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Children on the Move

Progressive Redistribution of Humanitarian Cash Transfers among Refugees

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Abstract

This paper evaluates the impact of the Emergency Social Safety Net (ESSN) in Turkey, the largest cash transfer program for international refugees in the world. The paper provides prima facie evidence that the program quickly caused substantial changes in household size and composition, with a net movement of primarily school-age children from larger ineligible households to smaller eligible ones. A sharp decline in inequality is observed in the entire study population: the Gini index declined by four percentage points (or 15 percent) within six months of program rollout, and the poverty headcount at the $3.20/day international poverty line declined by more than 50 percent after one year. ESSN caused a moderate increase in the diversity and frequency of food consumption among eligible households, and although there was no statistically significant effect on overall school enrollment, there were meaningful gains among the most vulnerable beneficiary households. To strike the right balance between transfer size and coverage, key parameters in the design of any cash transfer program, policy makers should consider the possibility that refugee populations may respond to their eligibility status by altering their household structure and living arrangements.

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Children on the Move:
Progressive Redistribution of Humanitarian Cash Transfers among Refugees

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1. Introduction

There are nearly 80 million forcibly displaced people around the world, of which 26 million are refugees, who have fled from conflict and persecution in their home countries. There has been an unprecedented increase in refugee numbers in the world between 2012 and 2016, mainly driven by the conflict in the Syrian Arab Republic, although conflicts in other parts of the world including Afghanistan and Sub-Saharan Africa, as well as the influx of Rohingya refugees to Bangladesh have also contributed. Between 2010 and 2019, the number of displaced persons around the world nearly doubled from 41 million to 80 million. Similarly, the number of refugees under the United Nations Refugee Agency (UNHCR) mandate more than doubled from nearly 10 million to 20.4 million.[1] More than two-thirds of the refugee population come from only five countries: the highest number of refugees are from Syria, with nearly 6.6 million, followed by the República Bolivariana de Venezuela (3.7 million), Afghanistan (2.7 million), South Sudan (2.2 million) and Myanmar (1.1 million) (UNHCR 2019).

Turkey hosts the largest number of refugees in the world since 2014, with over 4 million refugees currently living in the country, including 3.6 million Syrians. In light of Turkey's open-door policy towards Syrians fleeing the civil war, refugee numbers in Turkey increased sharply since 2011. Back then, the number of foreigners who applied for international protection in the country was only 18,000.[2] The hospitality of the Government of Turkey towards Syrian refugees has garnered international praise, although the rapid rise in the number of refugees in the country put significant strain on national resources to provide services for the new arrivals, as well as the host community.

The Emergency Social Safety Net (ESSN) program was launched in November 2016 with the partnership of the Government of Turkey and the European Union to support the most vulnerable refugees to meet basic needs by distributing unconditional cash transfers. The program was funded by the Directorate-General for European Civil Protection and Humanitarian Aid Operations and co-implemented through a partnership of the Turkish Ministry of Family, Labor and Social Services, the World Food Programme (WFP),[3] and the Turkish Red Crescent (TRC). To target the most vulnerable population, the ESSN relied on eligibility criteria based on demographic characteristics at the time of application, which served as a proxy for household vulnerability. The program has rolled out nationwide and scaled-up rapidly across the country. Currently, ESSN supports 1.7 million refugees in Turkey. As of May 2020, ESSN is the largest humanitarian cash transfer for international refugees in the world.

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[1] Excluding 5.6 million Palestinian refugees under the mandate of the United Nations Relief and Works Agency for Palestine Refugees in the Near East (UNRWA).

[2] DGMM International Protection Statistics https://en.goc.gov.tr/international-protection17.

[3] Starting from April 2020, the International Federation of Red Cross and Red Crescent (IFRC) has taken over the co-implementation of the program from WFP.

In this study, we attempt to assess the impacts of the ESSN cash transfer program for international refugees in Turkey on a small, but important, set of outcomes. While our study has a number of shortcomings, detailed in Section 4, a robust picture of program impacts emerges from this evaluation. The program caused meaningful increases in the food consumption score and reduced the use of negative coping strategies, especially in the shorter-run. ESSN also reduced the total stock of debt by 18-24%. While there was no average treatment effect on school attendance, children in the most vulnerable beneficiary households were more likely to attend school at every follow-up. Beneficiary households were also less likely to have members return to country of origin at the 6-month follow-up. These impacts are consistent with ESSN goals.

Interestingly, we also find that the program caused substantive changes in household composition among refugee households. The evidence strongly suggests that applicants who were deemed ineligible by the program responded by sending household members, school-aged children in particular, to beneficiary households. This movement took place primarily from worse-off households in the control group to better-off ones in the treatment group. As a result, while the treatment effect is positive on ***total*** consumption expenditures, it is negative on ***per capita*** consumption. Such interference between beneficiaries and non-beneficiaries implies positive (negative) spillover effects on the control (treatment) group, meaning that the impact estimates we present are likely to be underestimates of the intent-to-treat effects of the ESSN program.

Rearrangement of household composition can be expected in response to safety net eligibility: for example, Edmonds, Mammen, and Miller (2005) find that when elderly black women became eligible for old age pensions in South Africa, the number of children aged 0-5 and women aged 18-23 increased in their households, while that of women aged 30-39 declined. The rearrangement of household composition can be due to preferences, to enforce intra-family or -network informal contracts, or related to production. In our study, the rearrangement of households involves primarily the movement of school-aged children (aged 6-17). We do not see a difference between the movement of boys and girls, nor are children more likely to move into households with an elderly member present. Hence, we find it unlikely that the changes in household composition among refugee households in Turkey were due to preferences or production. It is more likely that some control households responded to the revelation of their initial eligibility status by sending children into environments where they will have more access to resources and to school. Child fostering, the practice of sending children to live with relatives, can be a mechanism through which families respond to income shocks (Akresh 2009 and Penglase 2020, among others), although it is not known to be commonly practiced in Syria or the Middle East. Our finding that children are more likely to move away from female-headed households with a large number of (out-of-school) children and low per capita consumption, and be received by better-off households is consistent with the findings of Akresh (2009), who finds that households in Burkina Faso with negative income shocks with more "good" quality network members are more likely to send a child.

One of the most important push factors for refugees who spontaneously return to Syria is lack of income or livelihoods (Hall 2018).[4] Cash assistance is not only important for a family's ability to pay for basic needs, but also one of the key inputs to increase the access of refugee children to education (Shammout and Vandecasteele 2019). Cash transfers are seen as an effective way to deliver humanitarian support to refugees, emphasizing dignity and self-reliance (UK House of Commons 2019), although the optimal form of assistance (cash or food) often depends on the circumstances (Hoddinott, Sandström, and Upton 2018). They can improve social cohesion among refugees by changing attitudes towards diversity and by increasing social participation and confidence in institutions (Valli, Peterman, and Hidrobo 2019). Cash transfers are also likely to have positive repercussions for the host communities, by increasing the purchasing power of refugees (Alix-Garcia, Walker, and Bartlett 2019). Lehmann and Masterson (2020) argue that this might be one channel behind their finding that cash transfers to Syrian refugees in Lebanon reduced anti-refugee violence. The demand for financial services has increased in areas populated by refugees in Rwanda and Kenya, as the WFP and UNHCR transition from in-kind food assistance to unconditional cash grants (BFA Global 2018; IFC 2018). Such a transition would seem to be welcomed by refugee populations: a study of internally displaced people (IDPs) in Bangladesh revealed that the most vulnerable IDPs prefer cash support rather than capacity building and skills training (Dutta 2020). Making the case for economic empowerment of both refugees and host communities in Cox's Bazar in Bangladesh, the International Rescue Committee advocates for skills training, livelihoods support, and cash-based interventions, especially as functioning markets are conducive to such programs (IRC 2019).[5]

A number of studies have focused on Syrian refugees in the context of Lebanon, Jordan, and Turkey. UNHCR and WFP provided cash-based assistance for various purposes (winterization of housing, food, child grants, etc.) to approximately 170,000 refugees in Lebanon between 2017 and 2018 (UNHCR, UNICEF, and WFP 2018). UNHCR provides cash assistance to Syrian refugees in Jordan, using guidelines from their Vulnerability Assessment Framework, with monthly cash transfers ranging from $112-$218 per household (Salemi, Bowman, and Compton 2018). However, not all eligible families receive support due to financial constraints, and those who do report that the transfers are not sufficient to cover their basic needs. Refugees receiving ESSN risk losing benefits if they work formally and they are restricted to seeking formal work in the place they are registered (Del Carpio, Şeker, and Yener 2018), although there is no evidence that ESSN eligibility rule contributes meaningfully to the low formal sector employment rates of refugees in Turkey (see Section 2).

Using a regression discontinuity design and repeated cross-sectional data collection at three 6-month intervals, Chaaban et al. (2020) report that the multi-purpose cash assistance in Lebanon reduced food insecurity,

[4] This sub-section draws heavily from the Forced Displacement Literature Review: 2019-20, which is compiled by the Joint Data Center on Forced Displacement (last updated May 2020).

[5] Sometimes it is also advisable to complement cash with food assistance, depending on whether there are functioning markets, and the pursuit of nutritional goals (Langendorf et al, PLOS).

increased access to drinking water and school enrollment among children 5-14, and improved mental health, although statistical significance of these findings varied over time. An evaluation of the short 2013-14 winter cash transfer program run by UNHCR and partner organizations found that recipients spent most of the funds aimed at heating supplies on food and water, despite the fact that they also received food vouchers from WFP (IRC 2014). The program increased school enrollment, had a multiplier effect for the local economy, and did not have an appreciable effect on prices. As in other studies, majority of the beneficiaries preferred cash to in-kind assistance. Caria et al. (2020) examine the effect of labeled cash transfers (worth $92, provided lump-sum) to help with job search of Syrian refugees in Jordan and find no effects on employment after six weeks.

Our study aims to assess the causal impacts of ESSN, a large cash transfer program with more than 1.7 million international refugees as beneficiaries, on consumption expenditures, indebtedness, diversity and frequency of food consumption, strategies to cope with shocks, school enrollment of children, and spontaneous return to country of origin. The next section describes the influx of refugees into Turkey and the policy responses. Section 3 describes the data and outlines the pre-registered primary outcomes. Section 4 goes into detail for the various threats to identification of causal effects, while Section 5 describes the empirical strategy. Sections 6 & 7 present the main findings of impact and their heterogeneity, while section 8 concludes.

2. Influx of refugees and policy responses

More than 5.5 million people fled Syria since the onset of the civil war in 2011, moving mainly to neighboring countries as refugees. Turkey is currently home to 64% of this population, hosting nearly 3.6 million Syrian refugees as of May 2020.[6] When the first inflow of refugees began arriving in Turkey in 2011, Turkey implemented an "open-door policy" towards refugees, providing Syrians seeking refuge with "temporary protection" status, with the legal right to stay in the country and have access to basic services including health care and education.

With no end to the Syrian conflict throughout the following years, the Syrian refugee numbers rose from 14,000 in 2012, to 1.5 million in 2014 and 2.8 million by the end of 2016. Turkey implemented the same "open-door policy" to migrants from other countries such as Afghanistan, Iraq, the Islamic Republic of Iran and Somalia. In total, the number of international refugees in Turkey reached 4 million by 2020, the highest in the world. Less than 2% of this population (63,000 people) currently live in the refugee camps, while the rest reside among the host community. An estimated 415,000 Syrians were born in Turkey since 2011,[7] and approximately 92,000 Syrian refugees were granted Turkish citizenship.[8]

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[6] Directorate General of Migration Management (DGMM) https://en.goc.gov.tr/temporary-protection27.

[7] Based on figures provided by the Head of Migration Department, Republic of Turkey Ministry of Interior https://www.aa.com.tr/en/health/415-000-syrian-babies-born-in-turkey-since-2011/1510211.

[8] Based on figures provided by the Minister of Interior of Turkey, https://www.aa.com.tr/en/europe/turkey-granted-citizenship-to-over-92-000-syrians/1548106.

Available studies show that in the context of strong investments by the Turkish government, the majority of households are able to enroll children in school and receive treatment in case of illness, although important coverage gaps still remain.[9] About 62% of school-age refugee children are enrolled in school. At 96%, enrollment rates are higher for the primary level (first 4 years of instruction). Enrollment at the secondary level is substantially lower (55% for middle and 24% for high school, see Regional Refugee & Resilience Plan / 3RP, 2019-20). On health care, households sought and received medical treatment for 71% of sick children and 34% of adults (WFP, 2019).

Sources of livelihood are constrained for refugees. Based on the results of a livelihoods survey conducted by Turkish Red Crescent and WFP among ESSN applicants in 19 provinces of Turkey, 84% of refugee households had at least one member who was working. However, the vast majority were working informally with low wages and unreliable access to work: 20% worked in "unskilled services" (occupations requiring physical effort or manual labor, such as cleaners, paper collectors, porters, or street vendors), followed by textile (19%), construction (12%), artisanship (10%) and agriculture (8%, WFP and TRC, 2019b). The informal nature of refugee work created additional competition for jobs in the informal sector, which accounted for 35% of the Turkish economy in 2019.[10] Labor market integration is hampered by language, skills and validation of degrees obtained abroad– 80% of refugees had only basic command of the Turkish language, while 11% were illiterate, 52% were literate or had up to primary school education, and 37% had a high school degree or higher (WFP and TRC, 2019b). Although Turkey introduced legislation to allow refugees to apply to work permits and work formally if they find an employer, very few formal sector employers have shown a willingness to hire refugees and as a result only 31,000 Syrian refugees in Turkey had official work permits by March 2019, or nearly 1.5% of the 2.1 million working-age population.[11]

Until 2016, there were no concerted social assistance mechanisms for refugees living among host communities. With the signing of the EU-Turkey accord in 2016, and the creation of the EU Facility for Refugees in Turkey, the ESSN program was set up to fill this gap. The program was launched in November 2016, with the aim of meeting the basic needs of the most vulnerable refugees living in Turkey, and provide cash transfers for a total amount of one billion euros for its first two phases covering the period up to March 2020.[12]

To be able to apply to the ESSN program, households need to have a valid registration ID and a registered address of residence in Turkey. To register and obtain a valid ID refugees need to approach the Provincial

[9] The Turkish government has invested US$37 billion to provide social services to refugees (Regional Refugee and Resilience Plan / 3RP, 2019-2020).
[10] TURKSTAT Labor Market Statistics June 2020, Employment by status in social security registration, June 2019, June 2020 data.
[11] CNN Turk, 2019. News Article on Minister of Trade of Turkey's statements on the number of Syrians with work permits in Turkey, June 14, 2019. Bakan Pekcan: 15 bin 159 Suriyeli şirket var https://www.cnnturk.com/ekonomi/bakan-pekcan-15-bin-159-suriyeli-sirket-var.
[12] The program has been recently extended until December 2021.

Directorate of Migration Management (PDMM), where they need to provide the required identification information and submit any available documents brought from Syria. In the absence of any official ID or documentation, authorities conduct the registration based on testimony. Upon registration with the PDMM, Syrian refugees are issued a Temporary Protection ID card with an ID number. Households then need to register their address at the Directorate of Civil Registry ("Nüfus") where the address information is recorded in the Central Registration Administration System (MERNIS). Refugees are required to reside in the province of registration to be able to benefit from public services or any available assistance. Households wishing to change their province of registration at a later date can do so on an exceptional basis after submitting an official petition to their provincial PDMM office and receiving approval.[13] Once a household is registered, it can prove difficult to add new household members that may join the household later on – mainly caused by absences of documentation, spelling differences in existing documents, or a backlog of cases to be processed.

The ESSN application can then be made by an adult from a registered refugee household at the Social Assistance and Solidarity Foundations (SASF) or TRC Service Centers, where applications are digitized and processed into the same consolidated "Integrated Social Assistance System" (ISAS) used for Turkish citizens. ISAS is an e-government system that facilitates all steps related to the management of social assistance electronically, including the application, verification of eligibility, approval to disburse transfers, and auditing. It integrates data from more than 20 public institutions, which enable verification of application information in a matter of minutes. ISAS's linked databases include the registration records of PDMM, the address records of MERNIS, social security information from the Ministry of Family, Labor and Social Services, and vehicle ownership information from Ministry of Finance, among others. ISAS has been touted as international best practice, significantly reducing delays and errors in processing applications and social assistance.[14]

In order to be eligible, applicant households need to meet at least one of the following six demographic criteria: a) dependency ratio greater than or equal to 1.5 (essentially, at least three dependents for every two able-bodied adults), b) families with four or more children, c) single females, d) elderly headed households, e) single parent households (male or female), and f) households with one member at least 40% disabled. These criteria were chosen as proxies of household vulnerability, using correlation analysis with per capita expenditure of refugees in Turkey, vulnerability definitions of Turkish Social Assistance System, and international evidence from refugees in Lebanon and Jordan.[15]

Upon the receipt of the application, the information declared by the household is cross-checked and verified digitally through the databases integrated in the ISAS system. The beneficiary selection process is strictly based

[13] UNHCR Turkey, Key Information for Syrians.
[14] Republic of Turkey Ministry of Family and Social Policy and The World Bank (2017).
[15] Altındağ et al. (2020) develop a targeting model for refugees in Lebanon using administrative data that are routinely collected by humanitarian agencies, which compares favorably to the "scorecard" approach requiring household surveys.

on the demographic eligibility criteria. Given the rigorous verification systems tied to the ISAS framework, any attempts at getting undue assistance via false declarations of the households, or subjective decisions by the SASF staff can be thwarted. All households that fit the demographic criteria – according to their digital information in the ISAS system – are deemed eligible for the program, notified of their eligibility status via SMS messages, and assigned a debit card (Kızılay Card), through which they can access their assistance.

All applicant households are then checked against meeting the eligibility criteria on a recurring monthly basis. If ISAS identifies that the household no longer meets the eligibility criteria (for instance, because of a dependent turning the age of 18, or the expiration of a disability report), the case is removed from the ESSN program. Conversely, households that were deemed ineligible at the time of their first application to the program, can become eligible at a later date through monthly digital eligibility checks (for instance if they register a new dependent such as a newborn baby on official MERNIS records, or obtain a disability report from the designated public hospitals, which get updated on their ISAS records). SASF social workers are required to make household visits to eligible applicants within a year of application to verify application information and assess living conditions. During the household visits, if a household is found to be not eligible for transfer, e.g. due to undeclared asset ownership, they are removed from the program.

After an initial pilot of the ESSN in two districts of Ankara and Sivas provinces in October 2016, the ESSN was launched nationwide in November 2016. Following the launch, sensitization activities took place through the use of printed materials at SASFs, PDMM offices, TRC Offices, and national and international NGOs; billboards; the ESSN website and Facebook page; and national television and local radio. To act as a feedback mechanism, a call center was set up to serve as a helpline free of charge – providing information on the application process, receiving feedback and complaints, and ensuring that flagged issues were being tracked and resolved. Applications are made on a recurring basis with no closing date for the submission of applications. If households are assessed eligible for ESSN, they start receiving a monthly transfer of 120 Turkish liras (TRY) ($62.7 in 2017 US$ using 2011 purchasing power parity, or PPP) per person, regardless of the person's age. Most households started to receive payments in June 2017. In addition, quarterly top ups are provided to eligible households depending on household size – households with less than four members receive 250 TRY, those with five to eight members receive 150 TRY, and those with nine members or more receive 50 TRY.[16]

By March 2020, a total of 570,000 applications were made to the program, covering nearly 2.9 million individuals. The eligibility rate at the household level was 53% and the number of people benefiting from the program had reached over 1.7 million.

[16] The quarterly top-up values were revised upward later in August 2019, to 600 TRY for families with 1-4 members, 300 TRY for families with 5-8 members, and 100 TRY for families with 9 members or more. The increase in the top-up values was implemented after the end of data collection for this study.

3. Data

Data collection and survey rounds

The pre-assistance baseline survey (PAB) was conducted with a stratified random sample of 8,690 applicant households, after the decision on their eligibility was made, but before any assistance was provided. The sample was drawn from over 268,000 assessed eligible and ineligible applications, representing 1.6 million individuals, nearly 50% of the refugee population during the first half of 2017 (Cuevas et al. 2019). The sample was stratified by region, which included Istanbul, Aegean, Anatolia/Thrace, Mediterranean, and South-East (Appendix Figure 1). Within each stratum, the households to be interviewed were drawn as a simple random sample from the list of all applications. The data collection for the PAB took place between February and May 2017 (Appendix Figure 2).

Three follow-up panel surveys, called post-distribution monitoring (PDM) surveys, were collected to re-interview all PAB households at 6-month intervals (Appendix Figure 2). The schedule of the first three follow-up surveys used in this paper (PDM2, 4, and 6) and the numbers of beneficiary and non-beneficiary households interviewed successfully are presented in Table 1 below.[17]

The surveys were designed by the WFP with inputs from the World Bank and the data were collected remotely by the TRC monitoring and evaluation operators based in Gaziantep. This phone-based data collection modality allowed for a large sample size, while remaining cost efficient. However, the surveys had to remain shorter than face-to-face household surveys due to the higher likelihood of survey fatigue. Informed consent was obtained from each household in the study sample, according to guidance from the Turkish authorities.

Table 1: Data collection rounds and sample sizes

Date of data collection	Feb-May 2017	Nov 2017-Jan 2018	April-Jul 2018	Nov-Dec 2018
Round Name	PAB	PDM2	PDM4	PDM6
Non-beneficiary households	4,193	2,801	2,530	1,924
Beneficiary households	4,497	3,739	3,652	3,046
Total observations	8,690	6,540	6,182	4,970

The reader will note the large and increasing attrition from the study sample, an issue for phone-based surveys, which is discussed in great detail in Section 4. Of the 8,690 households interviewed in the PAB, 24.7% could not be reached in the first follow-up surveys, with this figure reaching 28.9% and 42.8% at the 12- and 18-month follow-ups, respectively (Table 1). Some of the main reasons for attrition include the households simply not picking up their phone (after a maximum of three attempts), phone numbers going out of service, or phone numbers belonging to someone else. At the 18-month follow-up, for the 8,690 households included in the original baseline sample, the most common reasons for being lost to follow-up included: households not

[17] A fourth and final follow-up panel survey was started in December 2019, continuing until March 2020, but data collection was paused due to the outbreak of the COVID-19 pandemic. It has not resumed as of August 20, 2020.

picking up the phone (13.9% of the baseline sample), phone numbers being out of service or belonging to someone else (10.1%), households having their mobile phones turned off (8.8%) and the respondents being busy or not available to participate in the survey (4%).[18] Non-response reasons were similar for previous rounds but at lower rates.[19] Section 4.4 discusses attrition in more detail and describes how it will be accounted for when estimating program impacts.

Primary outcomes

The baseline and follow-up surveys collected information on multiple topics, including household demographics (number of household members by gender and age group, language abilities of household members, and children's school attendance), household expenditures, diversity of foods consumed, strategies to cope with lack of resources (such as reduced food consumption, selling assets, or return of household members to their country of origin), main sources of income, debt levels and repayments, remittances, etc.

After baseline, but before gaining access to any of the follow-up data, we registered a pre-analysis plan with the EGAP study registration platform, which, unlike the AEA trial registry that is only open to randomized-controlled trials, allows the registration of quasi-experimental designs like ours. The primary outcomes were per capita household expenditures, share of school-aged children attending school regularly, and indices for the Food Consumption Score (FCS), Reduced Coping Strategies (RCS), and Livelihood Coping Strategies. The three indices are described in detail below. The components of the indices were included as secondary outcomes in the pre-analysis plan. In addition, we also analyzed impacts on total household expenditures, as we did not anticipate the potentially large spillover effects with respect to household composition.

a) Total and Per Capita Household Expenditure

Households were asked about their monthly expenditures on the following categories: rent, utilities (electricity/heating/gas for cooking), hygiene items, health, education, water, telecommunications (telephone/internet), transportation, debt repayments, celebrations (social events, births, weddings, religious ceremonies etc.) and other expenditures (clothing, tobacco and others). In addition, households were asked about food expenditure using last week as the reference period. After baseline, an additional category was added into the expenditure module on remittances sent abroad.

[18] For the remaining 6% of those lost to 18-month follow-up, the reasons for not being reached included households being available only after working hours, terminating the interview before completion, households not wanting to be called again or refusing to participate in the household survey, enumerators not having the relevant language skills to conduct the interview, households moving back to Syria or to a third country.

[19] For instance, at the 12-month follow-up, 8.6% of the households from the baseline had numbers that were changed or belonged to someone else, 6.5% had not picked up their phones, and a further 6.5% had their mobile phones turned off. 2.3% of the baseline households were busy or not available to participate in the survey. 5% of the baseline sample was not reached due to the other reasons enumerated above.

Following Deaton and Zaidi (2002), we constructed the expenditure aggregate excluding debt repayments, remittances, and celebrations. After analyzing elasticities, we decided to include expenditures on health and education. The aggregate was then converted into monthly per capita terms using household size. To align with the approach to monitor absolute poverty in Turkey, we used per capita rather than adult equivalent ratios.

The expenditure data and all monetary values were deflated to be expressed in average 2017 YTL. The deflation accounts for price variations over time and across regions, constructing deflators by expenditure type using Turkish Statistical Institute's Consumer Price Index (CPI).

b) Food Consumption Score (FCS)

The Food Consumption Score is an index of the diversity and frequency of foods consumed at the household level, calculated using the frequency of different food groups consumed by a household during the past seven days (WFP 2008). It is a standard indicator developed by the WFP, and used globally to measure food security and assess if households achieve acceptable or unacceptable food consumption. The score is a continuous variable with a possible range of 0 to 112, equal to the weighted sum of frequency of household consumption of each food group.

The food consumption groups include starches, pulses, vegetables, fruit, meat, dairy, fats, and sugar. In the survey, households are asked how many days each of the food groups were consumed within the past seven days. The formula for FCS, with the standard weights is:

$$FCS = (starches*2) + (pulses*3) + vegetables + fruit + (meat*4) + (dairy*4) + (fats*0.5) + (sugar*0.5)$$

In the context of Turkey, households with a food consumption score greater than 42 were considered to have "acceptable" food consumption, those with FCS greater than 28 and smaller than or equal to 42 were considered to have "borderline" food consumption, and those with FCS of 28 and below were categorized in the "poor" food consumption group.

c) Reduced Consumption Coping Strategies Index (rCSI)

The Reduced Consumption Coping Strategies Index is used to assess the level of stress faced by a household due to food shortage. It is measured by combining the frequency and severity of the different food consumption-based strategies households are engaging in, which are a subset of the Coping Strategies Index (CSI) that is comprised of a more detailed context specific list of food related coping strategies (Maxwell and Caldwell 2008). The rCSI includes coping strategies that are more universal across settings, has greater application in comparing across different contexts and correlates with other indicators of food security as well as the more detailed CSI index.

The rCSI is calculated using five standard strategies and a seven-day recall period. The five standard coping strategies (and their severity weightings) are: relying on less preferred, less expensive foods (1); borrowing food

or relying on help from relatives or friends (2); limiting portion size at meals (1); restricting food consumption of adults for small children to eat (3); and reducing the number of meals eaten in a day (1). Similar to the food consumption score, the rCSI is a continuous variable with a possible range of 0 to 56, equal to the severity-weighted sum of frequency of households employing the strategy within the past week. A higher rCSI score indicates a higher utilization rate of consumption coping strategies employed by the households.

d) Livelihood-Based Coping Strategies Index (LCSI)

The LCSI assesses the stress and severity of coping mechanisms used by households and their implications for longer-term productive capacity. It is derived from a series of 13 questions regarding households' experience with livelihood stress and asset depletion during the 30 days prior to the survey. The questions used for the LCS module at baseline were validated and weighted based on focus group discussions conducted with the affected population, to ensure that they are appropriate and representative of the relevant context.

Coping strategies are classified into three categories: stress, crisis, and emergency, based on the severity of the impact of the strategy on household resilience and the ability to cope with future livelihood shocks. Stress strategies include selling household assets, borrowing money, spending savings, buying food on credit, and consuming unusual types of food. Crisis coping strategies include selling productive assets, withdrawing children from school, reducing education and health expenditures. Emergency coping strategies include household moving to another location within Turkey or relocating to the country of origin, involving children in income generation, and begging.

When the respondent reports that the household has not used a given coping strategy, they report whether it is because the household has exhausted the use of such strategy (for example, selling assets) or simply did not need to engage in that behavior. The responses are then regrouped into a binary variable which is equal to 0 if the household did not need to engage in that behavior, and equal to 1 if the household did engage in that behavior or was willing to but unable to do so because it had exhausted the use of such strategy. The weighted sum of this binary variable is then calculated to obtain the LCSI score. The severity weight is equal to 1 for stress coping strategies, 2 for crisis coping strategies, and 3 for emergency coping strategies. In this study, LCSI takes on discrete values from 0 to 25, with a higher score indicating a more intensive use of coping strategies.

e) School Attendance

The final primary outcome is school attendance rate, which is measured by the share of school-aged children regularly attending school. In the survey, households are asked about the number of children that are regularly attending school. Regular school attendance is defined as attending school at least four out of five days of the week. To analyze program impacts on school attendance, we constructed the ratio of school-aged children that are regularly attending school to the total number of school-age children (aged 6 to 17) in the household.

4. Identification strategy and threats to identification

There are four major threats to the identification of causal impacts in this study: non-random assignment of beneficiary status; attrition from the study sample; violation of the stable unit treatment value assumption (SUTVA); and changes in eligibility status for the ESSN program over time. In this section, we outline how we tackle each of these challenges. While doing so, we present evidence that is common to papers attempting causal identification of program effects, namely baseline balance tables, attrition analysis, and describe estimands to deal with spillover effects and non-compliance with original treatment status.

1. Non-random assignment of beneficiary status

As described above, eligibility for ESSN among refugee populations was determined using a formula comprised mainly of demographic household characteristics, such as the number of children, dependency ratio, single parenthood, and so on. After considering alternative identification strategies to evaluate the causal impacts of the ESSN cash transfers prior to the start of the program, such as an 'oversubscription' or a 'regression discontinuity' design, the study team decided to adopt 'inverse probability weighting' (IPW) as the most promising and feasible strategy for the identification of the causal effects of ESSN. IPW uses conditional independence as the identifying assumption and constructs a propensity score for each household, which is simply the expected likelihood that a household with a given set of baseline characteristics would be assigned to treatment. Inverse probability weighting has become a common approach within the context of propensity score estimation, where treatment effects are estimated by using regression weights that are equal to $\frac{1}{\hat{\rho}}$ for treatment units and $\frac{1}{1-\hat{\rho}}$ for controls, where $\hat{\rho}$ is the propensity score.

We present the (logit) model that we used to construct the propensity score in Appendix Table 1, which uses the eligibility criteria used by program implementers, baseline values of additional household composition variables, along with lagged values of outcomes of interest – such as per capita household consumption, stock of debt, food consumption score, etc. to estimate beneficiary status. Not surprisingly, the eligibility criteria are highly predictive of beneficiary status at baseline. We trim the original study sample of 8,690 by dropping households whose propensity score is less than 0.05 (50 households) and above 0.95 (896 households), leaving us with a total of 7,745 households (Abadie and Imbens 2006). Appendix Table 2 describes the sample per round before and after trimming. This sample was fixed as the evaluation sample for the study and our plan to conduct all analysis using the inverse probability weights implied by this model was included in our PAP in the EGAP study registration platform. Figure 1 shows the 'common support' of the treatment and control groups, with non-beneficiaries more likely to be clustered in the lower tail of the propensity score distribution and beneficiaries in the upper tail.

Figure 1: Kernel density smoothing of propensity score across treatment and control samples

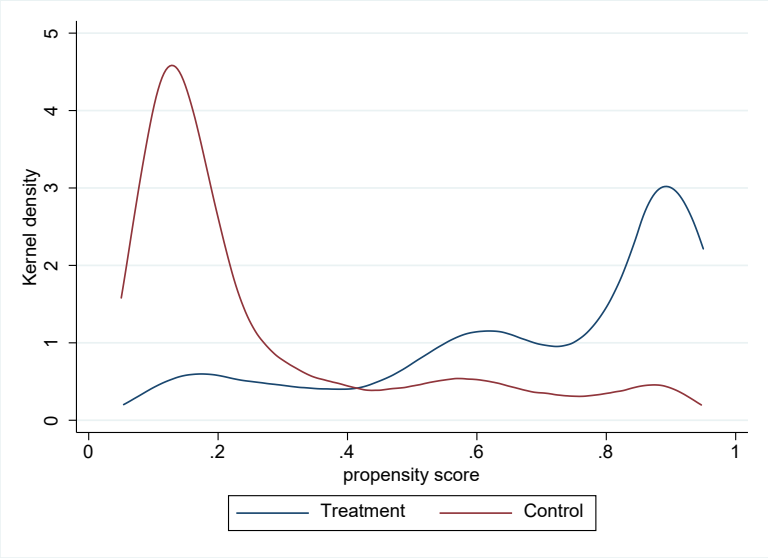


Table 2 shows the balance at baseline for the trimmed sub-sample across a range of the covariates. The sample at baseline is highly unbalanced before IPW, signaling the statistical challenge to adjust for these differences (Imbens 2015): beneficiaries live in larger households with more children and fewer working age adults, lower consumption per capita, and higher scores for negative coping strategies indices. After matching these differences are eliminated. A test of joint-orthogonality for the entire set of covariates shown in the balance table returns a p-value of 0.897. Baseline balance in the matched sample is maintained across survey waves, despite high rates of attrition (Appendix Table 3).[20]

Since causal identification of program effects hinges on conditional independence, it is useful to consider how similar households ended up with different beneficiary status at baseline. As described in Section 3, the study sample was randomly drawn from the pool of ESSN applicants, all of whom submitted applications between November, 2016 and May, 2017. Upon the receipt of the application, the information declared by the household is cross-checked and verified digitally through the databases integrated in the ISAS system. While this system was best practice and hard to game, there could be discrepancies between a household's demographic characteristics at baseline and what was registered in the underlying databases (PDMM, MERNIS). As described in detail in Section 2, such discrepancies could exist due to the absence of documentation, spelling differences in existing documents, a backlog of cases to be processed, or difficulties in linking registrations of household members. This means that households that appear *de facto* eligible at baseline could be deemed *de jure* ineligible by the program administration and vice versa. We exploit these discrepancies to match households that appear very similar on observables but have discordant treatment status.

[20] In Appendix Table 4, we present baseline balance of covariates by quintiles of the propensity score, which is recommended as a test of balance in propensity score matching (Imbens 2004).

Table 2: Balance at baseline, before and after weighting.

	Before IPW			After IPW		
Variable	Treatment Mean/SD	Control Mean/SD	Difference (T-C)	Treatment Mean/SD	Control Mean/SD	Difference (T-C)
HH size	6.46	5.25	1.21***	5.97	5.95	0.02
	(2.72)	(2.74)		[3.67]	[4.90]	
Dependents to working age ratio+	1.67	0.85	0.82***	1.26	1.26	-0.01
	(0.85)	(0.70)		[1.31]	[1.76]	
Number of children aged 0-5 years old	1.32	0.94	0.39***	1.10	1.11	-0.02
	(1.36)	(1.17)		[1.71]	[2.20]	
Number of children aged 6-17 years old	2.31	1.10	1.20***	1.72	1.76	-0.04
	(1.78)	(1.44)		[2.37]	[3.37]	
Number of adults aged 18-59 years old	2.60	2.99	-0.39***	2.87	2.83	0.04
	(1.55)	(1.68)		[2.53]	[2.37]	
Number of elderly aged 60 years and older	0.23	0.22	0.01	0.28	0.25	0.03
	(0.63)	(0.62)		[1.12]	[1.04]	
Female headed household	0.30	0.21	0.09***	0.25	0.28	-0.02
	(0.53)	(0.49)		[0.62]	[0.92]	
Age of household head	38.80	38.71	0.09	39.62	38.85	0.77
	(12.60)	(14.93)		[26.74]	[19.59]	
At least one household member can speak Turkish	0.47	0.50	-0.04***	0.49	0.48	0.01
	(0.58)	(0.59)		[0.85]	[0.88]	
At least one household member can read Turkish	0.23	0.26	-0.03**	0.24	0.23	0.01
	(0.49)	(0.50)		[0.75]	[0.69]	
At least one household member can read and write Arabic	0.90	0.92	-0.02***	0.92	0.91	0.01
	(0.35)	(0.33)		[0.37]	[0.61]	
Main income from skilled labor	0.27	0.30	-0.03***	0.27	0.30	-0.02
	(0.50)	(0.54)		[0.77]	[0.83]	
Main income from unskilled labor	0.63	0.61	0.02	0.63	0.62	0.01
	(0.56)	(0.57)		[0.82]	[0.87]	
Main income from other sources	0.10	0.09	0.02*	0.10	0.09	0.01
	(0.37)	(0.34)		[0.46]	[0.52]	
Food Consumption Score	57.41	57.98	-0.57	57.39	57.38	0.01
	(21.14)	(21.42)		[28.95]	[33.09]	
Reduced Coping Strategies Index	14.77	11.76	3.01***	13.28	12.79	0.50
	(15.34)	(13.42)		[17.36]	[20.98]	
Livelihoods Coping Strategy Index	5.02	4.29	0.73***	4.67	4.74	-0.06
	(3.65)	(3.46)		[5.22]	[5.76]	
Household has some amount of debt	0.80	0.77	0.03***	0.77	0.78	-0.00
	(0.46)	(0.49)		[0.73]	[0.69]	
Total cumulative stock of debt	1308.81	1226.87	81.94	1248.20	1223.65	24.56
	(2294.47)	(2705.12)		[2953.41]	[2833.15]	
Total monthly household expenditure	1474.25	1437.44	36.81**	1460.54	1459.42	1.12
	(655.10)	(680.24)		[838.37]	[1133.62]	
Total monthly per capita household expenditure	247.27	305.63	-58.35***	272.47	275.68	-3.21
	(131.66)	(171.95)		[261.69]	[234.78]	
Proportion of school aged children attending school++	0.50	0.48	0.02	0.47	0.47	0.00
	(0.50)	(0.54)		[0.71]	[0.75]	
F-test of joint orthogonality (F-stat. / p-value) +++			165.634			0.617
			0.000			0.897
N *(all households)*	3636	4109		3636	4109	
	7,754			7,745		
N *(households with children)*	3146	2357		3146	2357	
	5,503			5,503		

Note: significance level p< 0.01 - ***, 0.05 - **, 0.1 - *; the value displayed in the "Differences (T-C)" column are the differences in the means across the groups; +dependency ratio defined as the ratio of dependents (children under 18 and adults 60+) to working age adults (aged 18-59 years old); ++sample limited to household with children; +++F-test of joint-orthogonality excludes the proportion of children attending school because it is undefined for households without children; all expenditure and debt values are deflated across regions and months to average 2017 Turkish Lira and are winsorized at the 99th percentile.

Appendix Table 5 shows this to be the case by the quintiles of our matched and trimmed study sample. We recreated the eligibility criteria used by ESSN administration using data from the baseline and present it by official treatment status at baseline (rows) and the quintiles of the propensity score (columns). We can see that

in the bottom two quintiles of the propensity score, practically no applicant is eligible for the program and vice versa in the top two quintiles. In the middle quintile, almost half of the control group should be eligible to receive the program, while approximately 40% of the treatment group should be ineligible. Hence, the strictly algorithmic application of the eligibility formula using the registration information available in the integrated databases of the ISAS system, which contained discordances with the actual household compositions of applicants at baseline, explains why we are able to match households in the treatment and control group quite well across the propensity score distribution. While these discrepancies are not correlated with observable characteristics of applicant households, we nevertheless cannot rule out unobservable differences between the treatment and control groups that might bias impact estimates.

Table 3: Attrition per survey round.

	6 months	12 months	18 months
	(1)	(2)	(3)
Treatment	-0.0581***	-0.0736***	-0.0725***
	(0.0169)	(0.0180)	(0.0193)
Propensity score	0.0416	0.00738	0.0744
	(0.0457)	(0.0472)	(0.0498)
Treatment X Propensity score	-0.105*	-0.0608	-0.185***
	(0.0602)	(0.0640)	(0.0685)
Control group mean (and standard deviation)	0.275	0.332	0.468
	(0.447)	(0.471)	(0.499)
F-test of joint orthogonality (F-stat. / p-value)	12.753	25.655	13.979
	0.001	0.000	0.000
Strata dummies	Yes	Yes	Yes
Sampling weights	Yes	Yes	Yes
Number of observations	7,745	7,745	7,745

Notes: significance level p< 0.01 - ***, 0.05 - **, 0.1 - *; Robust standard errors in parentheses; F-test shows the F-statistics and the p-value for the joint significance of the coefficients on treatment, demeaned propensity score, and their interaction; the propensity score variable is centered by subtracting the sample mean; all regressions include strata dummies (n=5); sampling weights are representative at the population level.

2. Attrition from the study sample

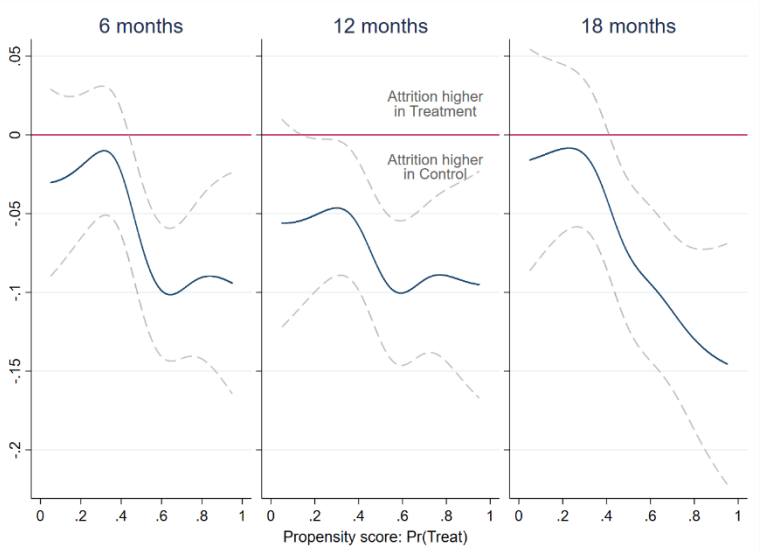
As discussed briefly in Section 3, the study suffered from a high rate of attrition from the baseline sample. The problem worsened over time: 27.5%, 33.2%, and 46.8% of the survey respondents in the control group were lost to follow-up at the 6-, 12-, and 18-month follow-up surveys, respectively (Table 3). Not only are these high rates of attrition, albeit perhaps not surprising considering the study sample of international refugees, but the attrition is differential in levels between the treatment and the control groups – with the treatment group 6-7 pp more likely to be interviewed at each of the three follow-up rounds of data collection.

To examine whether attrition is also differential in baseline characteristics, we include the propensity score and its interaction with treatment in the regression model for Table 3. This allows us to avoid interacting treatment with a large number of baseline characteristics and use a summary statistic instead. The propensity score is positively correlated with attrition, but this relationship is not statistically significant. However, the interaction

of treatment and the propensity score is large, negative, and statistically significant, especially at the 18-month follow-up. In order to better represent some of the non-linearities in the impact of the interaction between the original treatment assignment and the propensity score, we supplement the linear model presented in Table 3 with locally weighted impact estimates (Fan 1992) along the distribution of the propensity score (Figure 2). The difference in attrition between the treatment and control groups is small and insignificant for the bottom half of the distribution, but is increasingly negative as the propensity score rises.

Differential attrition, both in levels and in baseline characteristics, is substantial enough that we cannot simply present impact estimates without also presenting the bounds around these estimates. Therefore, in each table showing program impacts, we present upper and lower bounds on impact estimates for all primary outcomes (Lee 2009), as well as bounds using the techniques of Kling and Liebman (2004).

Figure 2: Treatment effect on attrition per propensity score in each survey wave.



Note: each figure above shows the Fan (1992) locally weighted impact estimates of treatment on attrition rates by propensity score and 95% CI (in dashed lines), for each follow-up survey wave; a bandwidth parameter of .4 was used; regressions include strata dummies; heteroskedasticity robust standard errors used to calculate CIs.

3. Violation of the stable unit treatment value assumption (SUTVA)

In the 'potential outcomes framework,' a common assumption is the stable unit treatment value assumption, or SUTVA, which implies that a subject's potential outcomes are not affected by other subjects' exposure to treatment (Imbens and Rubin 2015). This is also known as the 'no interference' assumption: a unit's treatment status does not affect another's outcome.[21] This assumption is likely to be violated in our study, because

[21] There is a second, and lesser known, part to SUTVA: there are no similar alternative treatments available. In our case, for example, this means that there is not another organization implementing a similar cash transfer program for refugees that is available to everyone in our study sample. We take this part of SUTVA as satisfied.

refugees could apply to ESSN from anywhere they were registered in Turkey and eligibility was determined at the household level. Below, we show that the most obvious violation of this assumption took the form of households responding to the revelation of their eligibility status by altering their household composition.

Table 4 shows the large changes in household composition over time. Within six months of the baseline survey, the ESSN opened a gap in household size of 0.66 between the treatment and control groups, which increased to 0.80 by the 18-month follow-up. The main driver of this change was the movement of children, especially school-aged children (6-17), who, combined, accounted for more than 90% of the gap in household size at the six-month follow-up. Average household size declined from six in both groups by 0.4 persons (6.7%) in the control group and increased by 0.27 persons (4.6%) in the treatment group, while the number of children under the age of 18 decreased by 0.32 in the control group and increased by an almost identical 0.33 among beneficiary households (Appendix Table 7). The changes in HH size are all statistically significant and robust to bounding the impact estimates for attrition. The changes in the number of children aged 6-17 are also meaningful, representing more than 10% of the baseline value for both the treatment and the control groups at each follow-up round of data collection, and are comparable to those reported in Edmonds, Mammen, and Miller (2005).

Appendix Figure 3 shows histograms of changes in household size (Panel A) and in the number of children aged 6-17 (Panel B) between baseline and each follow-up. We see that the movement of children is part of a broader churn in household composition among the population of international refugees in Turkey: while more than 50% of households in both the treatment and control groups have no change in their household size at the six-month follow-up, many have lost or gained at least one member, with a non-negligible share of households losing or gaining two or more members.

Appendix Table 6 shows that the households that lost at least one child by the six-month follow-up have a significantly higher number of children at baseline than the average household, lower per capita consumption, and a lower share of children enrolled in school. They are also more likely to be female-headed and resort to livelihoods-based coping strategies. In contrast, households that gained at least one child are much smaller, have higher consumption per capita, and a higher share of children in school. The table also makes it clear that vulnerable households are net senders of children regardless of beneficiary status, while better-off ones are net receivers. As mentioned in the introduction, we do not see a difference in the likelihood of boys or girls being sent; nor do we see that households with more elderly members are more likely to receive children. These findings make it less likely that the movement of children has to do with home production, e.g. motivated by facilitating the care of small children by teenage girls or elderly members, thus freeing adults in receiving households to participate in income-generating activities. Unfortunately, we do not have information in our phone surveys about the relationships between household members, so we are unable to provide information about the share of children living away from their parents – be it with relatives or others. Child fostering is not common practice in Syria or other countries in the Middle East, so the movement of children between

households that we observe seems to be brought on by necessity: vulnerable refugee households in a new country responding to their difficult circumstances and the revelation of their initial beneficiary status.

Table 4: Estimation results on household size and its components.

	Control mean (and standard deviation)	Lower bounds (1) Lee (-)	Lower bounds (2) (+/-) .25 SD	Lower bounds (3) (+/-) .1 SD	Unadjusted (4)	Upper bounds (5) (-/+) .1 SD	Upper bounds (6) (-/+) .25 SD	Upper bounds (7) Lee (+)	IV (8)
Household size – Control mean (SD) at baseline: 5.95 (2.60)									
6 months	5.54	0.42***	0.38***	0.56***	0.66***	0.80***	0.97***	0.93***	0.92***
	(2.29)	(0.09)	(0.07)	(0.07)	(0.09)	(0.07)	(0.07)	(0.10)	(0.13)
12 months	5.60	0.31***	0.29***	0.51***	0.64***	0.80***	1.02***	1.03***	1.54***
	(2.37)	(0.09)	(0.07)	(0.07)	(0.10)	(0.07)	(0.08)	(0.11)	(0.25)
18 months	5.43	0.46***	0.36***	0.67***	0.80***	1.10***	1.41***	1.16***	2.20***
	(2.23)	(0.10)	(0.06)	(0.06)	(0.11)	(0.07)	(0.07)	(0.12)	(0.35)
Number of children 0-5 years old – Control mean (SD) at baseline /SD: 1.11 (1.12)									
6 months	1.08	-0.01	-0.01	0.07*	0.13***	0.18***	0.27***	0.18***	0.18***
	(1.07)	(0.04)	(0.04)	(0.04)	(0.05)	(0.04)	(0.04)	(0.05)	(0.06)
12 months	1.08	-0.05	-0.03	0.07**	0.12**	0.21***	0.31***	0.19***	0.29**
	(1.11)	(0.04)	(0.04)	(0.04)	(0.05)	(0.04)	(0.04)	(0.05)	(0.11)
18 months	1.08	-0.07	-0.08***	0.07**	0.14***	0.28***	0.44***	0.18***	0.36**
	(1.11)	(0.05)	(0.03)	(0.03)	(0.05)	(0.03)	(0.03)	(0.05)	(0.14)
Number of children 6-17 years old – Control mean/SD at baseline: 1.76 (1.60)									
6 months	1.46	0.42***	0.32***	0.43***	0.47***	0.57***	0.68***	0.56***	0.71***
	(1.39)	(0.05)	(0.04)	(0.04)	(0.05)	(0.04)	(0.04)	(0.05)	(0.07)
12 months	1.56	0.37***	0.25***	0.39***	0.45***	0.57***	0.70***	0.67***	1.22***
	(1.47)	(0.05)	(0.04)	(0.04)	(0.05)	(0.04)	(0.04)	(0.05)	(0.16)
18 months	1.49	0.40***	0.24***	0.43***	0.46***	0.69***	0.88***	0.70***	1.46***
	(1.35)	(0.05)	(0.03)	(0.04)	(0.05)	(0.04)	(0.04)	(0.06)	(0.19)
Number of adults 18-59 years old – Control mean/SD at baseline: 2.83 (1.41)									
6 months	2.76	-0.21***	-0.17***	-0.07	0.01	0.07*	0.18***	0.11**	-0.04
	(1.29)	(0.05)	(0.04)	(0.04)	(0.05)	(0.04)	(0.04)	(0.05)	(0.07)
12 months	2.72	-0.29***	-0.21***	-0.09**	0.01	0.08*	0.20***	0.12**	-0.06
	(1.35)	(0.05)	(0.04)	(0.04)	(0.05)	(0.04)	(0.04)	(0.05)	(0.12)
18 months	2.64	-0.16***	-0.21***	-0.03	0.11*	0.22***	0.40***	0.21***	0.23
	(1.31)	(0.05)	(0.04)	(0.04)	(0.06)	(0.04)	(0.04)	(0.06)	(0.17)
Number of adults 60+ years old – Control mean/SD at baseline: 0.25 (0.55)									
6 months	0.22	-0.01	-0.02	0.02	0.05***	0.08***	0.12***	0.06***	0.07***
	(0.51)	(0.02)	(0.01)	(0.01)	(0.02)	(0.01)	(0.01)	(0.02)	(0.02)
12 months	0.23	-0.03	-0.04**	0.01	0.06***	0.08***	0.13***	0.07***	0.12***
	(0.53)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.04)
18 months	0.20	-0.03	-0.06***	0.01	0.08***	0.10***	0.17***	0.09***	0.18***
	(0.48)	(0.02)	(0.01)	(0.01)	(0.02)	(0.01)	(0.01)	(0.02)	(0.05)

Note: Significance level p< 0.01 - ***, 0.05 - **, 0.1 - *; Robust standard errors in parentheses; Each coefficient in this table comes from a different regression of the outcome on a fully-interacted model, i.e. including a dummy for treatment that is fully-interacted with baseline outcomes variables and the propensity score; strata fixed effects are also included (n=5); all regressions use IPW and sampling weights; column (4) presents the main results; columns (1) and (7) are estimated by trimming the top/bottom of the treatment group by the difference in attrition between the treatment and control, as in Lee (2009); columns (2) to (3) and (6) to (7) replace outcome values for the attritors with +/- 0.x standard deviations of their respective treatment group-wave means as in Kling and Liebman (2004), lower bounds subtract this value from the treatment group and add it to the control group and vice versa for the upper bounds.

The reader may also wonder whether the changes in household size are due to differential reporting between the treatment and control households. As the surveys were overseen by the TRC, it is possible that the households associated the program with the surveys. However, as explained in Section 2, program eligibility in Turkey is exclusively determined by refugee families' formal registration status in the program databases. Taking in or reporting more children would not change a household's eligibility status unless the new child(ren) were officially registered with the receiving family. Moreover, beneficiary households have no incentive to inflate the number of children reported at 6-month follow-up since they have already been declared eligible. Therefore, we deem it unlikely that the changes in household size that we observe are due to differential reporting bias.

Hence, our data strongly suggest an SUTVA violation. As a result, without further structure on the nature of the interference between beneficiary and non-beneficiary households, we cannot identify the usual 'intent-to-treat' or 'average treatment' effects. What we can identify is what biostatisticians, public health experts, or communicable disease specialists sometimes call the 'direct effect' of the program (see Özler 2016): a comparison of beneficiaries and non-beneficiaries living in close proximity (or in the same network). Baird et al. (2018), in the context of cluster-RCTs, call this estimand the 'value of treatment,' or VT, because it is "…the individual value of receiving treatment in the treated cluster." For example, the value of getting vaccinated could be zero for an individual if everyone else in her community is already vaccinated. The intuition here is that, unless spillover effects are zero, then the ITT will not be equal to the VT (VT = ITT - spillover effects). Therefore, throughout this paper, we present 'value of treatment' estimates, which is the 'value of being an ESSN beneficiary' for an applicant household (that lives among and interacts with other beneficiary and non-beneficiary households). This implies that if the 'value of treatment' is zero for an outcome of interest, it does not necessarily mean that the ESSN was ineffective in improving that outcome. This depends on the size of the spillover effects on non-beneficiary households.[22]

4. Program eligibility

A final issue concerning the interpretation of the impacts of ESSN is program eligibility. While the 'treatment sample' for the study was drawn from the group of successful applicants initially deemed eligible for the program and the 'control sample' from those initially deemed ineligible, the beneficiary status of refugees in either group were not fixed over time. As discussed above, all applicant households are checked against the eligibility criteria on a monthly basis. If ISAS identifies that the household no longer meets the eligibility criteria (for instance, because of a dependent turning the age of 18, or the expiration of a disability report), the case is removed from the ESSN program. Conversely, households that were deemed ineligible at the time of their first application to the program, can become eligible at a later date through monthly digital eligibility checks (for instance if they register a new dependent such as a newborn baby on official MERNIS records, or obtain a disability report from the designated public hospitals, which get updated on their ISAS records).[23]

As a result, the difference between the share of those receiving cash transfers in the treatment vs. the control groups of our study declined over time. The top panel in Table 5 shows the time trend in the share of the

[22] The spillover effects are likely to be positive if we assume away general equilibrium effects on increased prices. Such an assumption is plausible as ESSN beneficiaries constitute a small share (about 2 percent) of Turkey's population. Sävje, Aronow, and Hudgens (2019) introduce *expected average treatment effect*, an estimand that generalizes the *average treatment effect* to settings with interference, which is similar to VT.

[23] In October 2018, the program initiated a complementary support, called 'discretionary allowance,' for households that are vulnerable but do not fit the demographic eligibility criteria. The quota for this support was capped at 5% of applications made until September 2018. Not many households fit the socio-economic assessment done to be eligible for this support based on the Decision Support Mechanism Algorithm (DSMA) of the Integrated Social Assistance System. Therefore, by August 2019, only 19% of the total quota had been used.

control group reporting receipt of ESSN transfers, which is already 21% at the 6-month follow-up, increasing to 42% by the 18-month follow-up. The treatment effect on eligibility is 72 percentage points (pp) at the 6-month follow-up, declining to 37 pp by the 18-month follow-up (column (4)). Columns (1)-(3) and (5)-(7) show lower- and upper-bounds estimates on this difference, respectively: 18 months after baseline, the treatment effect on self-reported receipt of cash transfers from ESSN is between 28 and 48 pp. The bottom panel in Table 5 shows that the treatment effect on the amount of ESSN transfer received last month was less than TRY300 by the 18-month follow-up, as opposed to the approximately TRY720 that would be expected under full compliance with initial eligibility status.

Table 5: Estimation results for eligibility of receiving the cash transfers

		Lower bounds			Unadjusted	Upper bounds		
	Control mean (SD)	(1) Lee (-)	(2) (+/-) .25 SD	(3) (+/-) .1 SD	(1)	(2) (-/+) .1 SD	(3) (-/+) .25 SD	(1) Lee (-)
HH is receiving ESSN transfers								
6 months	0.21	0.73***	0.69***	0.72***	0.73***	0.75***	0.77***	0.79***
	(0.41)	(0.02)	(0.01)	(0.01)	(0.02)	(0.01)	(0.01)	(0.01)
12 months	0.37	0.44***	0.38***	0.42***	0.45***	0.47***	0.51***	0.53***
	(0.48)	(0.02)	(0.01)	(0.01)	(0.02)	(0.01)	(0.02)	(0.02)
18 months	0.42	0.36***	0.28***	0.34***	0.37***	0.42***	0.48***	0.44***
	(0.49)	(0.02)	(0.01)	(0.01)	(0.02)	(0.01)	(0.01)	(0.02)
Transfer amount in last month reported by HH								
6 months	165.31	455.99***	459.02***	483.96***	497.70***	517.22***	542.16***	543.60***
	(334.03)	(15.34)	(11.67)	(11.68)	(15.81)	(11.80)	(11.95)	(15.43)
12 months	264.05	262.52***	267.42***	301.18***	322.36***	346.19***	379.95***	378.25***
	(371.32)	(16.46)	(12.25)	(12.31)	(17.40)	(12.53)	(12.78)	(17.48)
18 months	298.46	234.77***	219.22***	271.18***	294.28***	340.45***	392.41***	345.61***
	(380.89)	(18.53)	(10.58)	(10.66)	(19.54)	(10.96)	(11.31)	(19.78)

Note: Significance level p< 0.01 - ***, 0.05 - **, 0.1 - *; Robust standard errors in parentheses; Each coefficient in this table comes from a different regression of the outcome on a dummy for treatment that is fully-interacted with the propensity score; strata fixed effects are included (n=5); all regressions use IPW and sampling weights; column (4) presents the main results; columns (1) and (7) are estimated by trimming the top/bottom of the treatment group by the difference in attrition between the treatment and control, as in Lee (2009); columns (2) to (3) and (6) to (7) replace outcome values for the attritors with +/- 0.x standard deviations of their respective treatment group-wave means as in Kling and Liebman (2004), lower bounds subtract this value from the treatment group and add it to the control group and vice versa for the upper bounds.

Nonetheless, as can be seen in Table 5 above, initial ESSN beneficiary status is still very highly predictive of receiving cash transfers at all follow-up rounds. Therefore, the initial treatment assignment (using IPW in our matched & trimmed sample) can be used to instrument for receiving cash transfers. Although the assignment is not randomized, the same conditional independence assumption for identification invoked above is sufficient for the validity of the instrument to identify the impact of receiving cash transfers for individuals who always received cash when deemed eligible at baseline and did not receive any cash transfers otherwise (see, e.g., Gilligan, Mvukiyehe, and Samii 2012).

This is usually called the local average treatment effect, or LATE (Angrist, Imbens, and Rubin 1996), but our case differs slightly due to interference between treatment and control. Hence, for brevity, we refer to this estimand as the local average value of treatment, or LAVT. As funders of emergency cash transfer programs designed for refugees are much more likely to be interested in learning the value of actually receiving cash transfers rather than the effect of initial eligibility status, LAVT is likely to be a more pertinent estimand here.

5. Empirical strategy

We estimate the 'value of treatment,' or VT, using a simple reduced-form linear model:

$$Y_{t,i} = \alpha + \beta {T^B}_i + \theta_i X_{t=0,i} + \varphi(T^B X)_{t=0,i} + \mu_r + \varepsilon_{t,i} \quad (1),$$

where $Y_{t,i}$ is an outcome variable measured at time t for household i. ${T^B}_i$ is a binary treatment indicator which takes the value of 1 if household i was eligible to receive transfers at baseline, β is thus our coefficient of interest. $X_{t=0,i}$ denotes a vector of covariates, which includes the value of the outcome at baseline and the propensity score, both centered.[24] All covariates are centered by subtracting the sample mean from each observation and are interacted with the treatment indicator. Finally, μ_r denotes stratum fixed effects for the five regions by which the survey was stratified. We estimate heteroskedasticity-robust standard errors.[25] All estimates are weighted by sampling weights multiplied by the inverse propensity weights, which were described in section 4.1.

We then supplement the VT estimation with instrumental variable (IV) estimates, where we instrument the receipt of cash transfers at each follow-up with eligibility at baseline, i.e. with the treatment indicator from specification (1) described above. This is akin to the familiar estimation of the LATE, where take-up of treatment is instrumented with the original assignment to the treatment group. The estimated coefficient can thus be interpreted as the value of treatment for ***compliers***, or the LAVT, i.e. the households who received cash transfers if they were assigned to the treatment group at baseline and did not otherwise. The IV model we estimate is analogous to specification (1), shown in (2) below:

$$Y_{t,i} = \alpha + \beta {T^C}_i + \theta_i X_{t=0,i} + \varphi({T^C}_i X)_{t=0,i} + \mu_r + \varepsilon_i \quad (2),$$

where ${T^C}_i$ is a binary indicator for whether the household is currently receiving transfers.[26] The first stage equation is exactly equivalent to specification (1), where the dependent variable is beneficiary status at time *t*.

[24] Our pre-analysis plan (PAP) stated that all five eligibility criteria would be included as controls but we chose to include the propensity score instead because it contains the five eligibility criteria (see section 4.1 and Appendix Table 1).

[25] The PAP mentions clustering standard errors are the province level, but this was due to the study team's uncertainty surrounding the sampling strategy at the time. As we now know that the sample was drawn as a simple random sample within each of the five strata, there is no need to cluster standard errors at the province level (Abadie et al. 2020). However, Sävje, Aronow, and Hudgens (2019) show that conventional variance estimators might not capture the loss of precision that can result from interference and propose alternative estimators. Aronow, Samii, and Wang (2020) show that if the interference is spatial in nature and there is homophily in treatment effects on the space (i.e. points that generate larger-than-average effects reside close to each other), then clustering the standard errors at the region level will suffice if interference is contained within the region. Clustering the standard errors at the region level does not alter the main findings here. Appendix Table 8 replicates Table 6 (with our main impact estimates) using cluster robust inference.

[26] This variable is constructed using data collected by the program administrators and is not self-reported by the household survey respondents.

Before presenting impact findings, it seems useful to describe the format in which we present our VT estimates, as all the tables presenting impact estimates follow the same format. All tables in the paper, descriptive or otherwise, are estimated on the trimmed sample that is weighted by the inverse of the propensity to be eligible for ESSN at baseline. Column (4) in the middle of each impact table presents the VT estimate in our preferred specification that was described in the pre-analysis plan registered with EGAP, as mentioned above. In column (8), we present the local average value of treatment, or LAVT, using the IV specification in equation (2).

In columns (1) and (7) we present, respectively, the lower and upper bound estimates trimming the tails of the outcome variable, following Lee (2009) to generate the same observed attrition rates in both treatment arms. In the remaining columns, we follow Kling and Liebman (2004) and impute to the missing observations the round-specific mean within that treatment arm plus or minus 0.1 * the arm-specific standard deviation (columns (3) and (5)) and plus or minus 0.25 * the standard deviation (columns (2) and (6)). For the lower bounds this amount is subtracted from the treatment and added to the control, and vice versa for the upper bounds.

The reader might note that the bounds in columns (2) and (6) imply a difference of 0.5 SD between attritors in the treatment and control groups – quite an extreme assumption. Therefore, if positive and statistically significant VT estimates in column (4) are robust to attrition bounds at least in column (3), if not also in columns (1) & (2), then we can have some confidence that the value of treatment is positive for this outcome. Assuming that the program has positive spillover effects, we can then also posit that this positive value of treatment is likely to be an underestimate of a larger intent-to-treat effect.

6. Results

Main findings

Table 6 presents our preferred VT estimates and attrition bounds for the primary outcomes in this study. ***Total household expenditures*** are approximately TRY80-100 higher among ESSN beneficiaries at the 6- and 12-month follow-ups, but smaller and statistically non-significant at the 18-month follow-up. Kling-Liebman bounds using (+/- 0.1 SD) confirm lower bounds of TRY60-85 (p-values<0.01), and these effects disappear using the more extreme (+/- 0.25 SD) bounds. The effects, at about PPP$35-$49, represent 5%-7% of total household expenditures in the control group, or a modest effect size of 0.15-0.20 SD during ESSN's first year.

Examining the components (Appendix Table 9), we see that the increase in consumption primarily comes from increased food and education expenditures. We also note that treatment households spent approximately TRY20 (~PPP$11.5) more per month making debt repayments over all follow-up rounds, which is a third higher than the control group (or about 0.15 SD). While remittances sent are very low in both the control and the treatment group, the monthly debt repayments result in the stock of debt among treatment households being 18%-24% lower than the control group mean of TRY 1,016 to TRY 1,156 in each follow-up (Appendix Table 9). These findings are robust to Kling-Liebman (+/- 0.1 SD) and Lee bounds.

Before discussing impacts on other primary outcomes, it is useful to consider the size of these effects on total consumption, which are substantially smaller than the transfers received by beneficiary households. The treatment group, at a mean size of six at baseline, should be receiving around TRY720 per month, which is almost exactly what they report receiving on average during the past month at the 12-month follow-up.[27] However, the difference in the shares of the treatment and control groups reporting being ESSN beneficiaries is down to 44% by this time, meaning that the difference in transfer income between the two groups should be approximately TRY320 (720 x 0.44 = 317). Furthermore, the transfers may be crowding out earnings from working, making the net income gain even smaller in the treatment group. We do not have data on income from work for the first two follow-ups, but an additional question on total household income from working during the past month was asked at the 18-month follow-up. Reported household earnings were TRY118 higher in the control group (TRY1,280 vs. TRY1,161; p-value<0.01). Assuming this difference to be approximately the same at the 12-month follow-up leaves a net expected income gain of approximately TRY200 for the treatment group, compared with our point estimate of TRY100 for the value of treatment.

Hence, one year after baseline and the start of ESSN, we are unable to account for approximately TRY100 of the expected net income gain in the treatment group, which is less than 15% of the average transfer size to a beneficiary household.[28] This is based on the point estimate; confidence intervals imply that the unaccounted amount is between TRY50 and TRY150, while upper bound estimates of impact leave no unaccounted transfer income (Table 6, Columns 5-7). Reported savings are rare in this population and not differential across groups, therefore unlikely to account for the gap between our impact estimate and the expected gain in net income. One explanation, especially early on, is the possibility that treatment households purchased durable assets with the transfers – such as refrigerators, TVs, air conditioners, smartphones, and the like – which are not captured by our surveys.[29] Another possibility is that the aggregate expenditure categories in the phone survey (such as food, rent, utilities, and so on) did not fully capture the extent of the impacts on household expenditures. Specifically, total food expenditures can be substantially lower when households are asked to report them in collapsed categories rather than each food item separately. Furthermore, this underreporting can be differential

[27] ESSN operations have been found to be carried out with relatively high implementation fidelity. Program records show that more than 99.5% of cash transfers to eligible beneficiaries were redeemed (World Food Program 2020). In addition, an external assessment of the program found that ESSN adequately disseminated information about the program and conducted efficient distribution of ATM cards and timely delivery of cash transfers (Oxford Policy Management 2018).

[28] The unaccounted amount is approximately the same at the 18-month follow-up, but substantially higher at the 6-month follow-up, primarily because the eligibility gap between the two groups was larger early on.

[29] One question was asked to households, to better understand access to communications and social media, on ownership of smartphones. Over the course of the 18-month study, the treatment group was 3.2 percentage points more likely (83.8% vs. 87%; p=value<0.01) to own a smartphone. Similar modest gains in asset ownership over a number of household durables could plausibly add up to explain a substantial part of the unaccounted transfer income. However, without data on these expenditures, this claim remains speculative. The study team added questions on asset ownership to the 24-month follow-up phone survey, which was interrupted by the pandemic and is not used in this paper.

by household characteristics, such as household size, education of the head of household, and household asset holdings (Beegle et al. 2012). The robust impacts on FCS at every round (discussed below) suggest that treatment households might be differentially underreporting expenditures on food, not internalizing the increased prices of more diverse and nutritious foods they report consuming.

Table 6: Estimation results on primary outcomes.

	Control mean (standard deviation)	VT - Lower bounds (1) Lee (-)	(2) (+/-) .25 SD	(3) (+/-) .1 SD	VT (4)	VT - Upper bounds (5) (-/+) .1 SD	(6) (-/+) .25 SD	(7) Lee (+)	IV (8)
Total monthly expenditure – Control mean/SD at baseline: 1459.62 (587.43)									
6 months	1538.88	20.73	18.63	59.19***	77.78***	113.26***	153.82***	147.06***	115.70***
	(549.53)	(23.54)	(18.09)	(18.05)	(24.08)	(18.14)	(18.34)	(23.42)	(35.21)
12 months	1557.49	0.33	37.17**	83.88***	99.93***	146.16***	192.87***	174.38***	255.95***
	(502.89)	(19.53)	(18.06)	(18.03)	(25.08)	(18.16)	(18.39)	(26.10)	(60.06)
18 months	1599.34	-44.29*	-74.84***	-1.49	33.03	96.31***	169.67***	125.73***	110.38
	(556.05)	(25.45)	(15.04)	(15.09)	(26.73)	(15.41)	(15.84)	(25.76)	(79.08)
Monthly per capita expenditure – Control mean/SD at baseline: 275.58 (132.82)									
6 months	303.66	-40.14***	-31.88***	-22.90***	-17.02***	-10.93***	-1.95	-10.03**	-21.35***
	(124.88)	(4.23)	(3.94)	(3.89)	(5.10)	(3.85)	(3.85)	(5.09)	(6.98)
12 months	303.88	-38.50***	-29.98***	-20.14***	-14.73***	-7.01**	2.83	-4.83	-28.59***
	(115.13)	(3.87)	(3.44)	(3.38)	(4.68)	(3.34)	(3.34)	(4.64)	(10.84)
18 months	320.30	-62.63***	-61.83***	-45.80***	-33.86***	-24.43***	-8.40**	-23.65***	-100.03***
	(126.72)	(5.00)	(3.61)	(3.56)	(6.27)	(3.54)	(3.57)	(6.29)	(22.55)
Food Consumption Score (standardized) – Control mean/SD at baseline: 0.00 (1.00)									
6 months	0.33	0.10**	0.10***	0.18***	0.23***	0.29***	0.37***	0.33***	0.31***
	(1.09)	(0.05)	(0.04)	(0.04)	(0.05)	(0.04)	(0.04)	(0.05)	(0.07)
12 months	0.16	0.06	0.04	0.13***	0.19***	0.25***	0.33***	0.30***	0.47***
	(0.97)	(0.04)	(0.03)	(0.03)	(0.04)	(0.03)	(0.03)	(0.04)	(0.11)
18 months	0.02	0.03	-0.06***	0.06***	0.14***	0.24***	0.37***	0.26***	0.41***
	(0.97)	(0.04)	(0.02)	(0.02)	(0.04)	(0.02)	(0.02)	(0.04)	(0.13)
Reduced Consumption Coping Strategies Index (inverted and standardized) – Control mean/SD at baseline: 0.00 (1.00)									
6 months	0.21	0.15***	0.08***	0.14***	0.19***	0.23***	0.29***	0.30***	0.27***
	(0.92)	(0.04)	(0.03)	(0.03)	(0.04)	(0.03)	(0.03)	(0.04)	(0.06)
12 months	0.51	0.01	-0.05**	0.01	0.05*	0.08***	0.14***	0.18***	0.13*
	(0.61)	(0.03)	(0.02)	(0.02)	(0.03)	(0.02)	(0.02)	(0.02)	(0.07)
18 months	0.57	-0.16***	-0.25***	-0.17***	-0.10***	-0.06***	0.03*	0.01	-0.34***
	(0.59)	(0.03)	(0.02)	(0.02)	(0.03)	(0.02)	(0.02)	(0.03)	(0.09)
Livelihoods Coping Strategy Index (inverted and standardized) – Control mean/SD at baseline: 0.00 (1.00)									
6 months	0.18	0.12***	0.08***	0.15***	0.19***	0.24***	0.31***	0.29***	0.26***
	(0.94)	(0.04)	(0.03)	(0.03)	(0.04)	(0.03)	(0.03)	(0.04)	(0.06)
12 months	0.31	-0.12***	-0.17***	-0.09***	-0.03	0.02	0.10***	0.09**	-0.09
	(0.91)	(0.04)	(0.03)	(0.03)	(0.04)	(0.03)	(0.03)	(0.04)	(0.11)
18 months	0.37	-0.12***	-0.23***	-0.11***	-0.03	0.04*	0.15***	0.11***	-0.12
	(0.82)	(0.04)	(0.02)	(0.02)	(0.04)	(0.02)	(0.02)	(0.04)	(0.14)
Proportion of children attending school – Control mean/SD at baseline: 0.47 (0.43)									
6 months	0.56	-0.00	-0.04***	-0.01	0.01	0.04***	0.07***	0.04**	0.03
	(0.42)	(0.02)	(0.01)	(0.01)	(0.02)	(0.01)	(0.01)	(0.02)	(0.03)
12 months	0.54	-0.00	-0.03**	0.01	0.02	0.06***	0.10***	0.07***	0.10**
	(0.42)	(0.02)	(0.01)	(0.01)	(0.02)	(0.01)	(0.01)	(0.02)	(0.05)
18 months	0.65	-0.03	-0.07***	-0.02	-0.00	0.06***	0.11***	0.09***	0.04
	(0.40)	(0.02)	(0.01)	(0.01)	(0.02)	(0.01)	(0.01)	(0.02)	(0.06)

Note: Significance level p< 0.01 - ***, 0.05 - **, 0.1 - *; Robust standard errors in parentheses; Each coefficient in this table is obtained from a different regression of the outcome, which includes a binary treatment indicator fully interacted with the outcome at baseline and the propensity score, the model also includes strata fixed effects (n=5); all consumption values are deflated across regions and months to average 2017 Turkish Lira; the proportion of children attending school regression is estimated using the subsample of households with at least one child; FCS, rCSI, and LCSI are standardized to the control group at baseline, the rCSI and LCSI are inverted so that for all three WFP scores a higher value indicates an improvement; column (4) presents the estimation results from specification 1 using IPW and sampling weights; column (8) presents the results from specification 2, which instruments currently receiving the transfers with eligibility at baseline; columns (1) and (7) are estimated using specification 1 and by trimming the top/bottom of the treatment group by the difference in attrition between the treatment and control, as in Lee (2009); columns (2) to (3) and (5) to (6) estimate specification 1 and replace outcome values for the attritors with +/- 0.x standard deviations of their respective treatment group-wave means as in Kling and Liebman (2004), lower bounds subtract this value from the treatment group and add it to the control group and vice versa for the upper bounds.

Back to Table 6, we find that the VT on ***per capita consumption*** is negative and significant in every round and robust to all attrition bounds. The preferred VT estimates show per capita expenditure levels in beneficiary households that are about 6%-10% lower than those in non-beneficiary households, an effect size that translates to 0.14-0.26 SD depending on which follow-up round. Given that the effects on total consumption are positive, the negative per capita result is clearly a function of the almost 0.8-person gap in household size that opened up between the treatment and control groups in the 18 months following baseline data collection. Had the hypothesized movement of people, mainly children, from non-beneficiary to beneficiary households not taken place, we would have expected to observe a still modest, but positive gain in per capita household expenditures in the treatment group.

Finally, it is worth noting the positive time trend in total and per capita consumption in the control group: by the 18-month follow-up, the former had increased by almost 10%, while the latter by 16%. As we will see below, a similar pattern of mostly positive trends in primary outcomes is present in the control group, which might account for the dissipating treatment effects over time. As discussed above, in addition to gaining eligibility into the program over time and benefiting from positive spillovers (in the form of rearranged households), the control group may have also found better ways to cope with their new surroundings in Turkey, such as earning more income from work and increasing the share of children attending school.

Food consumption score: The mean FCS score among non-beneficiaries of the ESSN program at baseline is at 57, well in the 'acceptable' range above 42. However, approximately 24% of households had a score lower than 42 at baseline, which is considered 'borderline', but only 3% had a score lower than 28, below which food consumption is considered 'unacceptable'. The program clearly had a positive and meaningful effect on this index: the robust effect is between 0.06-0.29 SD (using the KL (0.1) bounds), depending on the follow-up. However, we cannot rule out that the effect was zero or negative using the more extreme KL bounds at the 12- and the 18-month follow-up. Interestingly, the effects on the FCS are sustained over time, mainly because the score in the control group is roughly the same at the 18-month follow-up as it was at baseline.

Examining the components of the FCS (Appendix Table 10), we note that while all food groups are eaten with increased frequency, the largest increases are in the frequency of consuming fruits and vegetables, as well as foods containing animal-based proteins. For example, at the 6-month follow-up, beneficiary households report consuming eggs, meat, or fish and dairy products about 0.3 days more than the control group per week, representing a roughly 10% increase. Given that the total consumption effects are at best modest and per capita consumption lower than the control group, there is a question as to how treatment households are consuming more diverse foods. One possibility is that treatment households are underreporting expenditures on food, not internalizing the increased prices of more diverse and nutritious foods. Another possibility is that these households are actually making a quality/quantity trade-off, i.e. eating a more diverse and nutritious diet, but smaller amounts per capita.

The data we have on the ***Reduced Consumption Coping Strategies Index*** (rCSI) perhaps provide some clues on this puzzle. The index is significantly improved at the 6-month follow-up in the treatment group by 0.15-0.25 SD. However, consistent with the impacts on consumption and the FCS index, the effect is small and statistically insignificant at the 12-month follow-up, while turning negative and statistically significant at the 18-month follow-up. Looking at the components of this index (Appendix Table 11), we can see that while the treatment group was less likely to reduce number of meals per day, portion sizes, and consumption among adults so that children can eat at the 6-month follow-up, they were equally or even more likely to use these coping strategies by the 18-month period. The reversal of the program impacts for the treatment group over time is likely explained by three, likely correlated, changes in the control group: (a) the strong trend showing a reduction in these coping strategies, (b) a smaller average household size, and (c) increased eligibility for ESSN.

We also have information on the ***Livelihoods Coping Strategies Index*** (LSCI). Consistent with the evidence presented so far, refugee households in the treatment group are initially less likely to resort to livelihoods-based coping strategies, but this effect disappears by the 12-month follow-up. At 0.16-0.25 SD, the standardized treatment effect on this index at the 6-month follow-up is very similar to that for the rCSI. Examining the components of the index (Appendix Table 12), we see that, at the 6-month follow-up, the treatment group is less likely to sell HH assets, dip into savings, borrow money from non-relatives, buy food on credit or reduce expenditures on food, or to have moved or returned to country of origin during the past 30 days.[30] However, by the 18-month follow-up, not only have all of these effects disappeared, but treatment households report being more likely to reduce food expenditures and consume unusual types of foods. Hence, the evidence from this index is also consistent with the value of treatment for initial program beneficiaries on total consumption, FCS, and rCSI – strong and positive at the 6-month follow-up and dissipating afterwards. We again note the strong positive trend for this index in the control group, showing a 0.37 SD reduction in the use of these coping strategies by the 18-month follow-up.

Finally, despite the increased consumption expenditures on education, there is no discernible effect on the ***proportion of school-aged children attending school***. Appendix Table 14 indicates that this is also true for indicator variables for 'all school-aged children attending school' and 'no school-aged children attending school.' However, the lack of average treatment effects is concealing some impact heterogeneity on school participation – please see next section.[31]

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[30] At the 6-month follow-up, 6% of control households reported at least one member returning to the country of origin. ESSN seems to have reduced this rate by half to 3%. Given that a major push factor for refugees to return to their countries of origin is lack of income/livelihoods (Hall 2018), this is an expected impact of ESSN that may have contributed to the differential changes in household composition. If, in addition, poorer households in the control group were more likely to move away from Turkey (and, hence, to be lost to our study), our unadjusted treatment effects would be biased downwards.

[31] The reader should note that, if control households are sending children who would not have been in school to treatment households, this would also lower the VT by increasing the mean enrollment in the control group.

Before moving on to the discussion of heterogeneity of impacts, we note that all the findings presented in Table 6 are robust to corrections for multiple hypothesis testing. False discovery rate-adjusted q-values – both for our preferred estimates as well as the Kling-Liebman (+/- 0.1 SD) bounds – are presented in Appendix Table 13.

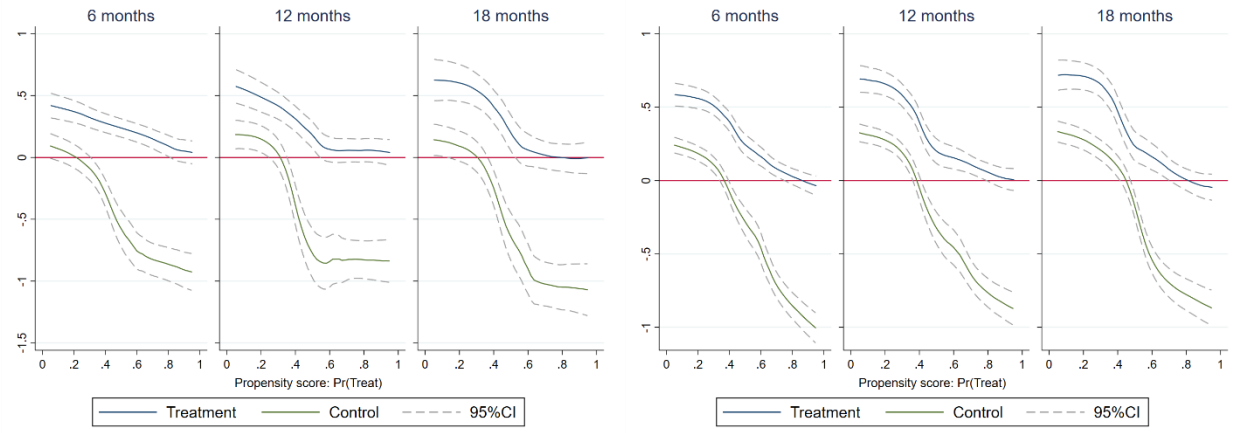
7. Heterogeneity of treatment effects[32]

In this study, it is particularly important to understand treatment effect heterogeneity, because of the changes caused by the program in household composition and potentially negative value of treatment to (some) beneficiary households with respect to per capita consumption. If we accept that such churn is costly (even if efficient conditional on eligibility status), we can try to imagine tweaks to the design of the program – say, with respect to targeting, transfer size, and coverage – that could have avoided the substantial movement of individuals, especially school-aged children, from non-beneficiary to beneficiary households.

Figure 3: Changes in household composition by propensity score.

Panel A: Changes in total household size since baseline by propensity score

Panel B: Changes in the number of children aged 0-17 years since baseline by propensity score



Note: Figures plot local polynomials of the change in each household size component as per the household's propensity score (Fan and Gijbels, 1996); changes in each wave are since baseline, and thus indicate the difference between the baseline value and the current value.

We analyze heterogeneity by the household propensity to be eligible for ESSN. As described earlier, these eligibility criteria were chosen as proxies of household vulnerability, using correlation analysis with per capita expenditure of refugees in Turkey, vulnerability definitions of Turkish Social Assistance System, and international evidence from refugees in Lebanon and Jordan. Therefore, the propensity score can be considered as a good proxy for household vulnerability.

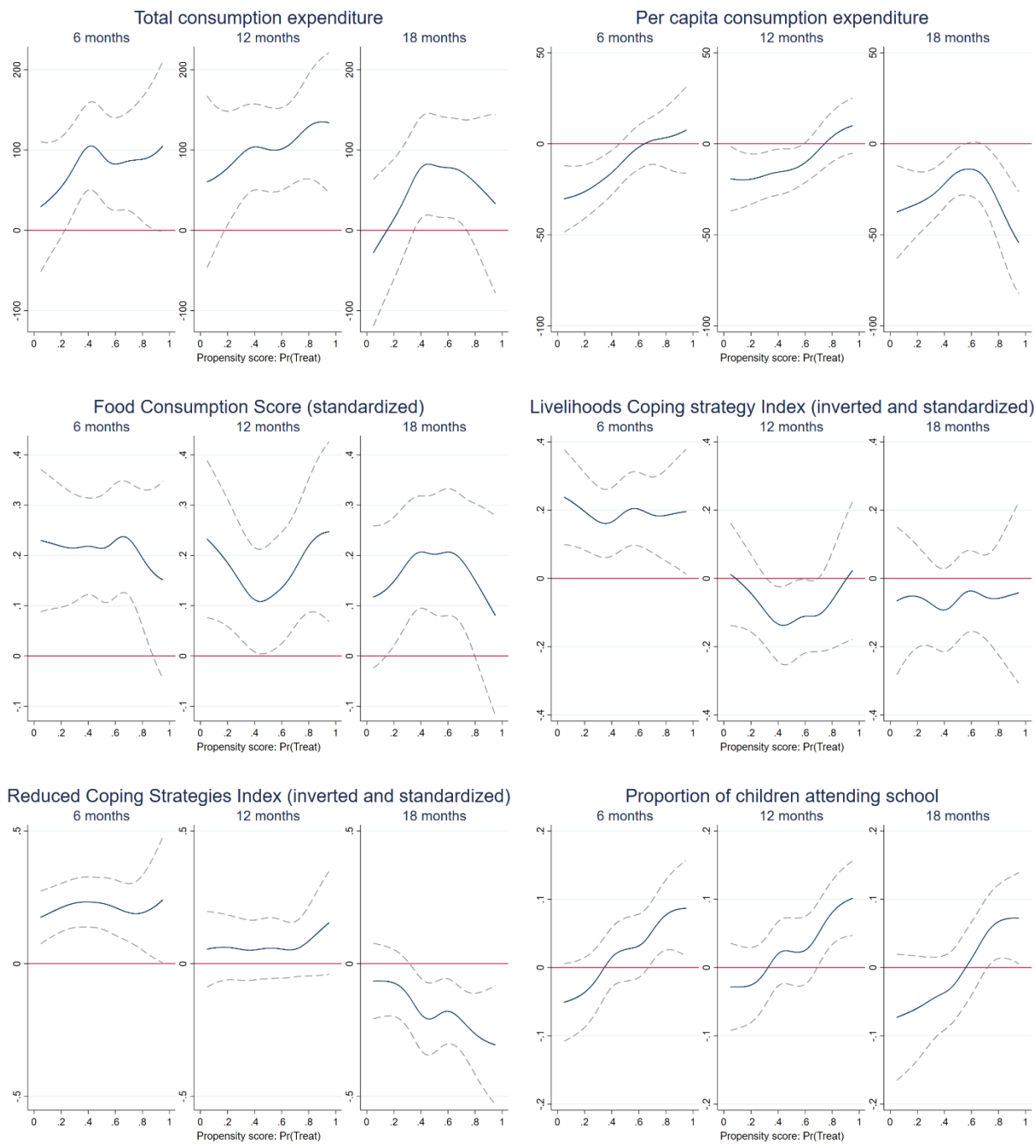
[32] The reader should note that the heterogeneity analysis was not pre-specified and the evidence presented in this section should be considered as being suggestive.

We first examine the changes in household size by round. (Figure 3, Panel A). The locally-weighted regression (Fan 1992) has a steep gradient in both the treatment and the control groups. There is very little change in household size in the control group when the propensity score is low, but this declines rapidly, reaching almost one less person among the most vulnerable ineligible households. In contrast, the least vulnerable households in the treatment group see a large increase in size, but this impact declines and become zero among eligible households with high propensity scores. This finding makes sense, as it indicates that more vulnerable households in the control group are more likely to send children to beneficiary households, while relatively better-off ones in treatment are more likely to receive. We see that the heterogeneity in household size is driven primarily by children (Figure 3, Panel B). Appendix Figure 4 presents the same figure broken down by age groups.

Figure 4 shows heterogeneity of value of treatment estimates for each of the five primary outcomes and total consumption. Program effects on consumption expenditures generally increase with the propensity score, indicating higher impacts for the most vulnerable, at the 6- and 12-month follow-ups. Consistent with the heterogeneity in changes in household size presented above, the value of treatment on per capita household consumption is negative only for the bottom half of the propensity score distribution. We note an inverted-U shape for consumption and the FCS at the 18-month follow-up. We also note that ESSN had no effect on school enrollment for households at the bottom half of the propensity score distribution, but had a positive value of treatment effect among the most vulnerable households in all three follow-up rounds. This, again, is consistent with program effects on household composition. Linear regressions for heterogeneity analysis are shown in Appendix Table 15.

A significant corollary of the endogenous changes in household composition is a substantial decline in the inequality of per capita consumption expenditures – both in the applicant pool of refugees as a whole, as well as within the beneficiary and non-beneficiary groups. As the evidence shows that household members, mostly school-aged children, might have moved from worse-off non-beneficiary households into better-off beneficiary ones, the churn is equivalent to making progressive transfers from richer to poorer households. Furthermore, as these transfers are not mean preserving within groups, inequality should also decline between groups. This results in a peculiar finding for the impact of the ESSN cash transfer program: per capita consumption in the treatment group ended up being lower than the control group at follow-up, while poverty and inequality declined substantially as a whole in the entire refugee population (more specifically, the applicant population).

Figure 4: Locally weighted treatment impact estimates along distribution of propensity score.



Note: each figure above shows the Fan (1992) locally weighted impact estimates of treatment on outcomes by propensity score and 95% CI (in dashed lines), for each follow-up survey wave; a bandwidth parameter of .4 was used; all regressions include baseline outcome centered and interacted with treatment; regressions include strata dummies; heteroskedasticity robust standard errors used to calculate CIs.

Table 7 presents estimates of the headcount index and three inequality measures at baseline and each of the three follow-up rounds. The findings are striking: inequality within the refugee population declined substantially

within six months and leveled off afterwards. The Gini index in the entire study sample declined by almost four percentage points (pp), from 0.257 to 0.218 – a 15% decline in six months. Mean log deviation and the Theil index – GE (0) and GE (1) – declined by more than 25% during the same period. The declines in inequality are equally present in both the treatment and the control groups and are even larger after one year. Furthermore, the declines in inequality are robust to using balanced panels at each follow-up (Appendix Table 16). Cumulative distribution functions (CDF) for per capita consumption by treatment status at each follow-up are presented in Appendix Figure 5. We can see that the CDFs at each follow-up are well to the right of, i.e. first-order dominate, those at baseline, meaning that poverty declined unequivocally in both treatment and control for any poverty line up to $3.20. Using the $3.20 poverty line, the headcount index had declined by more than 50% in the entire study population after one year, from 25% to 12%, with reductions in poverty slightly larger among non-beneficiary households due to the changes in household composition discussed above (Table 7, column 1). However, poverty reduction using the $5.50 line that is commonly used for the Turkish population is much more modest in magnitude (column 2). While the analysis presented in Table 7 amounts to a before-after comparison of the welfare of the international refugee population in Turkey, it provides suggestive evidence that ESSN improved their circumstances in their new setting and did so quickly.[33]

Table 7: Poverty and inequality indices across survey waves and treatment groups.

	(1)	(2)	(3)	(4)	(5)	(6)
	FGT(0) - $3.20 PL	**FGT(0) - $5.50 PL**	**GE (0)**	**GE (1)**	**Gini**	**N**
Baseline						
Overall	0.25	0.72	0.11	0.11	0.26	7745
Control	0.25	0.71	0.12	0.11	0.26	4109
Treatment	0.25	0.74	0.11	0.11	0.25	3636
6 months						
Overall	0.15	0.65	0.08	0.08	0.22	5840
Control	0.14	0.62	0.09	0.08	0.22	2978
Treatment	0.16	0.69	0.08	0.08	0.21	2862
12 months						
Overall	0.12	0.67	0.06	0.06	0.20	5494
Control	0.11	0.65	0.07	0.07	0.20	2745
Treatment	0.13	0.69	0.06	0.06	0.19	2749
18 months						
Overall	0.13	0.65	0.08	0.08	0.22	4447
Control	0.10	0.59	0.08	0.07	0.21	2184
Treatment	0.16	0.71	0.07	0.08	0.21	2263

Note: Columns (1) and (2) contain the Foster-Greer-Thorbecke poverty index FGT(α) with α=0, i.e. the poverty headcount, using the international poverty lines of $3.20 and $5.50 per day calculated using the 2011 ICP PPP, respectively; columns (3) and (4) contain inequality indices derived from the generalized entropy index GE (α) with α=0 in column (3), i.e. the mean log deviation index, and α=1 in column (4), i.e. the Theil index; Column (5) contains the Gini index; Column (6) shows the row sample size; Indices in the Overall row are for the full sample while Control and Treatment rows show the indices derived within each sample; all measures are calculated using the per capita consumption aggregate.

[33] A study by Oxford Policy Management (2018) has also found the ESSN program to be cost-efficient, with a transfer-to-total budget ratio of more than 85%.

8. Concluding discussion

In this study, we analyzed the impacts of the ESSN cash transfer program for international refugees living in Turkey on a small but important set of outcomes. Our study faced a number of challenges for the identification of impacts: non-random assignment of beneficiary status, large and differential attrition, and likely SUTVA violations due to interference between the treatment and control groups. After implementing various strategies to address these shortcomings, a robust picture of impacts emerged. The value of treatment to beneficiary households is generally positive, especially with respect to the food consumption score and coping strategies to deal with shortage of food. They are also significantly less indebted. While there is no average effect on school attendance of children, heterogeneity analysis suggests that attendance improved significantly among the most vulnerable households in the treatment group. The program has quickly led to a net movement of children aged 6-17 from larger and worse-off non-beneficiary households into smaller and better-off beneficiary ones, causing a substantial decline in poverty and inequality in the entire applicant population.

It is worth noting that the time trends in the control group were stable or positive for all primary outcomes in our study, indicating that their circumstances improved significantly over time. Combined with the fact that the mean food consumption score at baseline was at an acceptable level, these improvements over time represent good news for the study population, making the generally positive value of treatment estimates even more valuable. The evidence suggests that the ESSN program provided support not just to the beneficiaries, but the entire population of refugees early on, through a change in living arrangements between households. At the 18-month follow-up, initially ineligible households had significantly more earnings from working than the treatment group. Many of the initially ineligible also became beneficiaries during the study period. These patterns combined to produce the initially large but dissipating 'value of treatment' effects over the course of 18 months.

Our estimates suggest that the ESSN had a negative effect on per capita consumption, especially in the latter rounds, caused by differential changes in household composition between treatment and control. Given that the shift seems to be driven mainly in the movement of school-aged children from control to treatment households, one might ask why parents in the control group would send their children to households where their per capita consumption is, on average, expected to be lower. There may be several explanations for this, but the most plausible one is that children moved from initially poorer households in the control group to better-off households in the treatment group – as the heterogeneity analysis, presented above, suggests. To be fair, our analysis above shows that the revelation of eligibility status among ESSN applicants caused a rearrangement of families not just from control to treatment, but control to control, and treatment to treatment. The patterns were the same: once households knew whether they were eligible or not, they rearranged their households, with children from larger and poorer households moving towards ones that were smaller and better off. It is only that the net effect of this churn was such that households in the treatment group ended up with

a significantly larger number of children, while those in the control group shrunk by almost half a person by the 18-month follow-up.

However, it is also possible that a significant amount of this churn in household composition could have been avoided. If a sufficiently small share of refugees is treated within a given network (be it geographic or kin), the pressure for the beneficiaries to share the transfers with others can be high – resulting in smaller than expected treatment effects (Jakiela and Ozier 2016). In such a setting, lowering the eligibility threshold to increase the share of applicants assigned to ESSN would likely reduce the changes in the composition of the treatment group. As the heterogeneity analysis in Figure 3 shows, this would happen because increasing the treatment share at the margin might have disproportionately reduced the number of children sent to another household (as more vulnerable households are more likely to send children out).

The first-best policy response to these findings may well be that programs designed to assist refugees should receive more generous funding so that they can increase the share receiving assistance. However, even when the available funding is fixed, the design of such programs could be potentially improved in a budget-neutral manner: if the program treated a larger group of households, but offered a smaller cash transfer per individual, some of this churn in household composition could be avoided. Such a simple adjustment is likely to be beneficial, as it is unlikely that the separation of children from their immediate families is desirable. Overall, this study suggests that, holding constant a given budget, supporting refugee populations with wider coverage at the expense of a lower per capita transfer may be preferable.

From a targeting perspective, households that reported at least one fewer child at follow-up, regardless of treatment status, are overwhelmingly large (with an average household size of almost eight), more likely to be female-headed, have much lower per capita consumption, and with children less likely to be enrolled in school. These characteristics can be used to increase the share of applicants assigned to beneficiary status. Alternatively, instead of using a list of demographic eligibility criteria, programs can take advantage of routinely collected administrative data on refugees to predict per capita household expenditures (Altındağ et al. 2020), which would help create a continuous score (like the commonly used proxy means test scorecards) that could be used to rank households, and expand/contract the program rolls over time as needed. This was not possible when ESSN was being designed in 2016. Finally, donors can also consider universal child support grants (and, perhaps, old age pensions) for refugee households, meaning that all refugee households would receive modest transfers to support children (and elderly), while cash transfers for able-bodied adults could then be targeted to the most vulnerable among refugee populations.[34]

[34] For example, UNICEF is currently implementing a conditional cash transfer program for education in Turkey (CCTE), which provides monthly cash transfers to school-aged children of refugees. However, the transfers are not universal and are conditional on regular school attendance.

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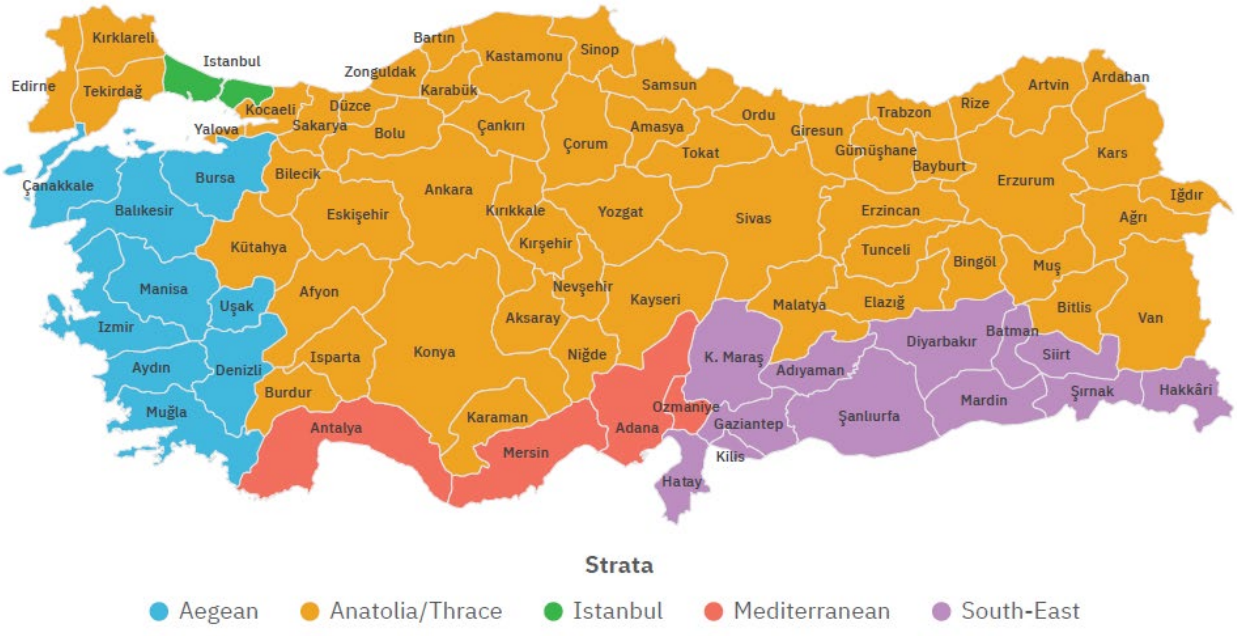
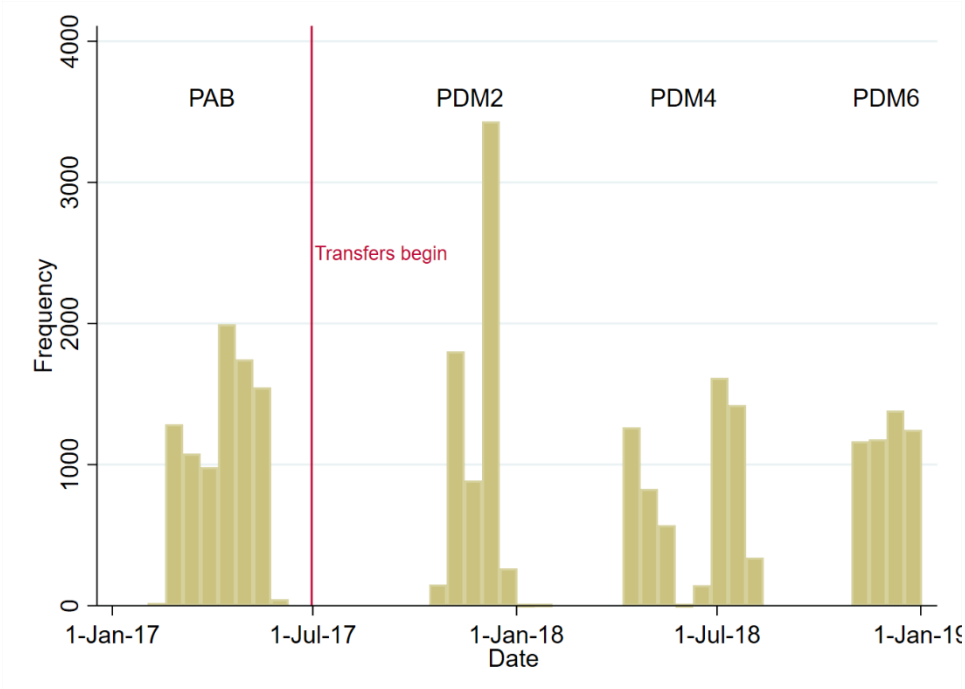
10. Appendix

A1. Tables and Figures

Appendix Figure 1: Map of the five subnational strata for the PAB and PDM surveys.

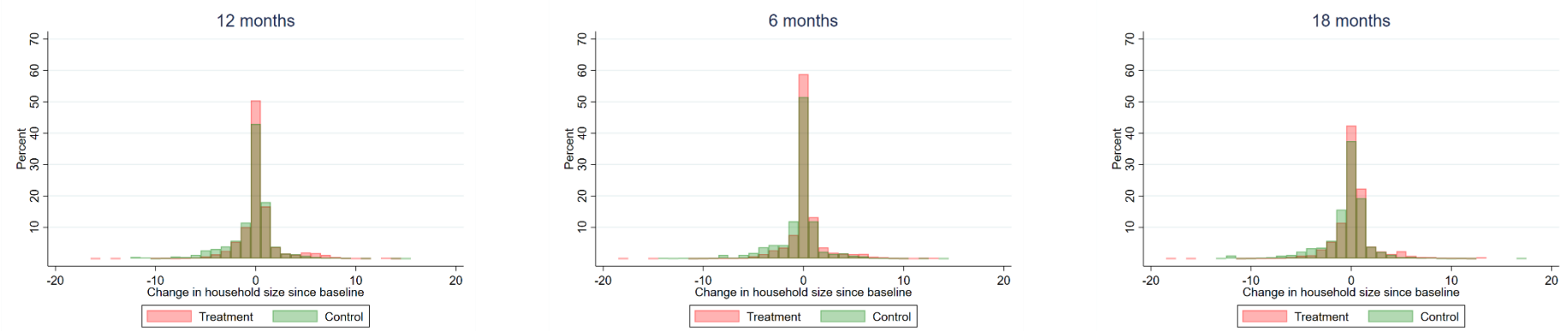


Appendix Figure 2: Dates of data collection of each survey wave.

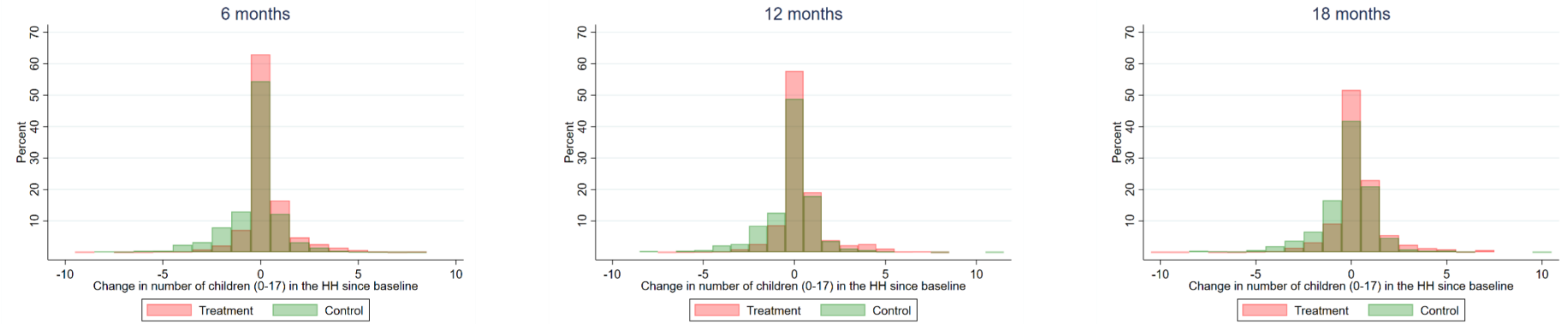


Appendix Figure 3: Distribution of the changes in household size since baseline.

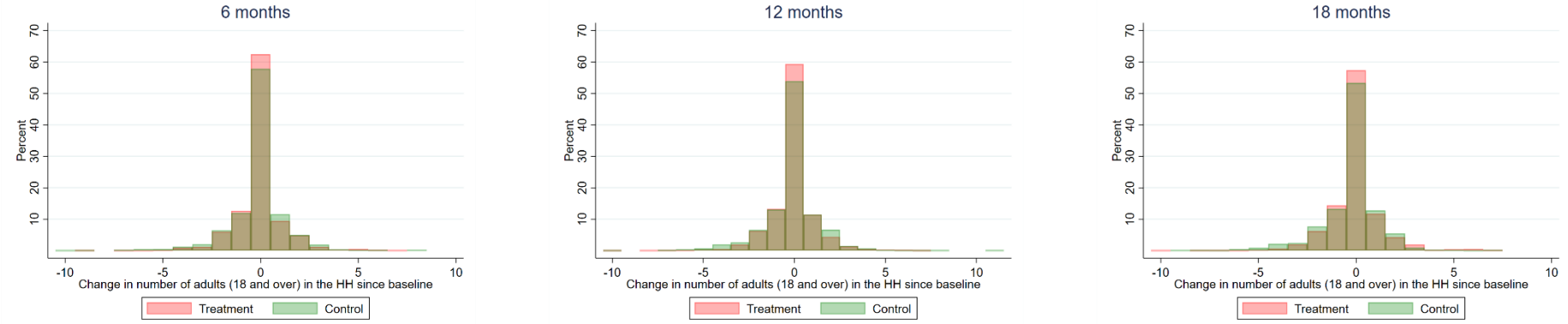
Panel A: Change in total household size since baseline at each follow-up round.



Panel B: Change in the number of children aged 0-17 years old since baseline at each follow-up round.

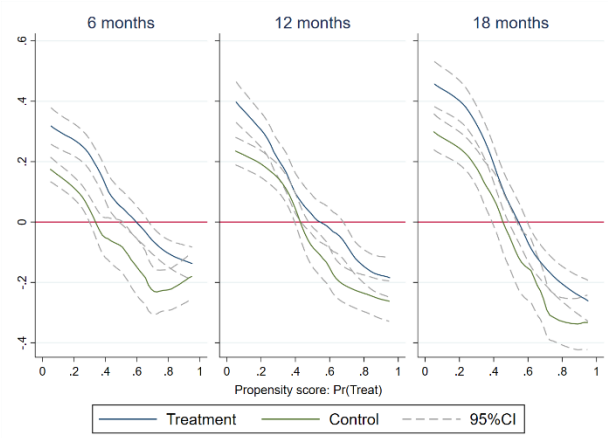


Panel C: Change in the number of adults aged 18+ years old since baseline at each follow-up round.

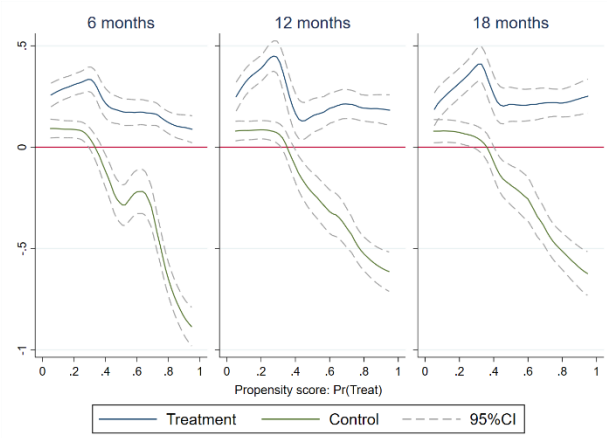


Appendix Figure 4: Changes in household composition by propensity score.

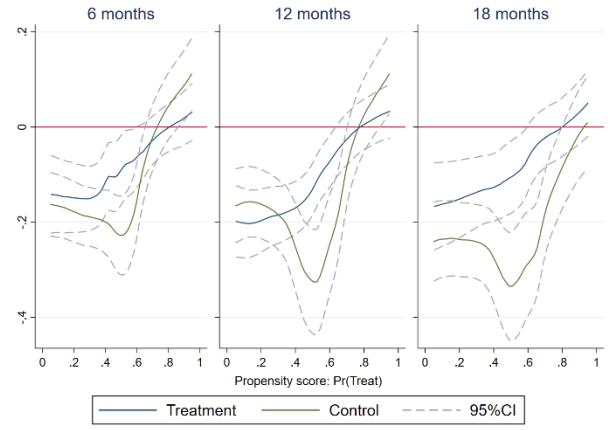
Panel A: Changes in the number of ***children aged 0-5*** *years old since baseline by propensity score*



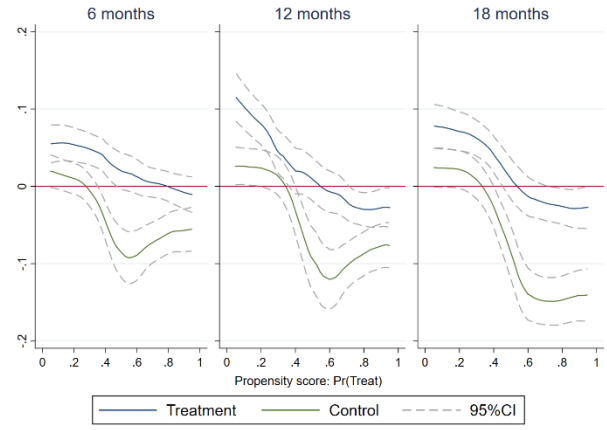
Panel B: Changes in the number of ***children aged 6-17*** *years old since baseline by propensity score*



Panel C: Changes in the number of ***adults aged 18-59*** *years old since baseline by propensity score*

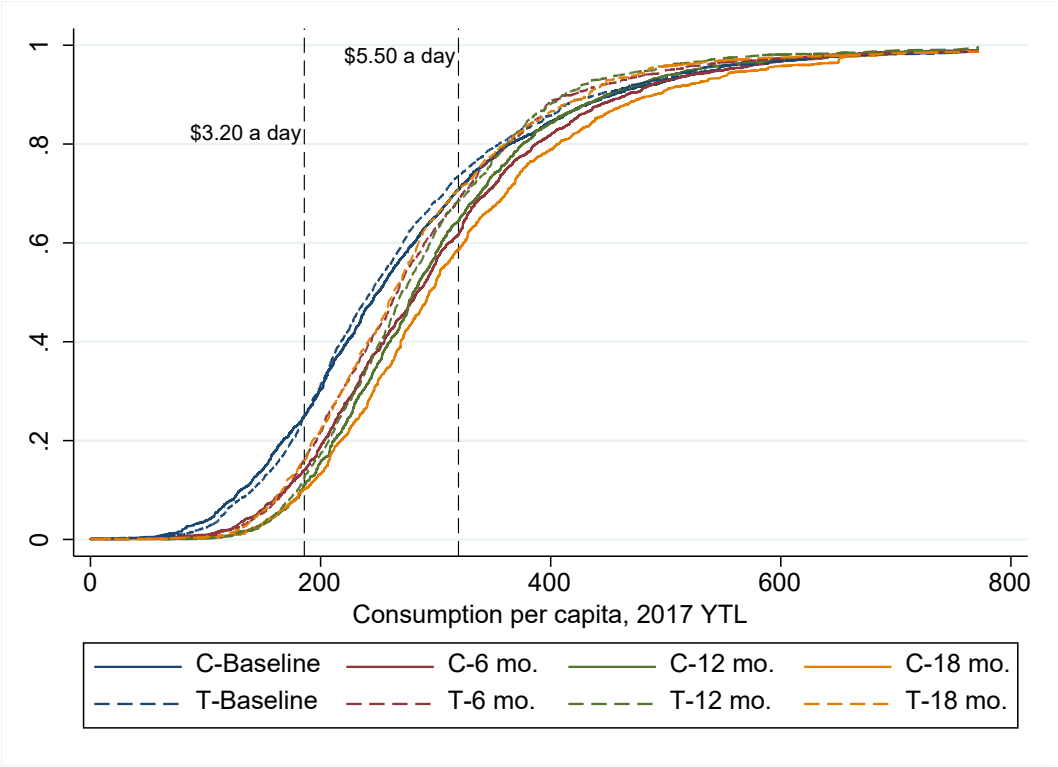


Panel D: Changes in the number of ***elderly aged 60+*** *years old since baseline by propensity score*



Note: Figures plot local polynomials of the change in each household size component as per the household's propensity score (Fan 1992, 1996); changes in each wave are since baseline, and thus indicate the difference between the baseline value and the current value.

Appendix Figure 5: Cumulative consumption distribution per survey wave.



Appendix Table 1: Regression results from estimation of the propensity score.

	Logit (raw coefficients)	Probit (marginal effects)
	(1)	(2)
Age of interviewee	0.090***	0.049***
	(0.026)	(0.015)
Age respondent squared	-0.001***	-0.001***
	(0.000)	(0.000)
Number of 18-59 year olds in HH	-0.401*	-0.239**
	(0.161)	(0.093)
Number of 18-59yo adults squared	0.041*	0.025*
	(0.018)	(0.010)
Number of 60 years and older in HH	-0.159	-0.075
	(0.150)	(0.091)
Number of 60+yo adults squared	0.111	0.055
	(0.085)	(0.052)
Dependent ratio>=1.5	1.589***	0.956***
	(0.083)	(0.045)
4+ children household	1.275***	0.755***
	(0.107)	(0.059)
Elderly household head	1.868**	1.004**
	(0.657)	(0.332)
Single parent household	0.528**	0.285*
	(0.199)	(0.112)
Number of 0-5 aged children in HH	0.375***	0.198***
	(0.059)	(0.033)
Number of 6-17 age old children in HH	0.177***	0.091***
	(0.041)	(0.021)
Number of 0-5 year old children squared	-0.046***	-0.024**
	(0.013)	(0.008)
Number of school aged 6-17yo children squared	0.023	0.007
	(0.029)	(0.015)
Number of school-aged children attending school	0.175	0.118*
	(0.092)	(0.048)
Female household head	0.936***	0.529***
	(0.156)	(0.086)
Elderly respondent (65+ year old)	1.397***	0.783***
	(0.392)	(0.224)
Per capita HH expenditure aggregate per month	-0.001**	-0.000***
	(0.000)	(0.000)
Food Consumption Score	0.003	0.001
	(0.001)	(0.001)
Reduced Coping Strategies Index	0.005*	0.003**
	(0.002)	(0.001)
Livelihoods Coping Strategy Index	0.005	0.002
	(0.016)	(0.010)
At least 1 HH member can speak Turkish	-0.167*	-0.099*
	(0.082)	(0.047)
At least 1 HH member can read Turkish	-0.058	-0.036
	(0.086)	(0.048)
Does anyone in the HH read or write in Arabic	-0.104	-0.066
	(0.136)	(0.078)
Main income from skilled labor	-0.357	-0.215
	(0.237)	(0.133)
Main income from unskilled labor	-0.315**	-0.186**
	(0.103)	(0.058)
Debt as share of total expenditure (among those with debt)	-0.005	-0.003
	(0.013)	(0.008)
Percent with some amount of debt	0.055	0.032
	(0.082)	(0.046)
Strata dummies	Yes	Yes
Number of observations	8690	8690

Appendix Table 2: Sample size per round before and after trimming.

Date of data collection	**Feb-May 2017**	**Nov 2017-Jan 2018**	**April-Jul 2018**	**Nov-Dec 2018**
Round Name	PAB	PDM2	PDM4	PDM6
		Overall		
Control households	4,193	2,801	2,530	1,924
Treatment households	4,497	3,739	3,652	3,046
Total	8,690	6,540	6,182	4,970
		After trimming		
Control households	4,109	2,978	2,745	2,184
Treatment households	3,636	2,862	2,749	2,263
Total	7,745	5,840	5,494	4,447

Notes: Trimming refers to dropping households whose propensity score is less than 0.05 (50 households) and above 0.95 (896 households); the trimmed sample is used throughout the entire analysis.

Appendix Table 3: Balance on baseline covariates for the matched sample interviewed in each wave.

	PDM2			PDM4			PDM6		
Variable	Treatment Mean/SD	Control Mean/SD	Difference (T-C)	Treatment Mean/SD	Control Mean/SD	Difference (T-C)	Treatment Mean/SD	Control Mean/SD	Difference (T-C)
HH size	6.00	5.97	0.03	6.00	5.98	0.02	6.05	5.88	0.17
	(3.76)	(4.70)		(3.74)	(5.10)		(3.77)	(5.04)	
Dependents to working age ratio+	1.28	1.23	0.04	1.29	1.26	0.02	1.30	1.23	0.07*
	(1.35)	(1.58)		(1.31)	(1.69)		(1.33)	(1.61)	
Number of children aged 0-5 years old	1.11	1.12	-0.02	1.13	1.10	0.02	1.16	1.09	0.07
	(1.75)	(2.18)		(1.70)	(2.07)		(1.74)	(1.87)	
Number of children aged 6-17 years old	1.75	1.74	0.01	1.78	1.78	-0.00	1.80	1.70	0.10
	(2.45)	(3.24)		(2.41)	(3.54)		(2.42)	(3.34)	
Number of adults aged 18-59 year old	2.87	2.85	0.02	2.84	2.83	0.01	2.83	2.83	0.00
	(2.65)	(2.31)		(2.38)	(2.45)		(2.34)	(2.44)	
Number of elderly aged 60 years and older	0.28	0.26	0.02	0.26	0.27	-0.00	0.25	0.27	-0.01
	(1.06)	(1.11)		(1.01)	(1.14)		(0.91)	(0.99)	
Female headed household	0.23	0.27	-0.04**	0.24	0.26	-0.03	0.23	0.27	-0.04*
	(0.59)	(0.91)		(0.60)	(0.89)		(0.61)	(0.89)	
Age of household head	39.66	39.02	0.63	39.32	38.98	0.34	39.03	39.32	-0.29
	(26.97)	(20.30)		(27.14)	(19.09)		(27.24)	(17.97)	
At least one household member can speak Turkish	0.47	0.47	0.01	0.49	0.47	0.02	0.49	0.46	0.03
	(0.85)	(0.87)		(0.84)	(0.87)		(0.85)	(0.84)	
At least one household member can read Turkish	0.23	0.23	0.01	0.25	0.22	0.03	0.24	0.23	0.01
	(0.76)	(0.67)		(0.77)	(0.66)		(0.75)	(0.67)	
At least one household member can read and write Arabic	0.92	0.91	0.01	0.92	0.90	0.03*	0.92	0.92	0.01
	(0.38)	(0.61)		(0.37)	(0.66)		(0.35)	(0.47)	
Main income from skilled labor	0.28	0.30	-0.03	0.28	0.30	-0.01	0.29	0.30	-0.01
	(0.78)	(0.82)		(0.78)	(0.81)		(0.81)	(0.79)	
Main income from unskilled labor	0.63	0.62	0.02	0.64	0.62	0.01	0.64	0.61	0.03
	(0.83)	(0.86)		(0.82)	(0.86)		(0.82)	(0.85)	
Food Consumption Score++++	57.32	57.12	0.21	57.23	57.34	-0.10	57.70	57.03	0.67
	(29.47)	(32.34)		(29.11)	(33.07)		(28.41)	(36.10)	
Reduced Coping Strategies Index++++	13.44	12.68	0.76	13.42	12.48	0.94*	14.15	13.02	1.14*
	(17.46)	(20.39)		(17.78)	(21.64)		(18.23)	(21.38)	
Livelihoods Coping Strategy Index++++	4.59	4.70	-0.11	4.67	4.66	0.02	4.69	4.79	-0.10
	(4.44)	(5.76)		(4.61)	(5.47)		(4.62)	(5.99)	
Household has some amount of debt	0.77	0.78	-0.01	0.78	0.78	0.01	0.80	0.78	0.01
	(0.74)	(0.68)		(0.72)	(0.71)		(0.68)	(0.65)	
Total cumulative stock of debt	1222.20	1230.35	-8.15	1217.28	1241.09	-23.81	1232.53	1244.48	-11.94
	(2894.59)	(2903.16)		(2682.44)	(2934.74)		(2678.23)	(2857.16)	
Total monthly household expenditure	1364.37	1347.65	16.72	1374.45	1340.65	33.80	1368.85	1351.38	17.47
	(769.92)	(957.54)		(738.11)	(965.58)		(759.85)	(950.67)	
Total monthly per capita household expenditure	252.45	254.47	-2.02	253.61	253.44	0.17	251.23	256.92	-5.69
	(248.00)	(202.78)		(249.14)	(210.67)		(260.16)	(196.54)	
Proportion of school aged children attending school++	0.47	0.46	0.01	0.47	0.46	0.01	0.47	0.44	0.03
	(0.70)	(0.73)		(0.70)	(0.76)		(0.71)	(0.76)	
F-test of joint orthogonality (F-stat. / p-value)+++			1.054			0.864			0.982
			0.394			0.629			0.479
N *(all households)*	2,862	2,978		2,749	2,745		2,263	2,184	
N *(households with children)*	2,498	1,707		2,406	1,578		1,999	1,269	

*Note: significance level p< 0.01 - ***, 0.05 - **, 0.1 - *; the value displayed in the "Differences (T-C)" column are the differences in the means across the groups; +dependency ratio defined as the ratio of dependents (children under 18 and adults 60+) to working age adults (aged 18-59 years old); ++sample limited to household with children; +++F-test of joint-orthogonality excludes the proportion of children attending school because it is undefined for households without children; all expenditure and debt values are deflated across regions and months into average 2017 Turkish Lira and are windsorized at the 99th percentile; ++++ The food consumption score (FCS), reduced coping strategies index (rCSI), and livelihoods coping strategies index (LCSI) are calculated as per the WFP's methodology described in section 3, for the FCS a higher score indicates better food consumption outcomes, for the rCSI and LCSI a lower score indicates a better coping strategies outcome (i.e. fewer coping strategies employed).*

Appendix Table 4: Balance at baseline per quantiles of the propensity score.

	Quantile 1			Quantile 2			Quantile 3			Quantile 4			Quantile 5		
Variable	Control Mean /SD	Treatment Mean /SD	(T-C)	Control Mean /SD	Treatment Mean /SD	(T-C)	Control Mean /SD	Treatment Mean /SD	(T-C)	Control Mean /SD	Treatment Mean /SD	(T-C)	Control Mean /SD	Treatment Mean /SD	(T-C)
HH size	4.59	5.05	-0.46**	4.79	5.20	-0.41**	6.08	6.03	0.05	6.62	6.34	0.27	7.38	7.07	0.31
	[2.34]	[2.25]		[2.11]	[2.36]		[3.26]	[2.94]		[3.17]	[2.95]		[3.21]	[2.35]	
Dependents to working age ratio+	0.44	0.51	-0.08**	0.75	0.76	-0.00	1.02	1.08	-0.06**	1.65	1.60	0.06	2.20	2.26	-0.05
	[0.37]	[0.43]		[0.36]	[0.40]		[0.52]	[0.56]		[0.74]	[0.54]		[0.82]	[0.66]	
Number of children aged 0-5 years old	0.51	0.40	0.10	1.02	0.95	0.07	1.21	1.22	-0.01	1.31	1.30	0.00	1.43	1.51	-0.09
	[0.76]	[0.70]		[0.99]	[1.05]		[1.45]	[1.30]		[1.48]	[1.43]		[1.59]	[1.35]	
Number of children aged 6-17 years old	0.59	0.68	-0.09	0.80	0.91	-0.11	1.45	1.57	-0.12	2.28	2.19	0.09	3.34	3.14	0.20
	[0.99]	[0.99]		[1.08]	[1.18]		[1.41]	[1.62]		[1.63]	[1.41]		[1.87]	[1.74]	
Number of adults aged 18-59 year old	3.25	3.49	-0.23	2.82	3.05	-0.23**	3.16	3.00	0.16*	2.68	2.61	0.07	2.38	2.24	0.13
	[1.68]	[1.82]		[1.50]	[1.62]		[2.03]	[1.64]		[1.77]	[1.75]		[1.39]	[1.14]	
Number of elderly aged 60 years and older	0.25	0.48	-0.23***	0.15	0.28	-0.14***	0.27	0.24	0.03	0.35	0.25	0.10**	0.24	0.17	0.06
	[0.61]	[0.87]		[0.53]	[0.70]		[0.67]	[0.63]		[0.83]	[0.67]		[0.70]	[0.53]	
Female headed household	0.02	0.01	0.01**	0.15	0.21	-0.06*	0.42	0.39	0.03	0.42	0.34	0.08**	0.35	0.27	0.08
	[0.19]	[0.06]		[0.42]	[0.46]		[0.58]	[0.63]		[0.62]	[0.55]		[0.63]	[0.50]	
Age of household head	39.88	44.28	-4.40**	37.30	38.23	-0.94	38.92	38.88	0.04	39.27	38.46	0.81	39.04	38.59	0.46
	[17.55]	[21.74]		[13.13]	[15.33]		[14.93]	[15.53]		[14.07]	[11.65]		[12.81]	[10.15]	
At least one household member can speak Turkish	0.32	0.27	0.05	0.23	0.23	0.01	0.21	0.25	-0.03	0.23	0.25	-0.02	0.19	0.21	-0.03
	[0.55]	[0.59]		[0.48]	[0.47]		[0.46]	[0.52]		[0.49]	[0.50]		[0.46]	[0.47]	
At least one household member can read Turkish	0.63	0.63	0.00	0.45	0.44	0.00	0.45	0.48	-0.02	0.47	0.47	-0.00	0.43	0.45	-0.02
	[0.59]	[0.59]		[0.58]	[0.58]		[0.58]	[0.61]		[0.61]	[0.59]		[0.60]	[0.58]	
At least one household member can read and write Arabic	0.95	0.96	-0.01	0.93	0.95	-0.02	0.90	0.92	-0.01	0.91	0.93	-0.02	0.87	0.88	-0.01
	[0.28]	[0.20]		[0.30]	[0.21]		[0.37]	[0.35]		[0.37]	[0.30]		[0.45]	[0.38]	
Main income from skilled labour	0.33	0.32	0.01	0.30	0.25	0.05	0.28	0.28	-0.00	0.26	0.28	-0.02	0.32	0.24	0.08*
	[0.57]	[0.60]		[0.53]	[0.50]		[0.52]	[0.54]		[0.53]	[0.52]		[0.59]	[0.47]	
Main income from unskilled labour	0.61	0.62	-0.01	0.62	0.67	-0.04	0.58	0.61	-0.04	0.67	0.61	0.06**	0.59	0.65	-0.06
	[0.59]	[0.62]		[0.56]	[0.55]		[0.58]	[0.60]		[0.57]	[0.57]		[0.62]	[0.54]	
Food Consumption Score	58.84	56.08	2.76	57.72	58.65	-0.93	58.13	57.50	0.63	57.29	57.18	0.11	55.43	57.55	-2.11
	[21.17]	[19.60]		[21.57]	[21.72]		[21.13]	[22.60]		[23.30]	[21.75]		[23.03]	[20.90]	
Reduced Coping Strategies Index	8.62	8.92	-0.30	12.31	12.73	-0.42	13.85	12.84	1.00	14.08	15.01	-0.93	14.51	16.56	-2.05*
	[9.85]	[7.87]		[13.59]	[13.65]		[15.05]	[15.20]		[15.94]	[15.34]		[14.21]	[16.41]	
Livelihoods Coping Strategy Index	3.88	4.05	-0.16	4.05	4.15	-0.10	4.62	4.59	0.03	5.07	5.05	0.02	5.82	5.43	0.38
	[3.49]	[4.07]		[3.12]	[3.04]		[3.63]	[3.46]		[3.84]	[3.75]		[3.88]	[3.72]	
Household has some amount of debt	0.73	0.73	0.00	0.79	0.75	0.04	0.78	0.75	0.03	0.76	0.82	-0.07**	0.82	0.81	0.00
	[0.53]	[0.54]		[0.47]	[0.53]		[0.49]	[0.54]		[0.53]	[0.44]		[0.44]	[0.45]	
Total cumulative stock of debt in 2017 TL	1122.91	1027.10	95.81	1105.74	1237.97	-132.22	1211.29	1156.35	54.94	1240.11	1232.22	7.89	1102.38	1314.50	-212.12*
	[1789.70]	[1803.93]		[1729.74]	[2048.31]		[1715.41]	[1962.49]		[2102.29]	[1762.16]		[1243.60]	[1874.62]	
Total monthly household expenditure (regular non-lumpy expenditures) in 2017 TL	1498.07	1437.98	60.09	1352.17	1428.85	-76.68*	1475.28	1493.28	-17.99	1471.07	1465.88	5.20	1506.80	1468.78	38.02
	[722.58]	[558.51]		[606.14]	[581.43]		[719.28]	[752.16]		[714.12]	[627.61]		[828.71]	[670.90]	
Total monthly per capita household expenditure (regular non-lumpy expenditures) in 2017 TL	362.96	325.31	37.65**	302.82	306.22	-3.41	268.23	271.72	-3.49	237.49	249.75	-12.26*	222.33	215.95	6.38
	[199.05]	[204.47]		[149.41]	[158.82]		[144.96]	[159.56]		[111.71]	[126.99]		[160.83]	[100.57]	
Proportion of school aged children attending school++	0.33	0.26	0.07	0.55	0.48	0.07	0.52	0.40	0.12***	0.47	0.58	-0.11***	0.44	0.50	-0.06
	[0.54]	[0.48]		[0.54]	[0.52]		[0.53]	[0.52]		[0.53]	[0.50]		[0.51]	[0.49]	
N *(all households)*	1415	134		1312	237		799	750		417	1132		166	1383	
	1,549			1,549			1,549			1,549			1,549		
N *(households with children)*	568	68		675	130		576	569		374	1030		164	1349	
	636			805			1,145			1,404			1,513		

*Note: significance level p< 0.01 - ***, 0.05 - **, 0.1 - *; the value displayed in the "Differences (T-C)" column are the differences in the means across the groups; +dependency ratio defined as the ratio of dependents (children under 18 and adults 60+) to working age adults (aged 18-59 years old); ++sample limited to household with children; +++F-test of joint-orthogonality excludes the proportion of children attending school because it is undefined for households without children; all expenditure and debt values are deflated across regions and months into average 2017 Turkish Lira and are windsorized at the 99th percentile; ++++ The food consumption score (FCS), reduced coping strategies index (rCSI), and livelihoods coping strategies index (LCSI) are calculated as per the WFP's methodology described in section 3, for the FCS a higher score indicates better food consumption outcomes, for the rCSI and LCSI a lower score indicates a better coping strategies outcome (i.e. fewer coping strategies employed).*

Appendix Table 5: Households' eligibility for transfers at baseline based on survey data.

	Quintiles of Pr(Treat)					
	Q1	Q2	Q3	Q4	Q5	Total
Panel A: HH is eligible for transfers						
Treatment	0.003	0.027	0.59	1	1	0.545
Control	0	0.001	0.464	1	1	0.517
Panel B: Eligibility criteria						
Dependency ratio>=1.5						
Treatment	0	0.003	0.281	0.758	0.977	0.415
Control	0	0	0.217	0.783	0.978	0.424
Four or more children household						
Treatment	0	0	0.262	0.385	0.919	0.321
Control	0	0	0.233	0.413	0.899	0.332
Single parent household						
Treatment	0	0.018	0.034	0.07	0.066	0.039
Control	0	0	0.026	0.077	0.079	0.039
Single female household						
Treatment	0.003	0.006	0.017	0.002	0	0.006
Control	0	0	0.007	0	0	0.001
Elderly household head						
Treatment	0	0	0	0.005	0.011	0.003
Control	0	0	0	0	0.029	0.007
Panel C: Number of observations						
Treatment	134	237	750	1132	1383	3636
Control	1415	1312	799	417	166	4109

Notes: Treatment was defined at baseline by program administrators after the initial review of households' applications; some households became eligible(ineligible) for transfers after baseline if they managed to successfully update their registration in the system and their application was reviewed, for the purpose of this evaluation households whose status changed across waves remain in their baseline treatment groups; the propensity score was obtained by regressing treatment status at baseline on a number of baseline covariates shown in Appendix Table 1; an additional criteria, whether the household had at least one member who was at least 40% disabled, could not be included here because data on disability was not collected in the survey, but this criteria was relatively rare in practice; percentages are weighted by population weights and inverse propensity weights.

Appendix Table 6: Household characteristics by changes in the number of children since baseline at 6 months follow-up.

		Control			Treatment			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	
	Total	Unchanged	Gained children	Lost children	Unchanged	Gained children	Lost children	Difference
	Mean/SD	Mean/SD	Mean/SD	Mean/SD	Mean/SD	Mean/SD	Mean/SD	(6)-(4)
Within Treatment group percentage		54%	18%	28%	63%	26%	11%	
Propensity score	0.48	0.46	0.35	0.68	0.53	0.36	0.52	-0.32***
	[0.63]	[0.65]	[0.59]	[0.43]	[0.65]	[0.40]	[0.59]	
Eligibility criteria: Dependent ratio>=1.5 at baseline	0.42	0.39	0.25	0.59	0.53	0.24	0.37	-0.34***
	[0.87]	[0.92]	[0.86]	[0.79]	[0.88]	[0.49]	[0.67]	
Eligibility criteria: Single parent household at baseline	0.04	0.04	0.03	0.04	0.04	0.02	0.04	-0.02
	[0.37]	[0.46]	[0.37]	[0.40]	[0.25]	[0.12]	[0.22]	
Eligibility criteria: 4+ children household at baseline	0.33	0.26	0.19	0.69	0.36	0.19	0.50	-0.50***
	[0.85]	[0.90]	[0.83]	[0.66]	[0.68]	[0.42]	[0.83]	
Eligibility criteria: Single female household at baseline	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.01
	[0.08]	[0.07]	[0.00]	[0.00]	[0.11]	[0.11]	[0.00]	
Eligibility criteria: Elderly household head at baseline	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00*
	[0.21]	[0.31]	[0.00]	[0.00]	[0.07]	[0.03]	[0.00]	
HH size	5.96	5.58	5.38	7.82	5.85	5.63	7.81	-2.19***
	[4.32]	[4.31]	[3.95]	[4.36]	[3.39]	[3.66]	[3.97]	
Dependents to working age ratio+	1.26	1.22	0.92	1.60	1.40	0.94	1.35	-0.66***
	[1.55]	[1.73]	[1.26]	[1.26]	[1.41]	[1.02]	[1.36]	
Number of children aged 0-5 years old	1.11	1.06	0.99	1.36	1.13	0.96	1.33	-0.40***
	[1.97]	[1.92]	[1.44]	[2.54]	[1.80]	[1.45]	[2.09]	
Number of children aged 6-17 years old	1.74	1.55	1.16	2.93	1.80	1.35	2.48	-1.57***
	[2.92]	[2.95]	[2.24]	[2.67]	[2.50]	[2.01]	[2.43]	
Number of adults aged 18-59 years old	2.85	2.71	2.97	3.30	2.63	3.11	3.69	-0.19
	[2.47]	[2.27]	[2.08]	[2.40]	[2.44]	[2.74]	[2.51]	
Number of elderly aged 60 years and older	0.26	0.26	0.26	0.23	0.29	0.21	0.32	-0.02
	[1.08]	[1.16]	[1.07]	[0.78]	[1.16]	[0.84]	[0.86]	
Female headed household	0.27	0.28	0.21	0.37	0.22	0.25	0.28	-0.12**
	[0.79]	[0.82]	[0.64]	[0.96]	[0.56]	[0.58]	[0.68]	
Main income from skilled labor	0.29	0.30	0.27	0.30	0.29	0.27	0.23	-0.03
	[0.80]	[0.79]	[0.60]	[0.87]	[0.80]	[0.74]	[0.56]	
Main income from unskilled labor	0.62	0.60	0.66	0.65	0.62	0.65	0.71	-0.01
	[0.85]	[0.85]	[0.67]	[0.87]	[0.85]	[0.77]	[0.63]	
Food Consumption Score	57.38	57.72	57.46	56.10	58.05	55.95	56.42	-0.15
	[31.06]	[29.91]	[24.00]	[36.96]	[29.26]	[28.84]	[24.23]	
Reduced Coping Strategies Index	13.03	12.85	12.16	12.85	13.51	13.39	13.09	0.54
	[19.19]	[20.91]	[14.07]	[18.62]	[16.96]	[17.36]	[17.47]	
Livelihoods Coping Strategy Index	4.71	4.65	4.34	5.59	4.46	4.66	5.24	-0.93***
	[5.50]	[6.00]	[4.68]	[5.79]	[4.68]	[3.74]	[4.41]	
Household has some amount of debt	0.78	0.77	0.78	0.81	0.77	0.77	0.81	-0.04
	[0.71]	[0.71]	[0.63]	[0.59]	[0.77]	[0.66]	[0.63]	
Total cumulative stock of debt	1235.69	1245.75	1122.20	1313.21	1172.42	1295.10	1336.34	-18.11
	[2897.40]	[3029.59]	[2547.79]	[2361.03]	[2813.99]	[2840.49]	[2932.56]	
Total monthly household expenditure	1460.13	1440.92	1457.42	1543.80	1438.33	1453.49	1610.35	-90.31
	[995.19]	[1083.88]	[830.87]	[1117.60]	[859.93]	[728.51]	[820.62]	
Total monthly per capita household expenditure in 2017 TL	273.99	287.02	306.64	210.99	268.42	292.79	224.03	81.80***
	[247.54]	[250.27]	[181.58]	[143.42]	[233.34]	[293.96]	[181.15]	
Proportion of school aged children attending school++	0.47	0.50	0.50	0.34	0.52	0.42	0.31	0.08*
	[0.75]	[0.78]	[0.70]	[0.63]	[0.71]	[0.64]	[0.60]	
N *(all households)*	5840	1824	638	516	1987	541	334	
N *(households with children)*	4205	962	286	459	1735	441	322	

*Note: "Lost" or "Gained" columns refers to groups of households who had at least one more/one fewer child aged 0-17 at the 6 months follow-up; columns 2-4 are limited to the Control group and columns 5-7 the Treatment group; the value displayed in the "Differences (6-4)" column are the differences in the means across the groups in columns 6 and 4, t-test significance level p< 0.01 - ***, 0.05 - **, 0.1 - *; dependency ratio defined as the ratio of dependents (children under 18 and adults 60+) to working age adults (aged 18-59 years old); ++sample limited to household with children; all expenditure and debt values are deflated across regions and months into average 2017 Turkish Lira and are winsorized at the 99th percentile; The food consumption score (FCS), reduced coping strategies index (rCSI), and livelihoods coping strategies index (LCSI) are calculated as per the WFP's methodology described in section 3, for the FCS a higher score indicates better food consumption outcomes, for the rCSI and LCSI a lower score indicates a better coping strategies outcome (i.e. fewer coping strategies employed).*

Appendix Table 7: Household size at each follow-up and change from baseline.

	PAB	6 months	12 months	18 months
		(change since baseline/% change)	*(change since baseline/% change)*	*(change since baseline/% change)*
Household size				
Control	5.95	5.55	5.61	5.44
		(-0.40/-6.7%)	*(-0.34/-5.7%)*	*(-0.51/-8.6%)*
Treatment	5.97	6.24	6.28	6.34
		(0.27/4.6%)	*(0.31/5.2%)*	*(0.37/6.2%)*
Members aged 0-5				
Control	1.11	1.09	1.09	1.08
		(-0.03/-2.2%)	*(-0.03/-2.4%)*	*(-0.03/-2.7%)*
Treatment	1.10	1.20	1.22	1.25
		(0.10/9.4%)	*(0.12/11.1%)*	*(0.16/14.3%)*
Members aged 6-17				
Control	1.76	1.47	1.56	1.50
		(-0.29/-16.7%)	*(-0.20/-11.3%)*	*(-0.26/-15.0%)*
Treatment	1.72	1.95	2.03	2.05
		(0.23/13.2%)	*(0.30/17.5%)*	*(0.33/18.9%)*
Members aged 18-59				
Control	2.83	2.76	2.73	2.65
		(-0.06/-2.2%)	*(-0.10/-3.5%)*	*(-0.18/-6.3%)*
Treatment	2.87	2.79	2.74	2.76
		(-0.08/-2.7%)	*(-0.13/-4.5%)*	*(-0.11/-3.8%)*
Members aged 60+				
Control	0.25	0.23	0.23	0.21
		(-0.02/-7.3%)	*(-0.02/-6.1%)*	*(-0.04/-16.6%)*
Treatment	0.28	0.30	0.30	0.28
		(0.02/7.1%)	*(0.01/5.0%)*	*(-0.01/-1.8%)*

Notes: Cells show the average household size and its components per group for the matched sample; figures in parentheses show the nominal and percentage change since baseline.

Appendix Table 8: Impact estimates on primary outcomes with SE's clustered at the region level.

	Control mean (standard deviation)	VT - Lower bounds (1) Lee (-)	(2) (+/-) .25 SD	(3) (+/-) .1 SD	VT (4)	VT - Upper bounds (5) (-/+) .1 SD	(6) (-/+) .25 SD	(7) Lee (+)	IV (8)
Total monthly expenditure – Control mean/SD at baseline: 1459.62 (587.43)									
6 months	1538.88	20.73	18.63	59.19***	77.78***	113.26***	153.82***	147.06***	115.70***
	(549.53)	(24.17)	(18.29)	(17.38)	(20.32)	(16.29)	(15.59)	(15.98)	(35.21)
12 months	1557.49	0.33	37.17*	83.88***	99.93***	146.16***	192.87***	174.38***	255.95***
	(502.89)	(15.15)	(18.40)	(18.09)	(20.80)	(17.77)	(17.61)	(24.98)	(60.06)
18 months	1599.34	-44.29**	-74.84***	-1.49	33.03	96.31***	169.67***	125.73***	110.38
	(556.05)	(19.89)	(11.35)	(11.38)	(19.61)	(11.82)	(12.42)	(25.33)	(79.08)
Monthly per capita expenditure – Control mean/SD at baseline: 275.58 (132.82)									
6 months	303.66	-40.14***	-31.88***	-22.90***	-17.02***	-10.93***	-1.95	-10.03**	-21.35***
	(124.88)	(4.71)	(4.26)	(4.07)	(4.79)	(3.84)	(3.70)	(4.55)	(6.98)
12 months	303.88	-38.50***	-29.98***	-20.14***	-14.73***	-7.01**	2.83	-4.83	-28.59***
	(115.13)	(3.42)	(3.20)	(3.05)	(3.70)	(2.87)	(2.74)	(3.30)	(10.84)
18 months	320.30	-62.63***	-61.83***	-45.80***	-33.86***	-24.43***	-8.40***	-23.65***	-100.03***
	(126.72)	(5.57)	(2.62)	(2.52)	(4.91)	(2.46)	(2.48)	(4.17)	(22.55)
Food Consumption Score (standardized) – Control mean/SD at baseline: 0.00 (1.00)									
6 months	0.33	0.10**	0.10***	0.18***	0.23***	0.29***	0.37***	0.33***	0.31***
	(1.09)	(0.04)	(0.02)	(0.02)	(0.03)	(0.03)	(0.03)	(0.04)	(0.07)
12 months	0.16	0.06	0.04	0.13***	0.19***	0.25***	0.33***	0.30***	0.47***
	(0.97)	(0.04)	(0.03)	(0.03)	(0.04)	(0.03)	(0.03)	(0.05)	(0.11)
18 months	0.02	0.03	-0.06***	0.06***	0.14***	0.24***	0.37***	0.26***	0.41***
	(0.97)	(0.04)	(0.02)	(0.02)	(0.03)	(0.02)	(0.02)	(0.03)	(0.13)
Reduced Consumption Coping Strategies Index (inverted and standardized) – Control mean/SD at baseline: 0.00 (1.00)									
6 months	0.21	0.15***	0.08***	0.14***	0.19***	0.23***	0.29***	0.30***	0.27***
	(0.92)	(0.03)	(0.03)	(0.03)	(0.03)	(0.02)	(0.02)	(0.03)	(0.06)
12 months	0.51	0.01	-0.05***	0.01	0.05**	0.08***	0.14***	0.18***	0.13*
	(0.61)	(0.02)	(0.01)	(0.01)	(0.02)	(0.01)	(0.01)	(0.02)	(0.07)
18 months	0.57	-0.16***	-0.25***	-0.17***	-0.10***	-0.06***	0.03*	0.01	-0.34***
	(0.59)	(0.03)	(0.02)	(0.02)	(0.03)	(0.02)	(0.02)	(0.02)	(0.09)
Livelihoods Coping Strategy Index (inverted and standardized) – Control mean/SD at baseline: 0.00 (1.00)									
6 months	0.18	0.12***	0.08***	0.15***	0.19***	0.24***	0.31***	0.29***	0.26***
	(0.94)	(0.03)	(0.02)	(0.02)	(0.03)	(0.02)	(0.02)	(0.04)	(0.06)
12 months	0.31	-0.12***	-0.17***	-0.09***	-0.03	0.02	0.10***	0.09***	-0.09
	(0.91)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.01)	(0.02)	(0.11)
18 months	0.37	-0.12**	-0.23***	-0.11***	-0.03	0.04	0.15***	0.11**	-0.12
	(0.82)	(0.05)	(0.03)	(0.03)	(0.06)	(0.03)	(0.03)	(0.05)	(0.14)
Proportion of children attending school – Control mean/SD at baseline: 0.47 (0.43)									
6 months	0.56	-0.00	-0.04**	-0.01	0.01	0.04**	0.07***	0.04	0.03
	(0.42)	(0.03)	(0.02)	(0.02)	(0.03)	(0.02)	(0.02)	(0.03)	(0.03)
12 months	0.54	0.00	-0.03	0.01	0.02	0.06**	0.10***	0.06**	0.09**
	(0.42)	(0.03)	(0.02)	(0.02)	(0.03)	(0.02)	(0.02)	(0.03)	(0.05)
18 months	0.65	-0.03	-0.07***	-0.02	-0.00	0.06***	0.11***	0.05**	0.03
	(0.40)	(0.02)	(0.02)	(0.02)	(0.03)	(0.02)	(0.02)	(0.03)	(0.06)

*Note: Significance level p< 0.01 - ***, 0.05 - **, 0.1 - *; standard errors clustered at the region level (n=26) in parentheses; Each coefficient in this table is obtained from a different regression of the outcome, which includes a binary treatment indicator fully interacted with the outcome at baseline and the propensity score, the model also includes strata fixed effects (n=5); all consumption values are deflated across regions and months to average 2017 Turkish Lira; the proportion of children attending school regression is estimated using the subsample of households with at least one child; FCS, rCSI, and LCSI are standardized to the control group at baseline, the rCSI and LCSI are inverted so that for all three WFP scores a higher value indicates an improvement; column (4) presents the estimation results from specification 1 using IPW and sampling weights; column (8) presents the results from specification 2, which instruments currently receiving the transfers with eligibility at baseline; columns (1) and (7) are estimated using specification 1 and by trimming the top/bottom of the treatment group by the difference in attrition between the treatment and control, as in Lee (2009); columns (2) to (3) and (5) to (6) estimate specification 1 and replace outcome values for the attritors with +/- 0.x standard deviations of their respective treatment group-wave means as in Kling and Liebman (2004), lower bounds subtract this value from the treatment group and add it to the control group and vice versa for the upper bounds.*

Appendix Table 9: Treatment effect on monthly expenditure on consumption items.

	Control mean (standard deviation)	Lower bounds (1) Lee (-)	(2) (+/-) .25 SD	(3) (+/-) .1 SD	Unadjusted (4)	Upper bounds (5) (-/+) .1 SD	(6) (-/+) .25 SD	(7) Lee (+)	IV (8)
Panel A: Total expenditure and stock of debt									
Total monthly expenditure									
6 months	1538.88	20.73	18.63	59.19***	77.78***	113.26***	153.82***	147.06***	115.70***
	(549.53)	(23.54)	(18.09)	(18.05)	(24.08)	(18.14)	(18.34)	(23.42)	(35.21)
12 months	1557.49	0.33	37.17**	83.88***	99.93***	146.16***	192.87***	174.38***	255.95***
	(502.89)	(19.53)	(18.06)	(18.03)	(25.08)	(18.16)	(18.39)	(26.10)	(60.06)
18 months	1599.34	-44.29*	-74.84***	-1.49	33.03	96.31***	169.67***	125.73***	110.38
	(556.05)	(25.45)	(15.04)	(15.09)	(26.73)	(15.41)	(15.84)	(25.76)	(79.08)
Total stock of debt									
6 months	1045.59	-415.25***	-360.95***	-259.67***	-186.76***	-124.63***	-23.35	-139.02***	-245.51***
	(1380.16)	(44.36)	(39.29)	(38.88)	(51.02)	(38.81)	(39.10)	(52.04)	(73.12)
12 months	1015.73	-443.79***	-387.31***	-269.13***	-188.46***	-111.55***	6.63	-145.73***	-381.78***
	(1351.57)	(41.55)	(36.63)	(36.28)	(50.65)	(36.37)	(36.83)	(50.93)	(128.16)
18 months	1155.67	-533.04***	-599.78***	-408.24***	-272.72***	-152.86***	38.68	-220.77***	-805.19***
	(1566.68)	(55.96)	(38.59)	(38.09)	(67.60)	(38.12)	(38.66)	(68.47)	(210.90)
Panel B: Components of total monthly consumption expenditure									
Food									
6 months	697.35	21.35	24.41**	50.54***	62.56***	85.39***	111.52***	101.89***	91.20***
	(350.28)	(14.99)	(11.59)	(11.55)	(15.50)	(11.59)	(11.71)	(15.48)	(22.94)
12 months	755.71	6.89	22.59**	53.12***	67.26***	93.83***	124.36***	121.14***	175.46***
	(336.50)	(13.49)	(11.02)	(10.98)	(15.48)	(11.05)	(11.19)	(15.76)	(40.08)
18 months	738.71	-32.48**	-49.15***	-3.54	16.50	57.29***	102.91***	67.66***	52.96
	(346.56)	(16.40)	(9.38)	(9.41)	(17.14)	(9.61)	(9.87)	(16.59)	(51.69)
Education									
6 months	38.23	7.76**	8.32***	14.16***	17.16***	21.96***	27.81***	20.32***	28.01***
	(72.69)	(3.09)	(2.40)	(2.40)	(3.21)	(2.44)	(2.48)	(3.29)	(5.15)
12 months	17.37	4.72**	7.75***	12.42***	14.66***	18.66***	23.34***	17.03***	43.83***
	(44.38)	(1.85)	(1.46)	(1.47)	(2.04)	(1.50)	(1.54)	(2.11)	(7.84)
18 months	56.51	4.13	1.51	13.13***	18.44***	28.63***	40.25***	25.81***	64.93***
	(81.80)	(3.58)	(2.16)	(2.18)	(3.83)	(2.25)	(2.34)	(4.09)	(16.01)
Health									
6 months	42.85	-15.58***	-9.17***	-2.62	1.45	6.12**	12.67***	3.80	2.92
	(88.29)	(2.59)	(2.53)	(2.51)	(3.32)	(2.51)	(2.54)	(3.40)	(4.65)
12 months	28.96	-12.65***	-4.09**	2.54	6.56**	11.39***	18.02***	9.22***	20.75***
	(68.85)	(1.80)	(2.08)	(2.05)	(2.83)	(2.05)	(2.07)	(2.96)	(6.69)
18 months	37.52	-20.56***	-19.81***	-8.51***	-0.83	6.57***	17.88***	1.69	-3.99
	(85.26)	(3.07)	(2.39)	(2.36)	(4.33)	(2.36)	(2.39)	(4.46)	(12.45)
Rent									
6 months	386.47	-12.63**	-16.63***	-5.43	3.86	9.50*	20.70***	19.66***	5.21
	(151.28)	(5.99)	(4.97)	(4.92)	(6.38)	(4.89)	(4.91)	(6.08)	(9.45)
12 months	395.62	-12.40***	-16.14***	-3.57	3.78	13.19***	25.75***	15.99***	11.66
	(143.19)	(4.44)	(4.11)	(4.06)	(5.23)	(4.05)	(4.08)	(5.17)	(13.17)
18 months	394.57	-18.32***	-39.81***	-21.17***	-2.93	3.67	22.30***	10.51**	-6.82
	(144.50)	(5.01)	(3.54)	(3.47)	(5.12)	(3.47)	(3.51)	(5.01)	(15.76)
Debt repayment									
6 months	52.86	-9.76*	0.68	11.26**	18.49***	25.37***	35.95***	22.33***	24.98***
	(135.32)	(5.48)	(4.97)	(4.93)	(6.58)	(4.92)	(4.94)	(6.75)	(9.12)
12 months	65.10	-14.07**	0.30	13.63***	22.75***	31.40***	44.73***	30.98***	57.44***
	(144.84)	(5.60)	(4.99)	(4.94)	(7.02)	(4.93)	(4.96)	(7.31)	(18.20)
18 months	58.30	-14.78**	-13.08***	6.31	18.49**	32.16***	51.55***	24.35***	48.43*
	(143.33)	(7.19)	(4.61)	(4.57)	(8.60)	(4.56)	(4.60)	(8.94)	(27.26)
Remittances									
6 months	14.22	-13.82***	-9.23***	-4.81***	-1.97*	1.08	5.50***	-1.19	-2.59
	(60.24)	(0.33)	(0.52)	(0.53)	(0.79)	(0.71)	(0.91)	(0.82)	(3.79)
12 months	15.58	-15.60***	-10.73***	-5.09***	-1.37	2.43*	8.07***	-0.10	-1.50
	(63.70)	(0.96)	(1.00)	(1.02)	(1.39)	(1.07)	(1.13)	(1.42)	(6.84)
18 months	9.05	-9.03**	-10.33***	-3.70	0.85	5.15*	11.78***	1.76	3.58
	(49.04)	(3.01)	(1.88)	(1.88)	(3.70)	(1.91)	(1.93)	(3.89)	(5.66)

Table continued on next page…

Treatment effect on monthly expenditure on consumption items, continued…

	Control mean (standard deviation)	Lower bounds (1) Lee (-)	(2) (+/-) .25 SD	(3) (+/-) .1 SD	Unadjusted (4)	Upper bounds (5) (-/+) .1 SD	(6) (-/+) .25 SD	(7) Lee (+)	IV (8)
Panel B: Components of total monthly consumption expenditure, cont…									
Utilities									
6 months	124.57	-11.55***	-9.39***	-4.67**	-1.93	1.63	6.35***	4.58*	-1.99
	(66.12)	(2.57)	(2.07)	(2.06)	(2.77)	(2.07)	(2.09)	(2.72)	(4.13)
12 months	106.92	-4.21*	-2.97	1.97	5.16**	8.55***	13.48***	11.52***	13.95**
	(52.64)	(2.42)	(1.80)	(1.80)	(2.55)	(1.81)	(1.84)	(2.57)	(6.74)
18 months	120.96	-14.21***	-14.56***	-5.13***	0.22	7.45***	16.88***	8.39**	-0.10
	(73.21)	(3.06)	(2.00)	(1.98)	(3.57)	(1.99)	(2.03)	(3.53)	(10.11)
Water									
6 months	49.38	-2.95**	-2.28*	0.22	2.17	3.55***	6.04***	5.54***	2.51
	(33.73)	(1.39)	(1.28)	(1.28)	(1.72)	(1.28)	(1.28)	(1.71)	(2.45)
12 months	55.40	-7.49***	-5.62***	-2.50**	-0.34	1.65	4.77***	2.80	-3.53
	(34.44)	(1.35)	(1.26)	(1.25)	(1.73)	(1.25)	(1.26)	(1.73)	(4.46)
18 months	59.55	-7.23***	-8.55***	-3.77***	0.05	2.61***	7.39***	4.21**	-1.35
	(35.50)	(1.49)	(0.99)	(0.98)	(1.76)	(0.98)	(1.00)	(1.77)	(5.18)
Hygiene									
6 months	82.86	-9.30***	-6.21***	-1.54	1.49	4.68**	9.35***	7.13**	1.59
	(64.46)	(2.49)	(2.08)	(2.07)	(2.79)	(2.07)	(2.09)	(2.79)	(4.11)
12 months	88.86	-7.50***	-2.11	4.27*	8.28**	12.77***	19.14***	15.94***	18.51**
	(70.67)	(2.90)	(2.55)	(2.53)	(3.59)	(2.52)	(2.54)	(3.67)	(8.87)
18 months	80.60	-8.45***	-12.47***	-4.40***	0.86	6.35***	14.42***	7.43**	4.25
	(62.76)	(2.76)	(1.59)	(1.58)	(2.91)	(1.59)	(1.62)	(2.91)	(8.68)
Communications									
6 months	37.88	-3.51***	-2.85***	-0.61	1.06	2.36**	4.60***	3.33***	1.65
	(29.92)	(1.16)	(0.94)	(0.94)	(1.26)	(0.94)	(0.95)	(1.26)	(1.75)
12 months	37.55	-1.92*	-0.35	2.46**	4.40***	6.21***	9.02***	7.51***	9.78***
	(31.17)	(1.08)	(1.06)	(1.04)	(1.44)	(1.04)	(1.04)	(1.47)	(3.18)
18 months	40.88	-3.40***	-5.93***	-1.73**	1.58	3.86***	8.06***	5.61***	6.83*
	(31.81)	(1.29)	(0.80)	(0.79)	(1.41)	(0.79)	(0.80)	(1.39)	(4.11)
Transport									
6 months	63.95	-12.57***	-9.07***	-3.29	-0.33	4.41*	10.19***	3.61	-0.77
	(78.70)	(3.20)	(2.63)	(2.62)	(3.54)	(2.64)	(2.67)	(3.61)	(5.30)
12 months	61.32	-13.82***	-10.23***	-3.41	-0.22	5.68**	12.50***	5.18	-2.82
	(77.86)	(3.26)	(2.57)	(2.58)	(3.64)	(2.60)	(2.64)	(3.70)	(9.85)
18 months	54.99	-8.91***	-8.05***	1.78	8.08**	14.87***	24.70***	12.30***	22.90**
	(70.16)	(2.86)	(2.13)	(2.11)	(3.81)	(2.11)	(2.14)	(3.91)	(10.95)
Other (clothing tobacco etc.)									
6 months	0.99	-0.00	-0.00***	-0.00	0.00	0.00***	0.01***	0.00	0.00
	(0.04)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
12 months	0.99	-0.00	-0.01***	-0.00**	-0.00	0.00***	0.01***	0.00	-0.00
	(0.04)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
18 months	0.99	0.00	-0.01***	-0.00***	0.00	0.00***	0.01***	0.00*	0.00
	(0.04)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Celebrations									
6 months	3.47	-3.68***	-3.69***	-1.71***	-0.50	0.93	2.90***	-0.32	0.03
	(27.62)	(0.60)	(0.58)	(0.57)	(0.77)	(0.57)	(0.57)	(0.78)	(1.07)
12 months	35.75	-33.45***	-22.86***	-14.67***	-9.18**	-3.75	4.43	-7.15	-24.30**
	(96.92)	(3.10)	(3.31)	(3.28)	(4.67)	(3.28)	(3.29)	(4.85)	(11.68)
18 months	4.00	-4.07***	-4.51***	-0.52	2.03*	4.79***	8.77***	2.49**	7.85**
	(26.73)	(0.65)	(0.67)	(0.65)	(1.16)	(0.66)	(0.67)	(1.22)	(3.42)

*Note: Significance level p< 0.01 - ***, 0.05 - **, 0.1 - *; Robust standard errors in parentheses; Each coefficient in this table is obtained from a different regression of the outcome on specification (1), which includes a binary treatment indicator fully interacted with the outcome at baseline and the propensity score, the model also includes strata fixed effects (n=5); all consumption expenditure and debt values are deflated across regions and months to average 2017 Turkish Lira; column (4) presents the main results using IPW and sampling weights; column (8) presents the results from instrumenting currently receiving the transfers with eligibility at baseline; columns (1) and (7) are estimated by trimming the top/bottom of the treatment group by the difference in attrition between the treatment and control, as in Lee (2009); columns (2) to (3) and (5) to (6) replace outcome values for the attritters with +/- 0.x standard deviations of their respective treatment group-wave means as in Kling and Liebmann (2004), lower bounds subtract this value from the treatment group and add it to the control group and vice versa for the upper bounds.*

Appendix Table 10: Treatment effect on components of the Food Consumption Score.

	Control mean (standard deviation)	Lower bounds (1) Lee (-)	(2) (+/-) .25 SD	(3) (+/-) .1 SD	Unadjusted (4)	Upper bounds (5) (-/+) .1 SD	(6) (-/+) .25 SD	(7) Lee (+)	IV (8)
Panel A: Food Consumption Score (standardized to baseline control)									
6 months	0.33	0.10**	0.10***	0.18***	0.23***	0.29***	0.37***	0.33***	0.31***
	(1.09)	(0.05)	(0.04)	(0.04)	(0.05)	(0.04)	(0.04)	(0.05)	(0.07)
12 months	0.16	0.06	0.04	0.13***	0.19***	0.25***	0.33***	0.30***	0.47***
	(0.97)	(0.04)	(0.03)	(0.03)	(0.04)	(0.03)	(0.03)	(0.04)	(0.11)
18 months	0.02	0.03	-0.06***	0.06***	0.14***	0.24***	0.37***	0.26***	0.41***
	(0.97)	(0.04)	(0.02)	(0.02)	(0.04)	(0.02)	(0.02)	(0.04)	(0.13)
Panel B: Food Consumption Score items, number of days household consumed each item in the past 7 days									
Cereal									
6 months	6.98	0.02**	-0.01	0.01	0.02**	0.02***	0.04***	0.02**	0.02**
	(0.30)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
12 months	6.99	-0.00	-0.02***	-0.01**	0.00	0.01**	0.02***	0.01*	-0.00
	(0.13)	(0.01)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.01)
18 months	6.99	-0.01	-0.06***	-0.03***	-0.01	0.01**	0.04***	0.01**	-0.04*
	(0.14)	(0.01)	(0.00)	(0.00)	(0.01)	(0.00)	(0.00)	(0.00)	(0.02)
Vegetable									
6 months	3.56	0.27***	0.16**	0.32***	0.43***	0.54***	0.70***	0.71***	0.64***
	(2.21)	(0.10)	(0.07)	(0.07)	(0.09)	(0.07)	(0.07)	(0.09)	(0.14)
12 months	3.82	-0.13	-0.13*	0.06	0.17*	0.31***	0.49***	0.46***	0.47*
	(2.15)	(0.09)	(0.07)	(0.07)	(0.09)	(0.07)	(0.07)	(0.09)	(0.26)
18 months	3.28	-0.12	-0.23***	0.04	0.25**	0.40***	0.67***	0.52***	0.68**
	(2.10)	(0.11)	(0.06)	(0.06)	(0.11)	(0.06)	(0.06)	(0.11)	(0.33)
Fruit									
6 months	1.43	0.01	0.14***	0.27***	0.35***	0.43***	0.56***	0.49***	0.52***
	(1.59)	(0.06)	(0.05)	(0.05)	(0.07)	(0.05)	(0.05)	(0.07)	(0.10)
12 months	1.32	-0.15**	-0.06	0.08	0.17**	0.26***	0.40***	0.31***	0.53***
	(1.53)	(0.06)	(0.05)	(0.05)	(0.07)	(0.05)	(0.05)	(0.07)	(0.18)
18 months	1.62	-0.16***	-0.16***	0.05	0.22***	0.34***	0.56***	0.40***	0.69***
	(1.63)	(0.06)	(0.04)	(0.04)	(0.08)	(0.04)	(0.04)	(0.08)	(0.21)
Eggs, Meat, Fish									
6 months	3.43	0.10	0.03	0.21***	0.31***	0.45***	0.63***	0.54***	0.43***
	(2.46)	(0.11)	(0.08)	(0.08)	(0.11)	(0.08)	(0.08)	(0.11)	(0.16)
12 months	3.21	0.16	0.14*	0.35***	0.50***	0.64***	0.85***	0.86***	1.23***
	(2.41)	(0.11)	(0.08)	(0.08)	(0.11)	(0.08)	(0.08)	(0.11)	(0.27)
18 months	3.14	-0.00	-0.24***	0.08	0.30**	0.50***	0.82***	0.65***	0.80**
	(2.44)	(0.12)	(0.06)	(0.06)	(0.12)	(0.06)	(0.06)	(0.12)	(0.35)
Pulses									
6 months	2.71	-0.06	-0.04	0.11	0.22**	0.32***	0.47***	0.37***	0.32**
	(2.04)	(0.09)	(0.07)	(0.07)	(0.10)	(0.07)	(0.07)	(0.10)	(0.14)
12 months	2.18	-0.28***	-0.15**	0.01	0.12	0.22***	0.38***	0.32***	0.26
	(1.74)	(0.07)	(0.06)	(0.06)	(0.08)	(0.06)	(0.06)	(0.08)	(0.22)
18 months	2.06	-0.39***	-0.38***	-0.19***	-0.06	0.07*	0.27***	0.12	-0.23
	(1.41)	(0.07)	(0.04)	(0.04)	(0.08)	(0.04)	(0.04)	(0.08)	(0.23)
Dairy									
6 months	3.92	0.17	0.02	0.22**	0.35***	0.48***	0.68***	0.63***	0.47***
	(2.67)	(0.12)	(0.09)	(0.09)	(0.12)	(0.09)	(0.09)	(0.12)	(0.17)
12 months	3.79	-0.12	-0.20**	0.02	0.17	0.32***	0.55***	0.54***	0.41
	(2.55)	(0.12)	(0.08)	(0.08)	(0.12)	(0.08)	(0.08)	(0.11)	(0.30)
18 months	3.39	-0.07	-0.27***	0.07	0.25**	0.52***	0.87***	0.59***	0.81**
	(2.60)	(0.13)	(0.07)	(0.07)	(0.13)	(0.07)	(0.07)	(0.13)	(0.38)
Oil									
6 months	6.85	0.04	-0.04*	0.01	0.05	0.08***	0.13***	0.14***	0.07
	(0.75)	(0.03)	(0.02)	(0.02)	(0.03)	(0.02)	(0.02)	(0.02)	(0.04)
12 months	6.54	0.02	-0.14***	-0.03	0.05	0.13***	0.24***	0.42***	0.12
	(1.32)	(0.06)	(0.04)	(0.04)	(0.06)	(0.04)	(0.04)	(0.04)	(0.15)
18 months	6.45	0.15**	-0.10***	0.07**	0.18***	0.30***	0.47***	0.54***	0.51**
	(1.39)	(0.07)	(0.03)	(0.03)	(0.06)	(0.03)	(0.03)	(0.05)	(0.20)
Sugar									
6 months	6.93	0.01	-0.06***	-0.02	0.01	0.04**	0.08***	0.07***	0.01
	(0.58)	(0.02)	(0.01)	(0.01)	(0.02)	(0.01)	(0.01)	(0.01)	(0.03)
12 months	6.73	0.03	-0.12***	-0.02	0.05	0.11***	0.21***	0.26***	0.11
	(1.14)	(0.05)	(0.03)	(0.03)	(0.05)	(0.03)	(0.03)	(0.03)	(0.10)
18 months	6.74	0.05	-0.17***	-0.03	0.07	0.16***	0.30***	0.25***	0.19
	(1.11)	(0.05)	(0.03)	(0.03)	(0.05)	(0.03)	(0.03)	(0.03)	(0.13)

Table continued on next page…

Treatment effect on components of the Food Consumption Score, continued…

Spices and condiments									
6 months	6.81	-0.01	-0.13***	-0.05	-0.00	0.05	0.12***	0.19***	0.02
	(1.02)	(0.05)	(0.04)	(0.04)	(0.05)	(0.04)	(0.04)	(0.04)	(0.08)
12 months	6.79	0.05	-0.07***	0.01	0.07**	0.12***	0.19***	0.20***	0.15**
	(0.96)	(0.04)	(0.02)	(0.02)	(0.03)	(0.02)	(0.03)	(0.03)	(0.08)
18 months	6.82	0.07**	-0.09***	0.02	0.08***	0.15***	0.26***	0.17***	0.18**
	(0.89)	(0.03)	(0.02)	(0.02)	(0.03)	(0.02)	(0.02)	(0.02)	(0.07)

*Note: Significance level p< 0.01 - ***, 0.05 - **, 0.1 - *; Robust standard errors in parentheses; Each coefficient in this table is obtained from a different regression of the outcome on specification (1), which includes a binary treatment indicator fully interacted with the outcome at baseline and the propensity score, the model also includes strata fixed effects (n=5); column (4) presents the main results using IPW and sampling weights; column (8) presents the results from instrumenting currently receiving the transfers with eligibility at baseline; columns (1) and (7) are estimated by trimming the top/bottom of the treatment group by the difference in attrition between the treatment and control, as in Lee (2009); columns (2) to (3) and (5) to (6) replace outcome values for the attritters with +/- 0.x standard deviations of their respective treatment group-wave means as in Kling and Liebmann (2004), lower bounds subtract this value from the treatment group and add it to the control group and vice versa for the upper bounds.*

Appendix Table 11: Treatment effect on components of the Reduced Coping Strategies Index.

	Control mean (standard deviation)	Lower bounds (1) Lee (-)	(2) (+/-) .25 SD	(3) (+/-) .1 SD	Unadjusted (4)	Upper bounds (5) (-/+) .1 SD	(6) (-/+) .25 SD	(7) Lee (+)	IV (8)
Panel A: Reduced Coping Strategies Index (inverted and standardized to baseline control)									
6 months	0.21	0.15***	0.08***	0.14***	0.19***	0.23***	0.29***	0.30***	0.27***
	(0.92)	(0.04)	(0.03)	(0.03)	(0.04)	(0.03)	(0.03)	(0.04)	(0.06)
12 months	0.51	0.01	-0.05**	0.01	0.05*	0.08***	0.14***	0.18***	0.13*
	(0.61)	(0.03)	(0.02)	(0.02)	(0.03)	(0.02)	(0.02)	(0.02)	(0.07)
18 months	0.57	-0.16***	-0.25***	-0.17***	-0.10***	-0.06***	0.03*	0.01	-0.34***
	(0.59)	(0.03)	(0.02)	(0.02)	(0.03)	(0.02)	(0.02)	(0.03)	(0.09)
Panel B: Components of the Reduced Coping Strategies Index, how many days in last 7 days did the household:									
Rely on less preferred, cheaper food									
6 months	3.51	-0.47***	-0.57***	-0.33***	-0.17	-0.01	0.23**	0.09	-0.27
	(3.23)	(0.15)	(0.11)	(0.11)	(0.15)	(0.11)	(0.11)	(0.15)	(0.21)
12 months	1.57	-0.44***	-0.31***	-0.14**	-0.03	0.08	0.25***	0.13	-0.10
	(1.90)	(0.07)	(0.06)	(0.06)	(0.09)	(0.06)	(0.06)	(0.09)	(0.23)
18 months	1.65	0.58***	0.47***	0.77***	0.96***	1.18***	1.48***	1.21***	2.86***
	(1.94)	(0.12)	(0.07)	(0.07)	(0.12)	(0.07)	(0.07)	(0.12)	(0.47)
Borrowed food or money to buy food									
6 months	0.40	-0.28***	-0.24***	-0.17***	-0.13***	-0.08**	-0.01	-0.11**	-0.19**
	(1.00)	(0.04)	(0.03)	(0.03)	(0.05)	(0.03)	(0.04)	(0.05)	(0.08)
12 months	0.16	-0.14***	-0.07***	-0.02	0.01	0.05***	0.10***	0.03	0.08
	(0.58)	(0.02)	(0.02)	(0.01)	(0.02)	(0.01)	(0.01)	(0.02)	(0.06)
18 months	0.30	-0.25***	-0.24***	-0.13***	-0.06	0.02	0.13***	-0.03	-0.19
	(0.91)	(0.04)	(0.02)	(0.02)	(0.04)	(0.02)	(0.02)	(0.04)	(0.14)
Reduced number of meals eaten per day									
6 months	1.69	-0.93***	-0.75***	-0.56***	-0.44***	-0.31***	-0.12	-0.38***	-0.65***
	(2.64)	(0.10)	(0.09)	(0.09)	(0.12)	(0.09)	(0.09)	(0.12)	(0.17)
12 months	1.28	-0.86***	-0.57***	-0.37***	-0.23**	-0.09	0.11	-0.13	-0.65**
	(2.39)	(0.09)	(0.07)	(0.07)	(0.11)	(0.07)	(0.07)	(0.11)	(0.30)
18 months	1.34	-0.93***	-0.82***	-0.51***	-0.29**	-0.08	0.23***	-0.19	-0.81**
	(2.59)	(0.11)	(0.07)	(0.07)	(0.13)	(0.07)	(0.07)	(0.13)	(0.41)
Reduced portion size of meals									
6 months	1.24	-0.84***	-0.65***	-0.50***	-0.40***	-0.30***	-0.15**	-0.34***	-0.59***
	(2.19)	(0.08)	(0.08)	(0.08)	(0.10)	(0.08)	(0.08)	(0.11)	(0.15)
12 months	0.88	-0.50***	-0.37***	-0.23***	-0.14*	-0.05	0.09*	-0.07	-0.37*
	(1.63)	(0.06)	(0.05)	(0.05)	(0.07)	(0.05)	(0.05)	(0.08)	(0.19)
18 months	0.68	-0.26***	-0.19***	0.01	0.14**	0.28***	0.48***	0.23***	0.43**
	(1.39)	(0.06)	(0.04)	(0.04)	(0.07)	(0.04)	(0.04)	(0.07)	(0.20)
Reduced consumption of adults so children can eat									
6 months	0.98	-0.69***	-0.57***	-0.43***	-0.34***	-0.24***	-0.10	-0.29***	-0.47***
	(2.05)	(0.08)	(0.07)	(0.07)	(0.09)	(0.07)	(0.07)	(0.09)	(0.14)
12 months	0.83	-0.52***	-0.32***	-0.17***	-0.07	0.04	0.19***	0.01	-0.21
	(1.72)	(0.06)	(0.06)	(0.06)	(0.08)	(0.06)	(0.06)	(0.08)	(0.22)
18 months	0.48	-0.15***	-0.09***	0.10***	0.20***	0.35***	0.54***	0.27***	0.69***
	(1.24)	(0.05)	(0.03)	(0.03)	(0.06)	(0.03)	(0.03)	(0.06)	(0.20)

*Note: Significance level p< 0.01 - ***, 0.05 - **, 0.1 - *; Robust standard errors in parentheses; Each coefficient in this table is obtained from a different regression of the outcome on specification (1), which includes a binary treatment indicator fully interacted with the outcome at baseline and the propensity score, the model also includes strata fixed effects (n=5); column (4) presents the main results using IPW and sampling weights; column (8) presents the results from instrumenting currently receiving the transfers with eligibility at baseline; columns (1) and (7) are estimated by trimming the top/bottom of the treatment group by the difference in attrition between the treatment and control, as in*

Lee (2009); columns (2) to (3) and (5) to (6) replace outcome values for the attritters with +/- 0.x standard deviations of their respective treatment group-wave means as in Kling and Liebmann (2004), lower bounds subtract this value from the treatment group and add it to the control group and vice versa for the upper bounds.

Appendix Table 12: Treatment effect on components of the Livelihoods Coping Strategies Index.

	Control mean (standard deviation)	Lower bounds (1) Lee (-)	(2) (+/-) .25 SD	(3) (+/-) .1 SD	Unadjusted (4)	Upper bounds (5) (-/+) .1 SD	(6) (-/+) .25 SD	(7) Lee (+)	IV (8)
Panel A: Livelihoods Coping strategy Index (inverted and standardized to baseline control)									
6 months	0.18	0.12***	0.08***	0.15***	0.19***	0.24***	0.31***	0.29***	0.26***
	(0.94)	(0.04)	(0.03)	(0.03)	(0.04)	(0.03)	(0.03)	(0.04)	(0.06)
12 months	0.31	-0.12***	-0.17***	-0.09***	-0.03	0.02	0.10***	0.09**	-0.09
	(0.91)	(0.04)	(0.03)	(0.03)	(0.04)	(0.03)	(0.03)	(0.04)	(0.11)
18 months	0.37	-0.12***	-0.23***	-0.11***	-0.03	0.04*	0.15***	0.11***	-0.12
	(0.82)	(0.04)	(0.02)	(0.02)	(0.04)	(0.02)	(0.02)	(0.04)	(0.14)
Panel B: Components of the Livelihoods Coping strategy Index, in the last 30 days has the household:									
Sold HH assets									
6 months	0.19	-0.10***	-0.09***	-0.06***	-0.04**	-0.02	0.01	-0.03	-0.05**
	(0.39)	(0.02)	(0.01)	(0.01)	(0.02)	(0.01)	(0.01)	(0.02)	(0.02)
12 months	0.17	-0.14***	-0.10***	-0.06***	-0.04***	-0.02*	0.01	-0.03**	-0.09**
	(0.38)	(0.01)	(0.01)	(0.01)	(0.02)	(0.01)	(0.01)	(0.02)	(0.04)
18 months	0.15	-0.10***	-0.08***	-0.03***	0.00	0.03***	0.08***	0.02	0.01
	(0.36)	(0.01)	(0.01)	(0.01)	(0.02)	(0.01)	(0.01)	(0.02)	(0.05)
Spent savings									
6 months	0.13	-0.09***	-0.07***	-0.05***	-0.03**	-0.01	0.01	-0.02	-0.05**
	(0.34)	(0.01)	(0.01)	(0.01)	(0.02)	(0.01)	(0.01)	(0.02)	(0.02)
12 months	0.10	-0.10***	-0.08***	-0.06***	-0.04***	-0.02**	0.00	-0.03**	-0.11***
	(0.30)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.04)
18 months	0.11	-0.11***	-0.08***	-0.03***	-0.00	0.02**	0.06***	0.00	-0.00
	(0.31)	(0.01)	(0.01)	(0.01)	(0.02)	(0.01)	(0.01)	(0.02)	(0.04)
Bought food on credit									
6 months	0.63	-0.07***	-0.11***	-0.08***	-0.05**	-0.03*	0.01	-0.02	-0.07**
	(0.48)	(0.02)	(0.02)	(0.01)	(0.02)	(0.01)	(0.01)	(0.02)	(0.03)
12 months	0.66	-0.00	-0.04***	0.00	0.03	0.06***	0.10***	0.08***	0.06
	(0.47)	(0.02)	(0.01)	(0.01)	(0.02)	(0.01)	(0.01)	(0.02)	(0.06)
18 months	0.68	-0.06***	-0.13***	-0.06***	-0.03	0.02*	0.08***	0.03	-0.08
	(0.46)	(0.02)	(0.01)	(0.01)	(0.02)	(0.01)	(0.01)	(0.02)	(0.06)
Borrowed money from non-relatives to cover basic needs									
6 months	0.60	-0.11***	-0.15***	-0.11***	-0.08***	-0.06***	-0.02	-0.05**	-0.11***
	(0.48)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.03)
12 months	0.63	-0.09***	-0.12***	-0.08***	-0.05**	-0.02	0.02	0.01	-0.11*
	(0.48)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.06)
18 months	0.64	-0.15***	-0.22***	-0.16***	-0.11***	-0.07***	-0.00	-0.05**	-0.30***
	(0.47)	(0.03)	(0.01)	(0.01)	(0.03)	(0.01)	(0.01)	(0.03)	(0.08)
Consumed unusual types of food									
6 months	0.15	-0.08***	-0.06***	-0.03**	-0.01	0.00	0.03**	-0.00	-0.03
	(0.36)	(0.02)	(0.01)	(0.01)	(0.02)	(0.01)	(0.01)	(0.02)	(0.03)
12 months	0.18	-0.07***	-0.06***	-0.02*	0.00	0.02**	0.06***	0.02	-0.01
	(0.38)	(0.02)	(0.01)	(0.01)	(0.02)	(0.01)	(0.01)	(0.02)	(0.05)
18 months	0.05	0.05***	0.05***	0.09***	0.12***	0.14***	0.18***	0.14***	0.34***
	(0.22)	(0.02)	(0.01)	(0.01)	(0.02)	(0.01)	(0.01)	(0.02)	(0.06)
Sold productive assets									
6 months	0.02	-0.02***	-0.02**	-0.00	0.00	0.01	0.02***	0.00	0.00
	(0.14)	(0.00)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
12 months	0.01	-0.02***	-0.02***	-0.01*	0.00	0.01**	0.02***	0.00	0.00
	(0.12)	(0.00)	(0.00)	(0.00)	(0.01)	(0.00)	(0.00)	(0.01)	(0.01)
18 months	0.01	-0.02***	-0.03***	-0.01***	-0.00	0.01**	0.02***	-0.00	-0.02
	(0.12)	(0.00)	(0.00)	(0.00)	(0.01)	(0.00)	(0.00)	(0.01)	(0.02)
Withdrew children from school									
6 months	0.08	-0.06***	-0.05***	-0.03***	-0.02	-0.00	0.01*	-0.01	-0.03
	(0.27)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.02)
12 months	0.06	-0.07***	-0.05***	-0.03***	-0.01	0.00	0.02***	-0.01	-0.03
	(0.25)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.03)
18 months	0.03	-0.04***	-0.02***	0.01	0.02**	0.04***	0.07***	0.03***	0.07**
	(0.18)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.03)

Table continued on next page…

Treatment effect on components of the Livelihoods Coping Strategies Index, continued…

	Control mean (standard deviation)	Lower bounds (1) Lee (-)	(2) (+/-) .25 SD	(3) (+/-) .1 SD	Unadjusted (4)	Upper bounds (5) (-/+) .1 SD	(6) (-/+) .25 SD	(7) Lee (+)	IV (8)
Reduced food expenditures									
6 months	0.80	-0.09***	-0.12***	-0.09***	-0.07***	-0.05***	-0.02	-0.02	-0.10***
	(0.39)	(0.02)	(0.0: 1)	(0.01)	(0.02)	(0.01)	(0.01)	(0.02)	(0.03)
12 months	0.71	-0.06***	-0.10***	-0.06***	-0.03	-0.01	0.03**	0.03	-0.08
	(0.44)	(0.02)	(0.02)	(0.01)	(0.02)	(0.01)	(0.02)	(0.02)	(0.05)
18 months	0.62	0.02	-0.05***	0.01	0.05**	0.09***	0.16***	0.11***	0.18**
	(0.48)	(0.03)	(0.01)	(0.01)	(0.03)	(0.01)	(0.01)	(0.03)	(0.08)
Reduced health expenditures									
6 months	0.31	-0.10***	-0.11***	-0.08***	-0.05***	-0.03**	0.00	-0.04*	-0.07**
	(0.46)	(0.02)	(0.01)	(0.01)	(0.02)	(0.01)	(0.01)	(0.02)	(0.03)
12 months	0.31	-0.01	-0.03*	0.02	0.04**	0.07***	0.11***	0.08***	0.10*
	(0.46)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.06)
18 months	0.22	-0.06***	-0.09***	-0.04***	0.00	0.04***	0.09***	0.03	0.02
	(0.41)	(0.02)	(0.01)	(0.01)	(0.02)	(0.01)	(0.01)	(0.02)	(0.07)
Reduced education expenditures									
6 months	0.25	-0.03*	-0.05***	-0.01	0.01	0.03**	0.06***	0.03	0.02
	(0.43)	(0.02)	(0.01)	(0.01)	(0.02)	(0.01)	(0.01)	(0.02)	(0.03)
12 months	0.17	0.02	0.02*	0.06***	0.08***	0.10***	0.14***	0.10***	0.21***
	(0.37)	(0.02)	(0.01)	(0.01)	(0.02)	(0.01)	(0.01)	(0.02)	(0.05)
18 months	0.23	-0.01	-0.05***	0.01	0.04*	0.08***	0.14***	0.06***	0.16*
	(0.42)	(0.02)	(0.01)	(0.01)	(0.02)	(0.01)	(0.01)	(0.02)	(0.08)
Entire HH moved to another location									
6 months	0.20	-0.13***	-0.12***	-0.09***	-0.07***	-0.05***	-0.02**	-0.06***	-0.10***
	(0.40)	(0.02)	(0.01)	(0.01)	(0.02)	(0.01)	(0.01)	(0.02)	(0.02)
12 months	0.14	-0.10***	-0.06***	-0.03***	-0.01	0.01	0.04***	0.00	-0.01
	(0.35)	(0.01)	(0.01)	(0.01)	(0.02)	(0.01)	(0.01)	(0.02)	(0.04)
18 months	0.12	-0.04**	-0.04***	0.00	0.03	0.06***	0.11***	0.04**	0.08
	(0.32)	(0.02)	(0.01)	(0.01)	(0.02)	(0.01)	(0.01)	(0.02)	(0.06)
Children involved in income generation									
6 months	0.09	-0.02*	-0.02	0.01	0.02*	0.04***	0.06***	0.03**	0.03
	(0.29)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.02)
12 months	0.10	-0.05***	-0.03***	-0.01	0.01	0.03***	0.06***	0.02*	0.03
	(0.31)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.04)
18 months	0.13	-0.10***	-0.11***	-0.06***	-0.03*	-0.00	0.04***	-0.02	-0.12**
	(0.34)	(0.02)	(0.01)	(0.01)	(0.02)	(0.01)	(0.01)	(0.02)	(0.06)
HH members beg									
6 months	0.00	-0.00**	-0.01***	-0.01***	-0.00**	-0.00	0.00	-0.00**	-0.00*
	(0.06)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
12 months	0.00	-0.00**	-0.01***	-0.00*	0.00	0.00***	0.01***	0.00	0.00
	(0.03)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
18 months	0.00	-0.00	-0.00***	-0.00	0.00	0.00***	0.01***	0.00	0.00
	(0.01)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
HH members returned to country of origin									
6 months	0.06	-0.06***	-0.06***	-0.04***	-0.03***	-0.02**	-0.01	-0.03**	-0.05***
	(0.24)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.02)
12 months	0.02	-0.03***	-0.03***	-0.01**	-0.00	0.00	0.02***	-0.00	-0.01
	(0.16)	(0.00)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.02)
18 months	0.03	-0.03***	-0.04***	-0.01**	0.00	0.02**	0.04***	0.01	-0.00
	(0.18)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.04)

*Note: Significance level p< 0.01 - ***, 0.05 - **, 0.1 - *; Robust standard errors in parentheses; Each coefficient in this table is obtained from a different regression of the outcome on specification (1), which includes a binary treatment indicator fully interacted with the outcome at baseline and the propensity score, the model also includes strata fixed effects (n=5); column (4) presents the main results using IPW and sampling weights; column (8) presents the results from instrumenting currently receiving the transfers with eligibility at baseline; columns (1) and (7) are estimated by trimming the top/bottom of the treatment group by the difference in attrition between the treatment and control, as in Lee (2009); columns (2) to (3) and (5) to (6) replace outcome values for the attritters with +/- 0.x standard deviations of their respective treatment group-wave means as in Kling and Liebmann (2004), lower bounds subtract this value from the treatment group and add it to the control group and vice versa for the upper bounds.*

Appendix Table 13: Main impacts with False Discovery Rate adjusted q-values.

	VT - Lower bounds (KL -/+ .1 SD)			VT - Unadjusted			VT - Upper bounds (KL -/+ .1 SD)		
	β	p-value	q-value	β	p-value	q-value	β	p-value	q-value
Total monthly consumption expenditure									
6 months	60.407	0.001	0.001	79.015	0.001	0.002	114.398	0.000	0.001
12 months	84.741	0.000	0.001	100.782	0.000	0.001	146.859	0.000	0.001
18 months	-0.577	0.969	0.369	34.088	0.203	0.113	97.084	0.000	0.001
Monthly consumption per capita									
6 months	-22.004	0.000	0.001	-15.903	0.002	0.003	-9.885	0.011	0.004
12 months	-19.553	0.000	0.001	-13.987	0.003	0.003	-6.301	0.057	0.013
18 months	-45.651	0.000	0.001	-33.246	0.000	0.001	-23.930	0.000	0.001
Food Consumption Score (standardized)									
6 months	0.162	0.000	0.001	0.207	0.000	0.001	0.261	0.000	0.001
12 months	0.135	0.000	0.001	0.195	0.000	0.001	0.254	0.000	0.001
18 months	0.063	0.011	0.006	0.143	0.002	0.003	0.239	0.000	0.001
Reduced Coping Strategies Index (inverted and standardized)									
6 months	0.158	0.000	0.001	0.205	0.000	0.001	0.247	0.000	0.001
12 months	0.016	0.610	0.220	0.076	0.084	0.052	0.133	0.000	0.001
18 months	-0.284	0.000	0.001	-0.179	0.000	0.001	-0.096	0.000	0.001
Livelihoods Coping strategy Index (inverted and standardized)									
6 months	0.157	0.000	0.001	0.200	0.000	0.001	0.252	0.000	0.001
12 months	-0.100	0.001	0.001	-0.038	0.383	0.181	0.019	0.529	0.069
18 months	-0.138	0.000	0.001	-0.036	0.494	0.212	0.046	0.114	0.021
Proportion of children attending school									
6 months	-0.007	0.610	0.220	0.012	0.485	0.212	0.038	0.007	0.003
12 months	0.007	0.611	0.220	0.024	0.187	0.112	0.060	0.000	0.001
18 months	-0.016	0.226	0.088	-0.001	0.968	0.353	0.058	0.000	0.001

Note: Each coefficient in this table denotes the impact of treatment and is obtained from a different regression of the outcome, which includes a binary treatment indicator fully interacted with the outcome at baseline and the propensity score, the model also includes strata fixed effects (n=5); q-values are False Discovery Rate adjusted p-values and are estimated using the procedure described in Anderson 2008, outcomes over all three follow-ups are considered as one set of outcomes over which adjustments are made; all consumption values are deflated across regions and months to average 2017 Turkish Lira; the proportion of children attending school regression is estimated using the subsample of households with at least one child; FCS, rCSI, and LCSI are standardized to the control group, the rCSI and LCSI are inverted so that for all three WFP scores a higher value indicates an improvement; Unadjusted estimates presents the estimation results from specification 1 using IPW and sampling weights; lower bound estimates are estimated using specification 1 and replacing outcome values for the attrittors with +/- 0.x standard deviations of their respective treatment group-wave means as in Kling and Liebman (2004), lower bounds subtract this value from the treatment group and add it to the control group and vice versa for the upper bounds.

Appendix Table 14: Estimation results of the value of treatment on secondary outcomes.

	Control mean (standard deviation)	Lower bounds (1) Lee (-)	(2) (+/-) .25 SD	(3) (+/-) .1 SD	Unadjusted (4)	Upper bounds (5) (-/+) .1 SD	(6) (-/+) .25 SD	(7) Lee (+)	IV (8)
All school aged children are attending school									
6 months	0.41	-0.03	-0.07***	-0.03*	-0.01	0.02	0.06***	0.01	0.01
	(0.49)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.03)
12 months	0.40	-0.06***	-0.10***	-0.05***	-0.02	0.01	0.06***	0.01	-0.02
	(0.49)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.06)
18 months	0.52	-0.09***	-0.14***	-0.07***	-0.03	0.02	0.09***	0.01	-0.05
	(0.49)	(0.03)	(0.02)	(0.02)	(0.03)	(0.02)	(0.02)	(0.03)	(0.08)
No school aged children are attending school									
6 months	0.29	-0.07***	-0.10***	-0.06***	-0.03	-0.01	0.03*	-0.02	-0.06*
	(0.45)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.03)
12 months	0.31	-0.15***	-0.14***	-0.10***	-0.06***	-0.04***	0.00	-0.05**	-0.20***
	(0.46)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.06)
18 months	0.21	-0.17***	-0.15***	-0.09***	-0.03	-0.02	0.04***	-0.02	-0.13**
	(0.41)	(0.02)	(0.01)	(0.01)	(0.02)	(0.01)	(0.01)	(0.03)	(0.07)
Main source of income from skilled labor									
6 months	0.25	-0.05***	-0.07***	-0.04***	-0.01	0.01	0.04***	0.00	-0.02
	(0.43)	(0.02)	(0.01)	(0.01)	(0.02)	(0.01)	(0.01)	(0.02)	(0.03)
12 months	0.21	-0.11***	-0.09***	-0.05***	-0.03	-0.01	0.03**	-0.01	-0.07
	(0.40)	(0.02)	(0.01)	(0.01)	(0.02)	(0.01)	(0.01)	(0.02)	(0.05)
18 months	0.22	-0.03	-0.06***	-0.00	0.03	0.07***	0.13***	0.06***	0.11
	(0.41)	(0.02)	(0.01)	(0.01)	(0.02)	(0.01)	(0.01)	(0.02)	(0.07)
Main source of income from unskilled labor									
6 months	0.65	-0.07***	-0.11***	-0.08***	-0.05**	-0.03*	0.01	-0.01	-0.08**
	(0.47)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.03)
12 months	0.69	-0.07***	-0.10***	-0.06***	-0.03	-0.00	0.04**	0.03	-0.09
	(0.46)	(0.02)	(0.02)	(0.01)	(0.02)	(0.02)	(0.02)	(0.02)	(0.05)
18 months	0.63	-0.11***	-0.17***	-0.11***	-0.07***	-0.02	0.04***	-0.01	-0.19**
	(0.48)	(0.03)	(0.01)	(0.01)	(0.03)	(0.01)	(0.01)	(0.03)	(0.08)
Migrated from baseline province									
6 months	0.03	-0.04***	-0.05***	-0.04***	-0.03***	-0.02***	-0.01	-0.03***	-0.04***
	(0.19)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
12 months	0.04	-0.04***	-0.05***	-0.04***	-0.03***	-0.02**	-0.00	-0.02***	-0.07**
	(0.20)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.03)
18 months	0.04	-0.04***	-0.06***	-0.04***	-0.02**	-0.01	0.02***	-0.02**	-0.06**
	(0.20)	(0.01)	(0.00)	(0.00)	(0.01)	(0.00)	(0.00)	(0.01)	(0.03)
Migrated from baseline district									
6 months	0.12	0.02	0.02*	0.05***	0.07***	0.09***	0.11***	0.08***	0.10***
	(0.33)	(0.02)	(0.01)	(0.01)	(0.02)	(0.01)	(0.01)	(0.02)	(0.03)
12 months	0.11	0.02	0.03**	0.06***	0.08***	0.10***	0.13***	0.10***	0.19***
	(0.32)	(0.02)	(0.01)	(0.01)	(0.02)	(0.01)	(0.01)	(0.02)	(0.05)
18 months	0.12	0.01	0.00	0.05***	0.08***	0.11***	0.16***	0.10***	0.24***
	(0.33)	(0.02)	(0.01)	(0.01)	(0.02)	(0.01)	(0.01)	(0.02)	(0.07)

*Note: Significance level p< 0.01 - ***, 0.05 - **, 0.1 - *; Robust standard errors in parentheses; Each coefficient in this table is obtained from a different regression of the outcome on specification (1), which includes a binary treatment indicator fully interacted with the outcome at baseline and the propensity score, the model also includes strata fixed effects (n=5); the regressions on school attendance are estimated on the subsample of households with at least one child; column (4) presents the main results using IPW and sampling weights; column (8) presents the results from instrumenting currently receiving the transfers with eligibility at baseline; columns (1) and (7) are estimated by trimming the top/bottom of the treatment group by the difference in attrition between the treatment and control, as in Lee (2009); columns (2) to (3) and (5) to (6) replace outcome values for the attritters with +/- 0.x standard deviations of their respective treatment group-wave means as in Kling and Liebmann (2004), lower bounds subtract this value from the treatment group and add it to the control group and vice versa for the upper bounds.*

Appendix Table 15: Treatment heterogeneity of primary and selected secondary outcomes.

	(1) Total cons.	(2) Total cons. per capita	(3) FCS	(4) rCSI	(5) LCSI	(6) Prop. children in school	(7) All children in school	(8) No children in school
6 months								
Treatment	79.01***	-15.90***	0.21***	0.20***	0.20***	0.01	-0.01	-0.03
	(24.26)	(5.14)	(0.04)	(0.04)	(0.04)	(0.02)	(0.02)	(0.02)
Propensity score	129.80*	-52.24***	0.10	-0.11	-0.09	0.04	-0.06	-0.10
	(69.99)	(13.85)	(0.13)	(0.16)	(0.12)	(0.05)	(0.07)	(0.06)
Treat * Propensity score	97.35	43.51**	-0.08	0.07	-0.03	0.17***	0.21***	-0.16**
	(87.98)	(18.24)	(0.16)	(0.17)	(0.15)	(0.06)	(0.08)	(0.08)
12 months								
Treatment	100.78***	-13.99***	0.20***	0.08*	-0.04	0.02	-0.02	-0.06***
	(24.65)	(4.66)	(0.04)	(0.04)	(0.04)	(0.02)	(0.02)	(0.02)
Propensity score	135.73**	-55.85***	0.04	-0.11	-0.24*	-0.01	-0.09*	-0.03
	(55.30)	(10.34)	(0.12)	(0.12)	(0.12)	(0.04)	(0.05)	(0.06)
Treat * Propensity score	84.23	32.36**	0.02	0.13	0.00	0.17***	0.18**	-0.16**
	(90.35)	(15.38)	(0.16)	(0.16)	(0.16)	(0.06)	(0.07)	(0.08)
18 months								
Treatment	34.09	-33.25***	0.14***	-0.18***	-0.04	-0.00	-0.03	-0.03
	(26.76)	(6.33)	(0.05)	(0.05)	(0.05)	(0.02)	(0.03)	(0.02)
Propensity score	202.07***	3.09	0.05	-0.08	-0.47***	-0.02	-0.15**	-0.04
	(71.03)	(19.67)	(0.13)	(0.14)	(0.15)	(0.05)	(0.07)	(0.06)
Treat * Propensity score	78.98	-8.34	-0.04	-0.30*	0.04	0.19**	0.21**	-0.15*
	(93.29)	(24.90)	(0.16)	(0.17)	(0.20)	(0.08)	(0.10)	(0.08)

*Note: Significance level p< 0.01 - ***, 0.05 - **, 0.1 - *; Robust standard errors in parentheses; Each coefficient in this table is obtained from a different regression of the outcome on specification (1), which includes a binary treatment indicator fully interacted with the outcome at baseline and the demeaned propensity score, the model also includes strata fixed effects (n=5); all consumption values are deflated across regions and months to average 2017 TL; the regressions on school attendance are estimated on the subsample of households with at least one child.*

Appendix Table 16: Inequality indices across survey waves and treatment groups, balanced panel.

	GE(0)	GE(1)	Gini	N
Sample limited to the sample re-interviewed at 6 months follow-up				
At baseline				
Overall	0.110	0.107	0.255	5840
Control	0.117	0.112	0.261	2978
Treatment	0.104	0.102	0.248	2862
Between group	0.0000	0.0000		
At 6 months				
Overall	0.082	0.078	0.218	5840
Control	0.086	0.080	0.222	2978
Treatment	0.077	0.075	0.212	2862
Between group	0.000	0.000		
Sample limited to the sample re-interviewed at 12 months follow-up				
At baseline				
Overall	0.109	0.106	0.254	5494
Control	0.117	0.112	0.262	2745
Treatment	0.100	0.245	0.245	2749
Between group	0.0000	0.0000		
At 6 months				
Overall	0.062	0.064	0.197	5494
Control	0.065	0.067	0.201	2745
Treatment	0.059	0.061	0.192	2749
Between group	0.000	0.000	0.000	
Sample limited to the sample re-interviewed at 18 months follow-up				
At baseline				
Overall	0.108	0.105	0.253	4447
Control	0.114	0.110	0.260	2184
Treatment	0.102	0.100	0.246	2263
Between group	0.0001	0.0001		
At 6 months				
Overall	0.076	0.076	0.215	4447
Control	0.075	0.074	0.213	2184
Treatment	0.073	0.075	0.212	2263
Between group	0.002	0.002	0.000	0

Note: Columns 1 and 2 contain inequality indices derived from the generalized entropy index GE (a) with a=0 in column 1, i.e. the mean log deviation index, and a=1 in column 2, i.e. the Theil index; Column 3 contains the Gini index; Column 4 shows the row sample size; Indices in the Overall row are for the full sample while Control and Treatment rows show the indices derived within each sample; this table presents results for balanced panels only, i.e. limiting each comparisons between baseline and each wave to the sub-sample that was re-interviewed at the relevant follow-up (note the sample size relative to that shown in Table 7).

A2. Consumption deflator

The expenditure data were deflated to account for price variations over time and across regions, by expenditure type and month of data collection. For deflation across time, the consumption categories above were matched with the corresponding consumption categories in Turkish Statistical Institute's Consumer Price Index (CPI), using the Classification of Individual Consumption by Purpose (COICOP) codes. For consumption categories that did not have a direct match, the general CPI was used instead. Using month- and region- specific (at NUTS-2 level) values of these categories, expenditure types were deflated to be all expressed in 2017 as base year. The deflated consumption value Y of item-category *c*, in region *r*, during year *y* and month *m*, was therefore obtained using the following formula:

$$Y_{c,r,y,m}^{2017\ value} = Y_{c,r,y,m}^{current\ value} * \left(\frac{\frac{1}{12}\sum_{m=1}^{12} CPI_{c,r,y=2017}}{CPI_{c,r,y,m}} \right)$$

To take into account spatial differences in cost of living, the result of the previous formula was deflated using Turkish Statistical Institute's 2017 Purchasing Power Indices (PPI) for the 26 NUTS-2 regions of the country, by consumption category. Therefore, the following formula was used to obtain the final temporally and regionally deflated expenditure values, using the values of Y deflated to 2017 as in the previous step, and the PPI for item-category *c*, in region *r*, and year 2017, with the index for Turkey being equal to 100:

$$Y_{c,r,y,m}^{2017\ value,regionally\ deflated} = Y_{c,r,y,m}^{2017\ value} * \left(\frac{100}{PPI_{c,r,y=2017}} \right)$$