from their employers or loans from friends or relatives in Hong Kong, China. Loans from moneylending companies were the largest of all: the average principal amount was HK\$22,176. They had an 11-month duration on average, the interest rate was 26% per annum, and payment was due on a monthly basis.

Employers gave zero-interest loans. The size of an average loan given by an employer was HK\$15,339, equivalent to just over 3 months' salary. Employers also took payments on a monthly basis, usually by garnishing the worker's salary. Loans from the credit cooperative were similar in size at HK\$13,154 on average. At 7% per annum, the cooperative charged less than one-third the interest rate of the moneylending companies.²² Loans from friends and relatives were significantly smaller, and although many subjects expected to repay on a monthly basis, the repayment schedules were more likely to be flexible.

²²The cooperative capped the loan principal at two times the borrowing member's savings balance in the cooperative.

In keeping with our finding that respondents had received loans from friends and relatives in Hong Kong, China, 14% of our survey respondents told us that either friends or relatives residing there owed them money at the current time. Of these 27 loans, five represented a sharing arrangement where the respondent had taken a loan from a moneylending company and then shared it with another domestic worker.²³ Another three loans were given out by a single respondent to three different friends at 10% interest over a 6-month duration or 1.67% per month.

Thus, the survey data suggest that it is common for Filipino domestic workers to borrow. In fact, records of the credit cooperative suggest that migrants need not borrow as much as they do. We present evidence below that a large proportion of cooperative members “cohold” loans at the same time as they hold liquid savings that could be drawn down instead.

Since the interest cost on these loans (1% per month) is considerably higher than the return on savings (the cooperative’s dividend rates range from 1% to 3% per year), it is in the members’ interest to take the smallest loan necessary to finance their needs. However, in 17.5% of the 200 loans that the cooperative extended over the period 2011–2017, the member had a larger amount of savings in the cooperative than the amount she borrowed. Clearly it would have been cheaper to instead withdraw these savings and avoid the loan altogether. Instead, by taking the loan and securing it with part of her savings, she not only took on an additional interest expense, but also rendered part of her savings illiquid.²⁴

Moreover, even when the member’s savings were smaller than her loan amount, the evidence suggests she could have borrowed less than she did. Specifically, she could have financed part of her need by withdrawing her savings, thereby reducing the loan size and interest cost. To see this, note that the cooperative requires that one-half of the loan is secured by the member’s savings; this amount cannot be withdrawn until the loan is repaid. Call this her illiquid savings, i . The remaining savings is liquid, which we denote by l . Thus, total savings $s = i + l$. If the expense is e then we know that $e - l = 2i$. We can then calculate her illiquid savings as $i = e - s$, so that the remaining $l = 2s - e$ can be withdrawn. By withdrawing the entire l , a member would take the smallest loan necessary to finance the expense. For example, a member who needs to finance an expense of \$1,000 and has \$700 in savings would minimize costs by maintaining a savings balance of \$1,000 – \$700 = \$300 to take a loan of \$600 and withdrawing the remaining \$400.

²³This is an informal arrangement where the individual who is formally listed as the borrower “shares” some of the loan principal with a friend. Often this friend is either the reference person or guarantor for this loan. Both friends then pool their money to make the monthly payments. In case of default, the moneylender first contacts the borrower and then contacts the reference person or guarantor. They may also contact the employer of either or both domestic workers and demand payment from them. It is possible that this informally created joint liability improves loan repayment for both the borrower and her friend. Moneylenders offer “VIP status” to borrowers with good repayment records. VIPs earn in-kind rewards and rebates on their own loan payments in return for referring new borrowers to the moneylending company.

²⁴The cooperative limits a member’s loan amount to twice her total savings balance at the time of the loan application. This savings balance secures the loan and cannot be withdrawn while the loan is outstanding.

Instead, we find that in 62.5% of loans from the credit cooperative, the loan principal was smaller than two times the member's savings balance at the time.²⁵ The data thus suggest that it is common for Filipino domestic workers to finance their investments and perhaps even their families' consumption expenses through loans rather than savings. In what follows, we consider different explanations for why they may do so.²⁶

V. Explanations for Indebtedness

We start by examining some common explanations for the high incidence of debt.

A. Debt Due to Migration Costs

It is widely reported in Hong Kong, China that domestic workers bear a large financial cost to get a job placement. This appears to apply both to workers located in the Philippines looking to migrate as well as workers located in Hong Kong, China who are in between employers. The Progressive Labor Union of Domestic Workers in Hong Kong and the Hong Kong Federation of Asian Domestic Workers (PLU and FADWU 2016) report on an investigation where researchers made anonymous phone calls pretending to be domestic workers in search of employment. They found that most employment agencies charge workers a sizable illegal fee for the placement service. If the worker is unable to pay the placement fee upfront, the employment agency often refers her to a lending company. Job applicants can also take loans in the Philippines and repay them from Hong Kong, China. The report estimates that it takes 6 months to pay off the average loan.

Thus, migrants might be arriving in Hong Kong, China already in debt, and they may continue to be indebted for a significant duration of their first contract. If they incur a placement fee again when they switch employers, then they may need to take another loan and could be indebted for part of their first contract with the new employer. If they face any large unexpected consumption or investment expense during this period, they may need to take another loan, possibly setting them on a path of repeated indebtedness.²⁷

²⁵Our methodology and findings are similar to those used by Laureti (2018) in her analysis of the clients of SafeSave, which provides flexible savings-and-loans accounts to slum dwellers in Dhaka, Bangladesh.

²⁶When a cooperative member overborrows, not only does she take a larger loan than necessary but also secures a larger fraction of the loan with her own savings, thereby relying on a guarantor to secure a smaller fraction. If she instead withdrew her savings and took a smaller loan, she would still need a guarantor to secure the same dollar amount. Thus, overborrowing does not reduce dependence on a guarantor.

²⁷Recently, three major moneylending companies appear to have started sharing information about their clients' loan records; in informal conversations, domestic workers report that they can no longer take multiple loans from different moneylenders.

If indebtedness is explained by the placement fee expense, then we should see greater indebtedness among migrants who are in their first contracts than migrants who have been with their current employer for a longer time.²⁸ In fact, only 29% of our sample who were in their first contract currently had a loan in Hong Kong, China versus 37% of those who had been with their current employer for a longer time (the difference is statistically nonsignificant).²⁹

B. Unexpected Expenses

We have referred above to the possibility that negative shocks may induce migrants to borrow to smooth consumption. If migrants are using the bulk of their incomes to support their families' regular expenses, then even a migrant who saves regularly may simply not have enough saved to cope with a shock. However, data from the credit cooperative suggest that this cannot be a complete explanation. When we analyzed the stated purpose of the 40 loans that migrant domestic workers took from the credit cooperative during the years 2017–2018, we found that nearly two-thirds were for expenses that could have been anticipated: land purchase, home renovation, or school fees for children back home. Only 21% of the loans were for medical expenses of relatives.³⁰ Of course, there is the question about whether we can trust the stated purpose of the loan. However, the credit cooperative has an informal policy of providing faster customer service for emergency loans, and so it seems unlikely that borrowers underreport the true incidence of emergencies. Rather, it appears that the bulk of the loans are not being used to smooth shocks.

C. Lack of Financial Knowledge

Domestic workers may not understand the financial costs of borrowing. In other words, they may not realize that they can lower their financial costs by using their savings instead of borrowing. To assess whether this can explain the observed behavior, we examine whether indebtedness varies by financial literacy levels. Our measure of financial literacy comes from two questions we asked in our survey. In each question, the respondent was presented with two alternative hypothetical

²⁸Recontracting with the same employer is a relatively easy process and usually does not involve an employment agency.

²⁹The low incidence of loans among those in their first contract may seem puzzling. Noting that it is illegal to charge placement fees to workers, it is possible that more experienced workers are more aware of this rule or can find employment more easily through word of mouth or other means, rather than using an agency. We therefore test but reject the hypothesis that new arrivals are more likely to be in debt. This could be because their loans were taken in the Philippines and therefore not reported as local loans. In any case, this does not suggest that migration-related costs are causing the indebtedness we observe.

³⁰The rest could not be clearly classified into emergency or nonemergency purposes. For example, house repair could be an urgent expense in response to sudden damage, or it could be a nonurgent expense that was planned ahead.

loans and asked to determine which loan was cheaper.³¹ The respondent's financial literacy score takes a value of 0, 1, or 2 depending on whether she correctly identified the cheaper loan in none, one, or both of the questions, respectively.

Our data do not suggest that respondents are generally unable to evaluate the cost of a loan. Fifty-one percent of respondents answered both questions correctly, and 40% answered one correctly. However, 37% of those who answered both questions correctly reported having an outstanding loan, compared to 30% of those who answered none or one question correctly. This difference is not statistically significant. Thus, it does not appear that their behavior stems from an inability to compute financial costs.

D. Lack of Self-Control or “Other Control”

Hong Kong, China is a consumerist society, and shopping opportunities are everywhere. It could be argued that this creates the temptation for Filipino migrants to purchase goods that may not be strictly necessary. Excessive consumption of these goods could prevent them from building up their savings, so they might need to borrow to finance large expenses.

Alternatively, migrants could lack complete property rights over their earnings. In other words, they could be remitting larger sums than they had planned to or purchasing items that they did not plan to, not because they lack self-control but because others in their social network make demands on their incomes. For example, their families back home may demand gifts or ask for larger remittances. Similarly, if they have surplus cash, their local friends may request loans or treats and these may not be repaid or reciprocated.

Either of these two mechanisms could lead to low savings, making it necessary to borrow to finance large expenses. Although our current data do not allow us to validate these explanations, we will discuss these mechanisms further in section VII.

VI. Explanations for Overborrowing

As we discussed above, the puzzle is not only that savings tend to be low on average but that individuals often choose to borrow, instead of withdrawing their savings. We now discuss some explanations for this behavior.

³¹In the first question, the two loans had an identical duration but differed in the principal and the interest. Thus, respondents would have had to work out which loan was cheaper per dollar of principal. In the second question, the two loans had identical principal and duration but the loan installment size and installment frequency varied. Thus, they would have had to work out which loan required the larger repayment amount. The exact questions are reproduced in Appendix 2. For each pair of loans we asked them two questions: which loan was cheaper and which loan they would prefer to take.

A. Limited Liability

Recall that the stated purpose for most credit cooperative loans was often a productive investment such as an educational expense, property purchase or construction, or a business investment. These are potentially risky investments. If loan contracts offer borrowers limited liability, then by financing the investment through a loan, the migrant worker transfers the downside risk to the lender and protects her savings.

The fact is, however, that neither moneylending companies nor the credit cooperative offers limited liability. Most loans had rigid repayment schedules and significant additional costs in case of default. For example, it is common for moneylending companies to call the borrower, her guarantor or reference person, and/or their employers over the phone to demand payment for an unpaid installment. Employers who receive these phone calls may fire the domestic worker, thus cutting off her income. The credit cooperative also does not limit the borrower's liability; in fact, its loans are completely secured. It recovers unpaid loans by seizing the borrower's and/or her guarantor's savings. Short of quitting the job, a worker cannot default on a loan from her employer since her payments are deducted from her salary. If she did quit before she had paid back her loan, she would likely find it impossible to find alternative employment in Hong Kong, China.³² It thus seems implausible that migrant domestic workers borrow in order to avoid the downside risk of their investment projects.

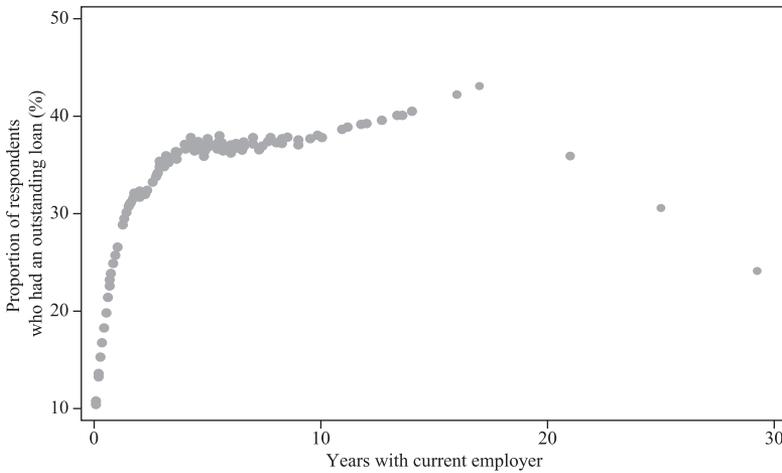
B. Short Time Horizon

Although repayment is enforced strongly within Hong Kong, China, moneylenders may be unable to recover their loans once the worker leaves. If a migrant worker is uncertain about how much longer she will stay, she may anticipate not paying back, effectively lowering the cost of the loan to her.³³

Migrants who have been reemployed by the same employer multiple times may be more secure about their job. If workers with lower expected tenure in their job face lower debt costs, then we should find greater indebtedness among migrant workers with a shorter tenure in their jobs. Instead, Figure 2 suggests that indebtedness rises as the number of years with the current employer increases. This is likely connected to the fact that lenders reward workers who have a more secure

³²Individuals who have breached their previous employment contract are unlikely to be granted a visa for a new contract (Government of the Hong Kong SAR 2020).

³³To our knowledge, there is no mechanism to prevent migrants from leaving Hong Kong, China while they are in debt. Moneylenders are aware of this risk and partly mitigate this by scheduling loans to mature before the worker's current employment contract ends. Thus, to avoid repaying the loan by leaving the city, the borrower would either have to run away or her contract would have to be terminated prematurely. Both employers and workers have the right to terminate the contract at any time, with 1 month's notice or 1 month's payment in lieu of notice. Employers who terminate the contract are required to pay for the worker's travel back to her home.

Figure 2. **Indebtedness as a Function of Job Tenure**

Source: Authors' calculation.

job by offering them better loan terms. However, it does not match the pattern we would expect if workers' indebtedness were solely caused by the insecurity of their jobs.

VII. Loans as a Device to Solve Control Problems

We have shown that individuals take loans even when they have sufficient savings. They then repay these loans from the monthly salaries they earn as domestic workers. This raises the following question. If they had dissaved instead, then the same monthly salary could have been used to rebuild the depleted savings. One reason individuals may not dissave is that it is difficult to rebuild savings. Indeed, in informal interviews, Filipino domestic workers agree that it would be better to save than to borrow. However, they report it is difficult to save, because there is always a reason to spend the money instead. This self-reported inability to save has also been documented in several other contexts. For example, it has provided a rationale for the success of simple savings technologies in Kenya (Dupas and Robinson 2013). However, as we have shown above, nearly all our subjects have at least one savings account; access to savings products does not seem to facilitate their saving.

This, in turn, suggests that loans may serve an additional purpose. The majority of the loans that we found in our survey data have strict repayment schedules, and so borrowers are committed to pay monthly installments until the loan is paid off. Since default carries large penalties, this could create a credible rationale for avoiding other expenses. The prospect of default could help resist

the temptation to buy oneself an unnecessary consumption good or the pressure to purchase such items for one's family or to gift or treat one's friends. Migrants who are sophisticated about their lack of control may then actively choose to take a loan even if it is not financially necessary. Indeed, Baland, Guirkinger, and Mali (2011) argue that members of a credit cooperative in Cameroon borrow more than they need to so that they can "pretend to be poor."

ROSCAs also help overcome the difficulty of saving. Gugerty (2007) reports that ROSCA members in western Kenya believe that the collective element gives them the "strength to save." In our context, ROSCAs are not very common, probably because ROSCAs rely on mutual "trust," which is more likely to develop when members can monitor each other and enforce promises. These conditions are unlikely to develop organically in a population of transient urban migrants who only meet once a week in a public location.³⁴ Even among ROSCA members, the ROSCA does not replace loans altogether, most likely because the ROSCA pot is limited by the savings capacity of its members.³⁵

In contrast, moneylending companies offer much larger loans. Domestic workers have easy access to these loans: to apply, they only need to show their Hong Kong Identity Card and employment contract and provide the phone number of a reference person or bring along a friend as a guarantor.³⁶ The high interest rates and strict repayment schedules effectively limit future liquidity and flexibility to smooth consumption shocks and, in extreme situations, can cause the worker to lose her income. It is possible that these features actually make these loans attractive. Morduch (2010) discusses the case of a South Indian woman who took a high-interest loan that she could have avoided. She believed the high interest rate incentivized her to pay back the loan much more quickly than she could have saving up the same amount.

VIII. Conclusion

Our research has benefited from a large literature that precedes it. Many scholars have noted that the poor do not save as much as they could (Banerjee and Duflo 2011). However, others have also argued that borrowing remains an attractive choice for many poor individuals, even when they have the wherewithal to save (Collins et al. 2009, Morduch 2010). This is because the high interest costs or

³⁴Recall that our survey suggested that 11% of Filipino migrant domestic workers belong to ROSCAs. The majority of the ROSCA members in our survey belonged to the same island in the Philippines and knew each other well. However, 2 years after our survey, the ROSCA manager embezzled the pot; as of 2020, the members are still waiting to get their savings back.

³⁵Thirty percent of ROSCA members reported they had an outstanding loan from a moneylender. Their mean loan size (HK\$25,500) was also similar to the mean loan size of those who did not belong to ROSCAs (HK\$23,149).

³⁶Migrant domestic workers who either have a good repayment record or who have been with their current employer for longer than 5 years do not even need a reference person or a guarantor.

the penalties for nonrepayment induce the borrower to repay the loan and make it possible to avoid consumption in a way that voluntary savings mechanisms do not.

An important question in this context is: What are the compulsions that prevent Filipino domestic workers in Hong Kong, China from saving successfully but at the same time allow them to repay loans regularly? A possible explanation is the lack of self-control in the face of consumption opportunities. Certainly, there are abundant shopping opportunities that might test an individual's self-control, and there are anecdotes about domestic workers who splurge on consumption goods that might seem excessively expensive given their low wages.

A second explanation points to the role of "kin taxes" or insecure property rights over one's earnings and savings. Many of the workers we surveyed were earning considerably higher wages than their kin in the Philippines and were remitting money regularly to support their expenses. Anderson and Baland (2011) argue that women participate in ROSCAs in order to wrest control from their husbands who might spend on unnecessary items. Ashraf et al. (2015) find that El Salvadoran migrants in the United States deposited more into savings accounts when they had sole control over withdrawals than when they shared control with their relatives back home. In a lab-in-the-field experiment, Jakiela and Ozier (2016) find that Kenyan village residents are more unwilling to publicly reveal their earnings to a room full of fellow residents when a larger proportion of the fellow residents are their kin. Baland, Guirkinger, and Mali (2011) argue that Cameroonian credit cooperative members take loans instead of withdrawing their savings so that they can "pretend to be poor" and avoid gifting or contributing to their friends and relatives. The Kenyan savers studied by Dupas and Robinson (2013) also say their savings boxes help them hide their money from their social network.

In informal interviews, Filipino domestic workers report that their families back home sometimes make unreasonable demands for money and have unrealistically rosy ideas about their financial situation. However, many also state that the purpose of their migration is to provide for their family, and they view this as their main responsibility. Thus, although the literature has typically portrayed the demands made by relatives as "taxes," these relationships could be more complex in reality. Admittedly, financial support tends to flow in only one direction from the migrant to her family members back home. However, the spouse, siblings, aunts, and cousins in the Philippines are often looking after the migrant's children or elderly parents, overseeing house construction and repair, or running the small business that the migrant has invested in. Thus, these may also be reciprocal arrangements, where one side provides financial support while the other provides human resources and facilitates peace of mind. Similarly, although friends in Hong Kong, China may borrow or request gifts, they also lend in return and make gifts when the individual herself is in need. In future work, we will investigate the

role that these social networks play in shaping the borrowing choices of Filipino domestic workers.

Ideally, probable interventions should be evaluated in light of these possible mechanisms. Commitment savings products that restrict the individual from withdrawing until a target date or savings balance is reached may be suitable for individuals with present-biased time preferences (Ashraf, Karlan, and Yin 2006). Those who wish to flexibly finance the expenses of their families may be better suited to a contractual savings product that requires them to replenish their savings after they have drawn them down (Morduch 2010). In a credit cooperative, this could take the form of a combination loan-and-savings product where, with each installment, the borrower both repays the loan and simultaneously makes a savings deposit. In future research, we hope to investigate the effectiveness of such alternative products.

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Appendix 1. Lab-in-the-Field Experiment

Each subject participated in a single experimental session. Each session consisted of 8–15 participants who sat at individual computer terminals. Each subject was randomly assigned to a group of 4 or 5 members and played 4 or 5 rounds of the decision-making experiment with this group before being randomly assigned to a new group. At no point could they identify their groupmates from among the participants in the room.

In each round, participants were given an endowment of 100 tokens and asked to allocate them across three accounts (or “boxes”): a blue safe box that would give a certain return of x percent; a red box where if the “investment” option were exercised the return would be 40% with probability 0.8 and 0 otherwise; and a green

box that would generate a fixed in-kind return with a probability proportional to the number of tokens placed in the box.

We experimentally varied the rate of return in the blue box to either be 3% or 10%. Experimental sessions were randomly assigned to one rate or the other.

The decision of whether to invest the amount in the red box was made by a different player in the group; we only analyze rounds where the participant was not an investor. Also, to avoid endogenous token allocation in response to what others in the group did in previous periods, we only analyze the first round that the participant played with each group.

Each token placed in the green lottery box gave a 0.5% probability of success, so that if the participant placed 10 tokens in this box she would have a 5% probability of winning a handbag as a prize. The total earnings from each round were displayed to the player at the end of the round. At the end of the session, one round was randomly chosen and implemented, with an exchange rate of one token = \$1. Thus, the participant received the cash payment equal to her earnings as well as the handbag if she had won it in the randomly selected round.

Appendix 2. Financial Literacy Questions

Question 1. Suppose you need to take a loan here in [Hong Kong, China]. There are two choices. Loan A: You will get \$10,000 for 6 months. You will have to pay back \$10,500 at the end of 6 months. Loan B: You will get \$20,000 for 6 months. You will have to pay back \$20,800 at the end of 6 months.

Which loan is cheaper?

Which loan would you prefer?

Question 2. Suppose you need to take a loan of \$10,000 here in [Hong Kong, China]. There are two choices. Loan A: You can get \$10,000 for 6 months. You have to repay \$2,000 every month for 6 months. Loan B: You can get \$10,000 for 6 months. You have to repay \$600 every week for 24 weeks.

Which loan is cheaper?

Which loan would you prefer?

Appendix 3. Reweighting Our Sample Using a Random 5% Microsample from the Hong Kong 2016 Population By-census

The Hong Kong 2016 Population By-census sampled about one-tenth of all residential quarters in Hong Kong, China and collected detailed socioeconomic data from all households that lived there. We use the 5% sample of the microdata released by the Census and Statistics Department and consider the subsample of

individuals who are Filipino and female and whose relationship to the household head is reported as “live-in domestic helper.” We check that this subsample plausibly consists of Filipino domestic workers—all individuals reported they are currently working, their economic activity as “employees,” their industry as “domestic personnel,” and their occupation as one of the following three categories: “cleaners, helpers, and related workers”; “personal care workers”; or “drivers and mobile machine operators.”

A simple comparison of the summary statistics for variables that are available in both datasets suggests some differences in age, education levels, and length of stay in Hong Kong, China. Accordingly, we construct the multivariate frequency distribution along these three dimensions in the Census dataset and then reweight our survey sample accordingly.

Note that since the lab-in-the-field experiment implemented a randomized intervention *within* the sample, unweighted average and heterogeneous treatment effects are internally valid.