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Cash Transfers and Women's Control over Decision-Making and Labor Supply in Egypt

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ABSTRACT

Theory predicts that cash transfers targeted to women improve women's bargaining power within the household and therefore increase women's influence in decision-making. Empirical evidence, however, is mixed and suggests the importance of local context. We use a fuzzy regression discontinuity design to identify the causal impact of Egypt's national cash transfer program on women's control over household decision-making. For women without formal education, the transfers have large and significant negative impacts on women's ability to influence household decisions. The mechanisms influencing this negative impact include a decrease in women's labor supply and an increase in husbands' involvement in decision-making which are linked to an environment in which norms dictate that women should not work outside the home and men should be the primary decision-maker in the household. Our results highlight the importance of cultural norms for understanding the impacts of cash transfers on intrahousehold dynamics.

1. INTRODUCTION

Evaluations sometimes provide mixed evidence on the effectiveness of a program across contexts. Indeed, the objective of an evaluation may not be to find "what works" but rather "what works for whom in which circumstances" (Tilley, 2000). When the impact of an intervention differs across geographies and contexts, it is often difficult to determine why; whether this is due to differences in environments, markets, technologies, preferences, or cultural factors. We study an aspect of the design of cash transfer programs that produces mixed results – the effect of transfers targeted specifically to women on their control over decision-making – and demonstrate that the effects we observe in Egypt are shaped by norms around women's roles in decision-making and the labor market.

Cash transfers targeted to poor households are a popular strategy for addressing poverty. Transfers directly raise incomes and allow households to make important investments in their own and their children's future well-being. Less well understood is how transferring cash to a specific individual within the household may change household decision-making in ways that reinforce or undermine these positive impacts on economic outcomes. In this paper, we examine the impact of Egypt's national cash transfer program, Takaful, on women's self-reported influence in household decision-making.

Cash transfer programs often target women as the direct recipients of cash payments, both to prioritize spending on child human capital investment and to increase women's bargaining power within the household. Evidence from a variety of contexts shows that a higher share of resources controlled by women, either in terms of resources at marriage or earned income, is associated with household spending decisions that favor investments in children (Thomas 1990, Hoddinott and Haddad, 1995; Quisumbing & Maluccio, 2003; Doss 2013). Indeed, cash transfer programs that direct transfers to women have been widely shown to increase investment in children's health and education (Bastagli et al. 2016; Handa et al. 2018; Hidrobo et al. 2018; Fiszbein and Schady, 2009). This evidence is consistent with a model of household decision-making in which increasing a woman's outside option increases her bargaining power within the household (Doss 2013). Providing cash transfers directly to women may also increase women's bargaining power. However, it is difficult to disentangle the pure income effect from an effect due to a change in household decision-making processes (Attanasio and Lechene, 2010). Consequently, research has focused on measuring the impact of cash transfers on household bargaining power by tracking changes in women's perceived ability to influence household decisions.

The empirical evidence on the impact of cash transfers to women on intra-household decision-making is mixed. In Latin America, for example, Handa et al. (2009) find increases in women's ability to control spending of extra cash in Mexico; de Brauw et al. (2014) find increases in women's influence over decision-making only in urban households in Brazil; and Bergolo and Galvan (2018) find increases in female control for both food expenditures and how to spend extra cash in Uruguay. On the other hand, in a review of evaluations of social safety net programs in Africa, the effects vary widely. Peterman et al. (2019) report that only 5 out of 16 studies found at least one positive impact on control over some dimension of women's decision-making. One study, in Senegal (Ambler et al. 2019), estimated a negative impact (albeit short-term) on decision-making, while in South Africa, Ambler (2016) found an increase in women's control of decision-making when they gained access to pension payments. In Pakistan, Ambler and de Brauw (2017) also find positive impacts of cash transfers on measures related women's empowerment such as mobility and refusal to accept domestic violence. In Macedonia, Almås et al. (2018) randomized transfers to household heads (generally male) or mothers and found that offering transfers to women decreased women's willingness-to-pay for the man not to receive the transfer, a novel measure of women's empowerment related to the decision-making outcomes we study here. In Kenya, Haushofer and Shapiro (2016) experiment with the gender of the recipient and find that transfers to the woman in the household have weakly larger treatment effects on women's empowerment than transfers to the male.

Qualitative research has revealed more positive and nuanced perceptions about changes in household decision-making than those suggested by quantitative analyses in various contexts. In mixed methods evaluations of social protection programs in Mexico (Adato et al., 2000), Bangladesh (Roy et al. 2015), and Zambia (Bonilla et al., 2017) qualitative analysis revealed positive impacts on intangible dimensions of women's welfare such as self-confidence regarding decision-making where the quantitative analysis alone would have suggested negative or no impacts. Purely qualitative work on intra-household decision making such as in Bernard et al. (2018) in Senegal also shows a much more complex relationship than is captured by the standard survey questions regarding who makes decisions in different domains.

Our identification strategy relies on a fuzzy regression discontinuity design (RDD) that exploits the eligibility cutoff along a proxy means test score to measure the causal impacts of Takaful on women's decision-making. Within Egyptian society, a woman's education level is positively correlated with greater decision-making influence (Assaad et al., 2014). This motivates our exploration of heterogeneity of impacts by women's education level, in which we compare impacts between women without formal education to those with formal education.

Our main finding is that we see no evidence of impact of cash transfers in Egypt's Takaful Program on women's control over decision-making, on average, but we find heterogeneity of impacts by women's education level. For women with no formal education, we find negative and significant impacts on overall ability to influence household decisions, including significant reductions in the ability to influence decisions on spending income from the government, minor household expenditures, and taking children to the doctor.

Insights from semi-structured qualitative interviews inform our interpretation of these results. The mechanisms suggested by our analysis relate to local gender norms interacting with the relaxation of the budget constraint. Qualitative interviews revealed that men's involvement in decision-making is widely accepted as a cultural norm and that transfers were widely treated as equivalent to other household resources rather than being managed separately by the woman. In this context, the transfers did not increase women's bargaining power within the household, but instead revealed men's strong decision-making position within the household. First, receiving cash transfers increased the choice set of decisions for the household to make. Several respondents in the qualitative interviews expressed that it was difficult for them to answer questions about who made decisions because at their low level of income "life doesn't have many decisions to talk about." Spending was largely constrained by immediate needs and was often already committed. The cash transfers may have created more opportunities for decision-making and therefore men's role in the decision-making process became more visible. The quantitative data show that the transfers caused women to be more likely to mention men as involved in decision-making in various domains. Second, the program caused a small but significant decrease in women's labor market participation. Qualitative interviews suggest that the negative effect on labor market participation may have been driven by gender norms discouraging female employment except in cases of severe economic necessity. The loss in income for women resulting from lower labor market participation may have contributed to a reduction in women's bargaining power within the household.

Finally, the qualitative interviews allow us to reflect upon respondents' own language of valuation (Martinez-Alier 2008) in which, despite the negative estimated impacts on decision-making, women still perceive the program as beneficial to their families. Women's generally positive responses to questions regarding the impacts of the transfer may reflect the very positive impact of the transfer on household consumption. Women's disutility from noncompliance with social norms is larger than their marginal utility of controlling the additional income. This paper makes an important contribution to the literature on the impacts of cash transfers on intra-household decision-making. Much of the empirical evidence on cash transfers and women's decision-making comes from Latin American countries and, increasingly, from sub-Saharan Africa or South Asia, but evidence is scant from Arab countries, where norms regarding gender roles are very different and male primacy in household decision-making is often more entrenched. Our findings highlight that this difference in context and norms matter. Conditional cash transfer program designs often still follow the model developed in Latin America, where female labor force participation and average participation of women in household decisions is much higher than in the Middle East (Kishor and Subaiya, 2008). However, in Egypt, where female labor force participation and control over household decisions is much lower, transfers to women did not strengthen women's decision-making role. Among women with no formal education, who have even weaker bargaining power within the household, the cash transfers led to a further erosion in their control over decision-making. The evidence presented supports that the mechanisms for these negative effects include a decline in women's labor force participation and gender norms that emphasize the primacy of male control in decision-making. The importance of local context in reconciling mixed results across settings has been demonstrated in other types of interventions. For example, Nihayah, Revina, and Usman (2020) find that impacts of educational reforms differed substantially across three districts in Indonesia because norms around trust and hierarchy differ across these contexts.

The paper proceeds as follows. In Section 2, we describe the Takaful cash transfer program in Egypt and in Section 3, we describe the data and empirical strategy. Section 4 presents the main results on women's control over decision-making, and in Section 5, we conduct robustness checks and allay concerns regarding alternative explanations for the main results. In Section 6, we discuss the mechanisms behind the main results and demonstrate the links with our primary outcome. Finally, Section 7 concludes.

2. THE TAKAFUL CASH TRANSFER PROGRAM

The *Takaful and Karama Program (TKP)*, Egypt's national cash transfer program, is implemented by the Ministry of Social Solidarity (MoSS) and was introduced in March 2015. The main component of TKP, *Takaful* ("Solidarity"), is a monthly cash transfer targeted to poor households with children under age 18 and accounts for 87% of beneficiaries.[1] *Karama* ("Dignity") is a much smaller component of the program in which monthly transfers are targeted to disabled, elderly, and orphaned individuals. Our analysis focuses on the effect of the *Takaful* cash transfers on decision-making between partners in dual-headed households.

TKP is targeted towards poor households using a combination of geographic targeting, self-selection, and a proxy means test (PMT). The program was rolled out in several waves, starting with the poorest districts in Egypt. Consequently, recipients are disproportionately from rural areas in the southern region of Upper Egypt. Once the program was active in a district, households applied at local MOSS offices and provided detailed information on household characteristics, which was then sent to the central office. At the central office, some of these data, such as employment status and land ownership, were verified from administrative databases and the household PMT score was calculated to determine whether the household met the eligibility cut-off. The PMT score uses a model that predicts household consumption as a function of household characteristics captured the program application. A threshold score below 4500 on the PMT was set to determine program eligibility based on the proportion of registrants that government funding could accommodate. At the start of this study, approximately half of the applicants had been accepted as program beneficiaries. The use of a defined cut-off in eligibility by PMT score is key to our identification strategy and we have verified in administrative data that the cut-off was rigorously applied.

Takaful designates the mother or caregiver of the eligible children in the household as the primary beneficiary of the program. Men are only listed as the primary beneficiary in rare cases if there is no female caregiver in the household (in our sample, transfers were made directly to men in only 5% of households). The cash transfer is delivered at Egypt Post Office branches and can only be collected by the primary beneficiary who must show her national ID. One of the lead officials tasked with designing the program described the choice to provide the transfers to women as a way to elevate women's important role as caregivers (H. Sholkamy, personal communication, December 4, 2017). A World Bank project document for TKP also states that directing the transfers to mothers was intended "to provide economic empowerment of participating women and increase their participation in family decision-making" (World Bank, 2015).

At the time of data collection, *Takaful* transfers consisted of a base payment of EGP325 per household, plus EGP60 for each primary school-aged child, EGP80 for each preparatory school-aged child, and EGP100 for each secondary school-aged child. Households could receive transfers for up to three children. The average total household transfer from *Takaful* was equivalent to 17 percent of beneficiary household expenditure, which represents a substantial contribution to the household budget. An impact evaluation report of the effect of the TKP cash transfers on household consumption showed that recipient households spent significantly more money on food compared to non-recipients, particularly more nutritious foods such as fruit and meat/poultry (Breisinger et al., 2018; ElDidi et al., 2018).

3. DATA, SAMPLE, AND EMPRICAL SPECIFICATION

This section describes our sample and data collection process for both the quantitative and qualitative data, explains the empirical approach we employ for both types of data, and defines the outcomes we examine. Finally, we present summary statistics that inform the demographic characteristics of the sample.

Sampling strategy and quantitative data collection

The data used for the analysis come from a household survey of 6,003 Takaful applicant households in 400 communities (villages or village-sized units defined by administrative data for urban areas)

[1] *Takaful* is designed to be a conditional cash transfer program with transfers linked to school attendance targets and health clinic visits by pre-schoolers. However, at the time of conducting the quantitative survey and qualitative data collection, the conditionalities were not yet implemented.

conducted in August 2017 as part of an impact evaluation of the *Takaful and Karama Program*. Applicant households were identified from the program registry. At the time of sample selection, there were 2.84 million applicant households in the registry, and 1.675 million of these were current beneficiaries of *Takaful*. The households in our sample are geographically representative of all *Takaful* applicants with PMT scores within 600 points of the main *Takaful* eligibility threshold of 4500 (corresponding roughly to the middle two quartiles of the full distribution of applicants). The sample was selected using stratified cluster random sampling with oversampling of households closer to the 4500 threshold. Households within 200 points of the threshold were three times more likely and households within 400 points of the threshold two times more likely to be included than households between 400 and 600 points away from the threshold.

Stratification was based primarily on region: Metropolitan (greater Cairo and Alexandria), Upper Rural, Upper Urban, Lower Rural, and Lower Urban, as the PMT formula used differed slightly by region. In the Upper Rural region of Egypt where the majority of *Takaful* registrants reside, we also stratified by governorate to improve representativeness in this region for a total of 14 region-governorate strata.[2] Communities were selected using simple random sampling proportional to the number of registrants in each stratum.

After excluding female-headed households and households in which the head of household was not the husband of the *Takaful* beneficiary, the sample size used for the analysis consists of 5,611 households.[3] In addition to questions regarding household decision-making, the survey included questions on demographics, employment, education, assets, consumption, health, participation in cash transfer and other government transfer programs, and anthropometry.

The households in our sample are slightly better off than the average beneficiary because we sampled from households near the eligibility cut-off. Consequently, the transfers were only equivalent to 13% of household expenditure for households in our sample, compared to 17% for a nationally representative sample. However, this is the relevant sample for causal identification using RDD.

Sampling strategy and qualitative data collection

Semi-structured interviews and focus group discussions were conducted after the quantitative data collection was completed to provide additional information on the perceptions of women's role in household decision-making and how this was affected by the *Takaful* transfers. Six communities were selected from among those included in the quantitative data collection following the principle of maximum diversity sampling (Patton 1990, 172; Miles, Huberman, and Saldaña 2014). Households were selected by income level and beneficiary status with oversampling from among the poorest households as they had not been included in the quantitative evaluation.

In each household, the female beneficiary and a man (usually the husband) were interviewed by researchers of the same gender as the interviewee. Both men and women were asked about decision-making roles, perceptions about the program and transfers being directed to women, and how the household managed the transfer income. All female respondents were additionally asked about general household budgeting. Interviews were conducted with 61 individuals across 34 households.

Additional data was collected in each community through two focus group discussions with beneficiaries – one for men and one for women. Topics covered in the discussions included impressions about the program, including perceptions on women's decision-making, effects on the well-being of friends and neighbors in the community, effects on relationships between men and women in the household, and opinions regarding the transfers being directed to women.

[2] Governorate is the highest level administrative unit in Egypt. Upper and Lower Egypt is a traditional geographic split between northern Egypt and southern Egypt which was interacted with urban/ rural to define the 6 regions.

[3] We exclude cases in which the targeted beneficiary does not have a spouse because we are primarily interested in decision-making outcomes between spouses.

Community profile interviews were also carried out with key respondents in the community to further understand the local context.

Empirical specification

We estimate the causal impacts of the *Takaful* program using a fuzzy regression discontinuity design (RDD), comparing households just above and just below the eligibility cutoff as measured by the PMT score used for selecting beneficiaries.[4] Such households are expected to be otherwise similar, allowing for a valid counterfactual. We estimate local linear regressions on either side of the cutoff with bias-corrected confidence intervals (Calonico et al, 2018). The treatment effect is estimated as the difference in the expected value of the outcome conditional on the PMT score on either side of the threshold relative to the change in probability of participation *(P)* at the cutoff :

$$\tau = \frac{\lim_{score \uparrow 4500} E[Y|score] - \lim_{score \downarrow 4500} E[Y|score]}{\lim_{score \uparrow 4500} E[P|score] - \lim_{score \downarrow 4500} E[P|score]} \quad (1)$$

To estimate *E[Y|score]* and *E[p|score]* we use local unweighted linear regressions including strata fixed effects. As the sampling frame was designed specifically to include households near the cut-off and already includes more observations in the window closer to the cutoff, we specify the bandwidth to include the full sample and use a uniform kernel. Due to our sample being artificially limited to households near the threshold, we are not able to use data driven methods to define the optimal bandwidth. However, the Calonico et al. (2018) robust approach to calculating confidence intervals that we use corrects for additional variance in our estimates due to the potential of a too-large bandwidth. Our preferred specification includes a linear relationship between the PMT score and our outcome variable, but we also present results with a second-order polynomial. We exclude investigation of higher order polynomials in accordance with the advice of Gelman and Imbens (2019), who note that higher order polynomials assign too much weight to values far from the threshold and that using higher-order polynomials results in both larger standard errors and a higher probability of incorrectly rejecting the null hypothesis due to increased bias compared to using linear or quadratic estimators. We also do not expect a complex underlying relationship between women's decision-making and the PMT score running variable, so we believe that a linear or quadratic model is closer to the true data generating process.

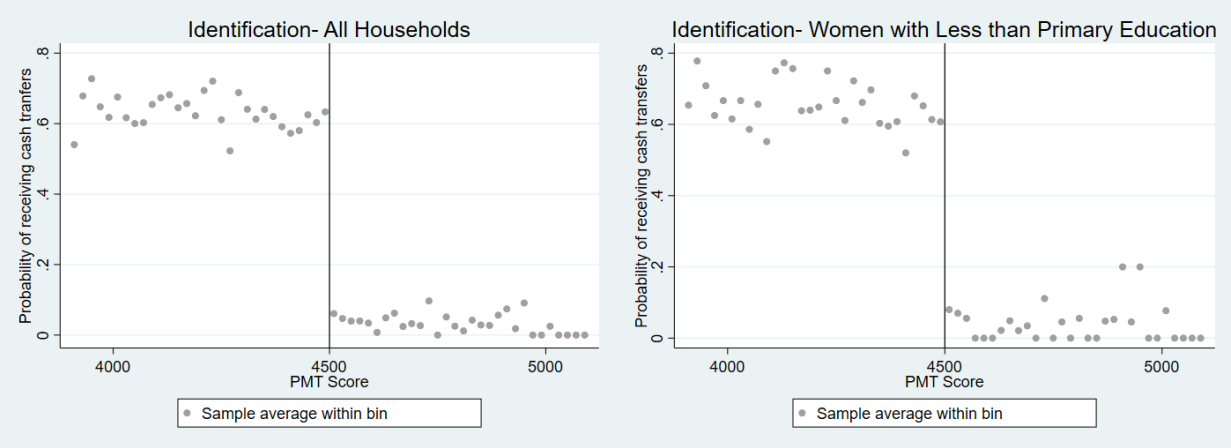
We estimate separate regressions for the full sample, the sample of women with no formal education, and the sample of women with at least some formal education. We test for statistical differences between the RDD estimates for the latter two groups using bootstrapped confidence intervals (with 1,000 replications) for the difference between the coefficients. We add separate intercepts for each strata to account for the minor differences in the formula used for calculating the PMT score variable in different regions and cluster standard errors at the community level.

Figure 1 confirms the validity of our approach; there is a visible discontinuity in program participation at the 4500-point eligibility cut-off in the PMT score. The probability of a household receiving the transfer drops from over 60 percent below the cutoff to less than 10 percent above the cutoff. We show this discontinuity separately for the full sample and for the sample of women with no formal education. Program participation is not perfectly determined by the 4500 eligibility cut-off as several additional factors including ownership of a car, owning more than 1 feddan of land (0.42 ha), and receiving remittances from outside of Egypt excluded households that were otherwise eligible based on the PMT score. Additionally, the eligibility threshold was changed twice prior to data collection and the revised thresholds were not consistently applied retroactively.[5] We undertake several robustness checks to test for the effect of the change in the eligibility cutoff score on our estimates.

[4] For a random subsample of 10% of households as well as any households that appealed for reconsideration after rejection, the PMT score could be updated if any of the underlying data used was found to be incorrect. To avoid bias caused by this potential manipulation of the PMT scores through the appeals process, we base our analysis on the original PMT score rather than the updated PMT scores.

[5] The threshold was originally set at 5003, lowered to 4296 (making the program more restrictive); then increased to 4500 (allowing more participation again). The majority of beneficiaries were enrolled during the third wave of registration, at the 4500 threshold.

Figure 1: Discontinuity in Program Eligibility



Source: Authors' analysis
Note: The figure on the left-hand side includes all households in the analysis sample while the figure on the right-hand side only includes the subsample of households where the female respondent has no formal education. Scatter plots are binned with equal spacing.

Qualitative analysis

Several cycles of manual coding of themes were conducted to analyze the qualitative data (Decuir-Gunby et al. 2011; Skjott Linneberg and Kosgaard 2019; Saldaña 2009). First, transcripts were closely examined and codes were created at the text-level to create 'case study synthesis reports' for each community. In addition to some inductive coding, the analysis greatly benefited from working deductively, as the quantitative data collection and analysis were complete at this stage. Previous findings, patterns, and questions assisted in the coding. Across the case study synthesis reports, we collapsed or expanded individual codes and created categories of codes. The codes were used to analyze patterns, differences, relationships, connection frequencies, and sequences across the themes of education and employment, dynamics between a woman and the head of the household, women's own assessment of their ability to make or to influence spending decisions, and perceptions regarding directing transfers to women.

Quantitative outcomes

A survey module on household decision-making was administered to the female *Takaful* beneficiary in the household. This module collected information about the extent of her influence on decision-making in the following domains: participation in wage employment, major household expenditures (such as house repairs or buying large consumer durables), minor household expenditures (such as food for daily consumption or other household needs), use of government subsidies or cash transfers, what food should be cooked every day, getting medical treatment for herself, buying clothes for herself, taking children to the doctor, and managing children's schooling. The full text of these survey questions is included in Appendix 1. For each decision category, we first asked the female respondent about who in the household makes decisions in this domain. The respondent was then asked a follow-up question about her ability to influence decisions, as follows: "If the subject is very important, to what extent do you feel you can make your own personal decisions regarding these aspects of household life if you wanted to?" Responses were scored on a scale of 1-4, corresponding to "to a great extent" (4), "a medium extent" (3), "a small extent" (2), or "not at all" (1).

Our outcome variables for women's control over decision-making aggregate the responses across the nine domains. Our primary outcome variable is an index constructed using the first principal component from a principal components analysis (PCA). Because the decision-making data are ordinal values, we use a polychoric correlation matrix for the PCA as recommended in

Kolenikov and Angeles (2004). This index is normalized so that our results are reported in standard deviations. We also use three alternative approaches to aggregation across domains: the mean score across domains, the number of domains for which a respondent answered that she could influence decisions to a "to a great extent", and the number of domains for which a respondent answered, "not at all."

As part of our exploration of mechanisms behind the impact on women's decision-making, we also examine responses to the initial set of questions: "who makes decisions about [this domain]." These questions had nine response options describing different combinations of household members: the head of the household; the spouse of the head of the household; the household head and spouse jointly; adult children; the household head and adult children; the spouse and adult children; the household head and a parent; the household head and brothers; or other. We define an indicator equal to one if the respondent selected a response in which the household head was included and zero otherwise. We also use data from the survey module on wage employment. We define three employment indicators for the primary female respondent. Whether they have ever worked for pay, are currently engaged in paid work in the agricultural sector, and whether they are currently engaged in paid work in other sectors.

Summary statistics

Error! Reference source not found. summarizes the characteristics of women in our sample of *Takaful* applicants. We present summary statistics separately for women without formal education (35% of the sample) and women with some formal education. In contrast, 28% of household heads in our quantitative sample report no formal education. The proportion of women in our sample who have completed primary education is 12%, which is very low. This statistic motivates the separation of the two samples into those with and without any formal education. Women with no education are on average several years older and less likely to live in urban areas compared to women with some education. Women have between two and three children and households are almost universally monogamous. Paid employment is rare for women in our sample. *Takaful* registrants are disproportionately rural and located in Upper Egypt (a region with more conservative gender norms) due to the program's geographic targeting, as well as being drawn from the poorest households.[6] It is then unsurprising that the female rate of paid work in our sample is far lower than the most recent estimates for Egypt as a whole - 10.6% for women aged 15-64 (Hendy, 2015). Only 2.5% of women in our sample report engaging in paid work. Women with no education were slightly more likely to report engaging in paid work (3.1 percent), particularly paid work in agriculture.

Table 2: Descriptive statistics of study sample of Takaful applicants, by educational attainment

	All	Some formal education	No formal education	Difference
Urban	0.178	0.207	0.123	0.084***
Age in completed years	32.653	30.099	37.452	-7.353***
Total children 0-18 years in household	2.503	2.486	2.537	-0.051
Location				
Metropolitan & Frontier governorates	0.045	0.044	0.047	-0.003
Lower Egypt governorates	0.133	0.152	0.099	0.054***
Upper Egypt governorates	0.822	0.804	0.855	-0.051***
Employment				
Ever worked for pay in the past year	0.025	0.022	0.031	-0.009**
Works in agriculture for pay	0.010	0.007	0.015	-0.009***
Works in non-agriculture for pay	0.015	0.015	0.016	-0.001
Decision-making influence summary statistics				

[6] We do not find statistically significant results by region, although our sample is underpowered to detect this as 82% of households in our sample are from Upper Egypt..

	All	Some formal education	No formal education	Difference
Women decision-making index (PCA Likert scale)	-0.029	-0.022	-0.043	0.021
Avg. women's decision-making score (1-4)	2.964	2.970	2.953	0.016
Degree to which women can influence decisions on				
Participating in wage employment	2.071	2.090	2.035	0.055*
Not at all	0.423	0.412	0.445	-0.034**
Small extent	0.210	0.218	0.194	0.024**
Medium extent	0.238	0.237	0.240	-0.003
Great extent	0.128	0.132	0.120	0.012
Major HH expenditures	2.532	2.557	2.485	0.071**
Not at all	0.209	0.199	0.228	-0.030***
Small extent	0.235	0.234	0.237	-0.003
Medium extent	0.371	0.378	0.356	0.023*
Great extent	0.185	0.188	0.179	0.009
Minor HH expenditures	3.310	3.307	3.316	-0.008
Not at all	0.042	0.040	0.045	-0.005
Small extent	0.093	0.095	0.090	0.005
Medium extent	0.378	0.382	0.369	0.013
Great extent	0.487	0.483	0.496	-0.013
Using government subsidies/ transfers	2.944	2.949	2.935	0.014
Not at all	0.121	0.114	0.135	-0.021**
Small extent	0.148	0.154	0.135	0.019*
Medium extent	0.397	0.401	0.389	0.012
Great extent	0.334	0.331	0.340	-0.009
What food should be cooked	3.593	3.591	3.597	-0.006
Not at all	0.015	0.014	0.018	-0.004
Small extent	0.052	0.054	0.047	0.007
Medium extent	0.257	0.258	0.254	0.004
Great extent	0.676	0.673	0.680	-0.007
Getting medical treatment	3.146	3.144	3.150	-0.006
Not at all	0.069	0.068	0.069	-0.001
Small extent	0.091	0.097	0.079	0.018**
Medium extent	0.466	0.457	0.484	-0.028**
Great extent	0.374	0.378	0.367	0.010
Buying new clothes for yourself	3.079	3.086	3.066	0.020
Not at all	0.078	0.073	0.086	-0.013*
Small extent	0.125	0.129	0.120	0.009
Medium extent	0.437	0.437	0.436	0.001
Great extent	0.360	0.361	0.358	0.003
Taking a child to the doctor	3.140	3.159	3.104	0.055**
Not at all	0.079	0.075	0.086	-0.012
Small extent	0.090	0.092	0.088	0.004
Medium extent	0.444	0.434	0.462	-0.028**
Great extent	0.387	0.400	0.364	0.035***
Dealing with child's school and teachers	2.860	2.843	2.892	-0.049*
Not at all	0.173	0.179	0.162	0.016
Small extent	0.112	0.113	0.111	0.002
Medium extent	0.397	0.395	0.400	-0.006
Great extent	0.318	0.313	0.327	-0.013
Observations	5611	3662	1949	

Source: Authors' analysis.
Note: Responses to the questions on the degree to which women can influence decisions were scored on a scale of 1 to 4, corresponding to "not at all" (1), "a small extent" (2), "a medium extent" (3), or "to a great extent" (4).
Asterisks in rightmost column show results of a t-test of the significance of differences in the characteristic between women with at least primary education and those with less than primary education. * p < 0.1, ** p < .05, *** p < 0.01.

The average degree of influence over decision-making in a particular domain in the whole sample is just under 3 on a scale from 1 to 4, which corresponds to a "medium extent of influence." The domains with the lowest reported influence in decision-making are participating in wage employment and spending on major household expenditures, while the categories with the highest reported influence in decision-making are spending on minor household expenditures and deciding what food should be cooked. Women with no education have less influence over household decisions on major expenditures but similar reported influence on other categories of decisions compared to women with at least some education. There is no significant difference in the PCA-based

index or the simple average decision-making score between women with no education and those with some education. Despite a lack of major differences in decision-making between women with and without formal education, we are interested in the differential impact of the transfers on these sub-groups. This analysis is motivated by the differential costs for women not complying with social norms; this cost may be higher for uneducated women, which would make renegotiation of household decision-making as a result of the transfers more difficult.

4. RESULTS

In this section, we first present the impacts of the *Takaful* program on women's control over household decision-making and then present a set of robustness checks to explore the veracity of our results and allay concerns regarding alternative explanations of the results.

Program impacts on women's decision-making

Despite the *Takaful* program being designed to increase women's control of resources, we find negative and statistically significant reductions in our index measure of women's control over household decision-making in the subsample of women with no formal education and no impact of the transfers among women overall. **Error! Reference source not found.** presents the main analysis. In the top panel in column (1) we report estimates for the women's decision-making index and we find a negative but statistically insignificant impact estimate of the *Takaful* program across all women in the sample. We then split the sample by women's education level in the bottom two panels and find that this negative impact estimate is larger in magnitude, -0.35 standard deviations, and is statistically significant at the 5% level among women with no formal education, but insignificant and close to zero for women with at least some education. The difference in the point estimates between women with and without education is nearly statistically significant (p= 0.051).

Table 2: Impacts of Takaful on women's control over decision-making

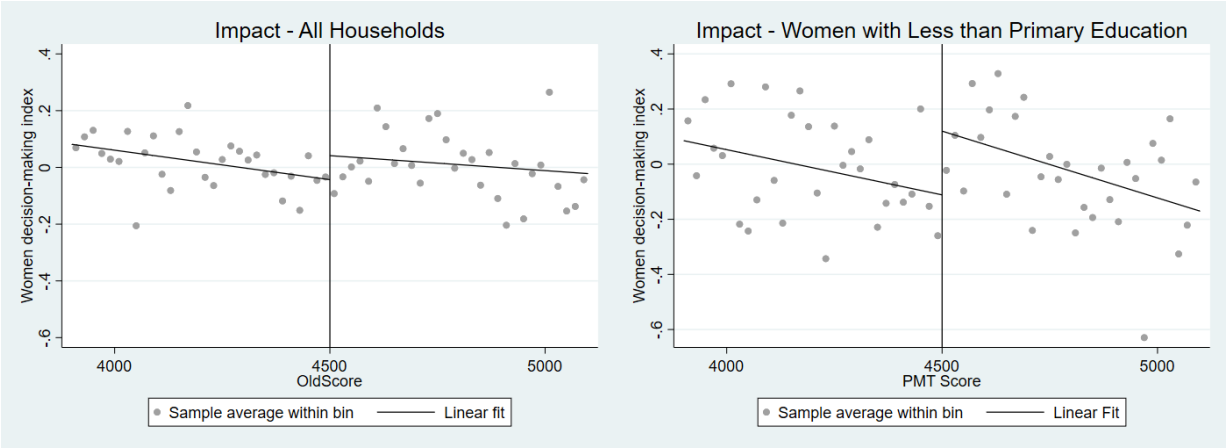
	Women's decision making index	Women's decision making mean response	Number of domains influence 'to a great extent'	Number of domains influence 'not at all'
Panel A: All women (N=5611)				
Takaful beneficiary	-0.143	-0.094	-0.438	0.163
	(0.078)	(0.051)	(0.225)	(0.153)
Robust *p*-value	0.607	0.509	0.869	0.234
Mean Dep. Var.	-0.029	2.964	3.250	1.209
Panel B: No formal education (N=1949)				
Takaful beneficiary	-0.353**	-0.229**	-0.890	0.460*
	(0.130)	(0.086)	(0.372)	(0.263)
Robust *p*-value	0.043	0.028	0.235	0.059
Mean Dep. Var.	-0.043	2.953	3.231	1.883
Panel C: At least some formal education (N=3662)				
Takaful beneficiary	-0.029	-0.021	-0.200	-0.012
	(0.096)	(0.062)	(0.280)	(0.181)
Robust *p*-value	0.409	0.419	0.536	0.923
Mean Dep. Var.	-0.022	2.970	3.259	1.767
***p*-value of difference between coefficients**	**0.051**	**0.046**	**0.141**	**0.145**

Source: Authors' analysis.
Note: Women's decision-making index combines the values of 9 Likert scale questions using the normalized first component from a principal component analysis. Women's decision making mean response is the simple average of the values on the Likert scale for the nine different domains. Responses to the questions on the degree to which women can influence decisions were scored on a scale of 1 to 4, corresponding to "not at all" (1), "a small extent" (2), "a medium extent" (3), or "to a great extent" (4). The two dependent variables in the two leftmost columns count the number of domains (out of 9) in which the respondent reported that she had a great degree or no influence on decision-making. * p < 0.1, ** p < .05, *** p < 0.01.

In column (2) of Table 2 we report the results for our second definition of the outcome variable: the mean score (across the Likert scale of 1-4) of the 9 domains. As with column (1), there is a negative and statistically significant impact for the subsample of women with no education (0.23

points on the average of domains on the 4-point scale). The difference between the coefficients is statistically significant (p = 0.046). The magnitude of the impact estimate for women with no education is about one quarter of a point on the 1 to 4 scale. The third and fourth outcome variables reported in columns (3) and (4), the number of domains where the response is "to a great extent" and "not at all", respectively, are consistent with the findings in the first two columns with a larger magnitude for women with no education, although the impacts are not statistically distinguishable from one another (p = 0.141 and p = 0.145). For women with no education, the *Takaful* transfers resulted in about half of a domain more in which they reported no influence (p = 0.059). Our preferred measure of women's decision-making power is that in column (1), the PCA index calculated over all 9 domains, both for ease of interpretation and improved precision. Accordingly, in the robustness checks and mechanisms sections below, we focus on this index. Figure 2 shows the program impact visually.

Table 2: Program Impact



Source: Authors' analysis.

Note: Estimates based on a linear fit on each side of the cut-off. The figure on the left-hand side includes all households in the analysis sample (representative sample of all registrant households within 600 points of the 4500 cutoff, excluding female headed households); the figure on the right-hand side only includes the subsample of households where the female respondent has no formal education.

Next, we estimate impacts on each of the 9 domains separately to examine whether the estimated impacts in the index are driven by a small number of domains. **Error! Reference source not found.** shows that, among women with no formal education, the program has negative impacts on women's control over decisions on using government subsidies and transfers, about taking children to the doctor, and about minor household expenditures. Notably, even in domains where the impact is not significant, the coefficient is still negative, pointing towards a broad negative effect of the transfers on women's role in decision-making. The last row of Table 3 reports the p-value from a test of the equality of coefficients between women with no education and some education. Bootstrap methods are used to estimate these p-values since these are non-overlapping samples. There is a significant difference between women with no formal education and those with at least some formal education in on the domains of making decisions regarding minor household expenditures, using government subsidies and transfers, and buying new clothes for oneself.

Table 3: Impacts of Takaful on women's control over decision-making

	Participating in wage employment	Major HH expenditures	Minor HH expenditures	Using government subsidies/ transfers	What food should be cooked	Getting medical treatment	Buying new clothes for yourself	Taking a child to the doctor	Managing children's schooling
Panel A: All women (N=5611)									
Takaful beneficiary	-0.103	-0.119	-0.059	-0.151	0.002	-0.082	-0.058	-0.120	-0.159
	(0.091)	(0.083)	(0.067)	(0.082)	(0.055)	(0.071)	(0.072)	(0.073)	(0.082)
Robust *p*-value	0.922	0.776	0.213	0.316	0.857	0.688	0.483	0.184	0.372
Mean Dep. Var.	2.071	2.531	3.310	2.944	3.593	3.146	3.079	3.140	2.860
Panel B: No formal education (N=1949)									
Takaful beneficiary	-0.193	-0.230	-0.213*	-0.402***	-0.094	-0.220	-0.242	-0.281**	-0.184
	(0.154)	(0.144)	(0.114)	(0.135)	(0.092)	(0.115)	(0.123)	(0.119)	(0.140)
Robust *p*-value	0.152	0.293	0.075	0.003	0.179	0.156	0.466	0.044	0.501
Mean Dep. Var.	2.035	2.486	3.316	2.935	3.597	3.150	3.067	3.104	2.892
Panel C: At least some formal education (N=3662)									
Takaful beneficiary	-0.052	-0.058	0.033	-0.014	0.061	-0.008	0.045	-0.038	-0.160
	(0.110)	(0.103)	(0.081)	(0.100)	(0.068)	(0.089)	(0.093)	(0.092)	(0.099)
Robust *p*-value	0.353	0.627	0.886	0.401	0.391	0.150	0.172	0.838	0.477
Mean Dep. Var.	2.090	2.556	3.307	2.950	3.591	3.143	3.086	3.159	2.842
***p*-value of difference between coefficients**	**0.413**	**0.320**	**0.075**	**0.021**	**0.184**	**0.123**	**0.060**	**0.114**	**0.892**

Source: Authors' analysis.

Note: Responses on the question on the degree to which women can influence decisions were scored on a scale of 1-4, corresponding to "not at all" (1), "a small extent" (2), "a medium extent" (3), or "to a great extent" (4). * p < 0.1, ** p < .05, *** p < 0.01.

Supplementing these results, our qualitative work confirms our expectation that within the cultural context in Egypt, there is a strong gender norm regarding the importance of men's role in decision-making. For example, one beneficiary woman in Assiut said, *"I consult him [my husband] on anything. That's our culture here, women have to take their husbands' opinions in anything, even if it's small."* Average levels of decision-making influence we reported may understate women's true influence in the household due to a desire to show compliance with these norms. A non-beneficiary woman in Cairo illustrated this cultural conformity by explaining, "*If I want something expensive I tell him, and he says fine, get what you want. But I have to tell him. He won't disapprove, but the man has to keep his figure in the house, and in front of his kids. I need to give him his 'prestige' in front of his kids. I'm the one who gives them their pocket money, but I tell them it's your dad who got the money*."

Most women described similar decision-making patterns regarding spending on general household needs and how to spend the transfer income. In response to a specific question about how money from the transfers is stored and managed, about two-thirds of female beneficiaries described the cash transfers as being treated "just like any other money," with cash transfers either being handled in the same way as other income or pre-allocated to specific spending items as part of the overall household budget. A beneficiary from Suhag pointed out that "*It's the same money at the end of the day - I don't split the money- it's spent at the end of the day on the household*." In the remaining third of the interviews, there is some evidence that the transfers are treated distinctly from other income, with the female beneficiary having somewhat more influence over the transfers than over usual household spending. However, even in these cases, the transfers are still described as a household resource with some degree of joint decision-making, especially by the husbands. We only found one case out of 17 interviewed beneficiary households in the qualitative sample where the man and the woman both agreed that the cash transfers were completely controlled by the female beneficiary. It is not too surprising, then, that the cash transfers had no positive impact on women's bargaining power, despite transfers being targeted to women.

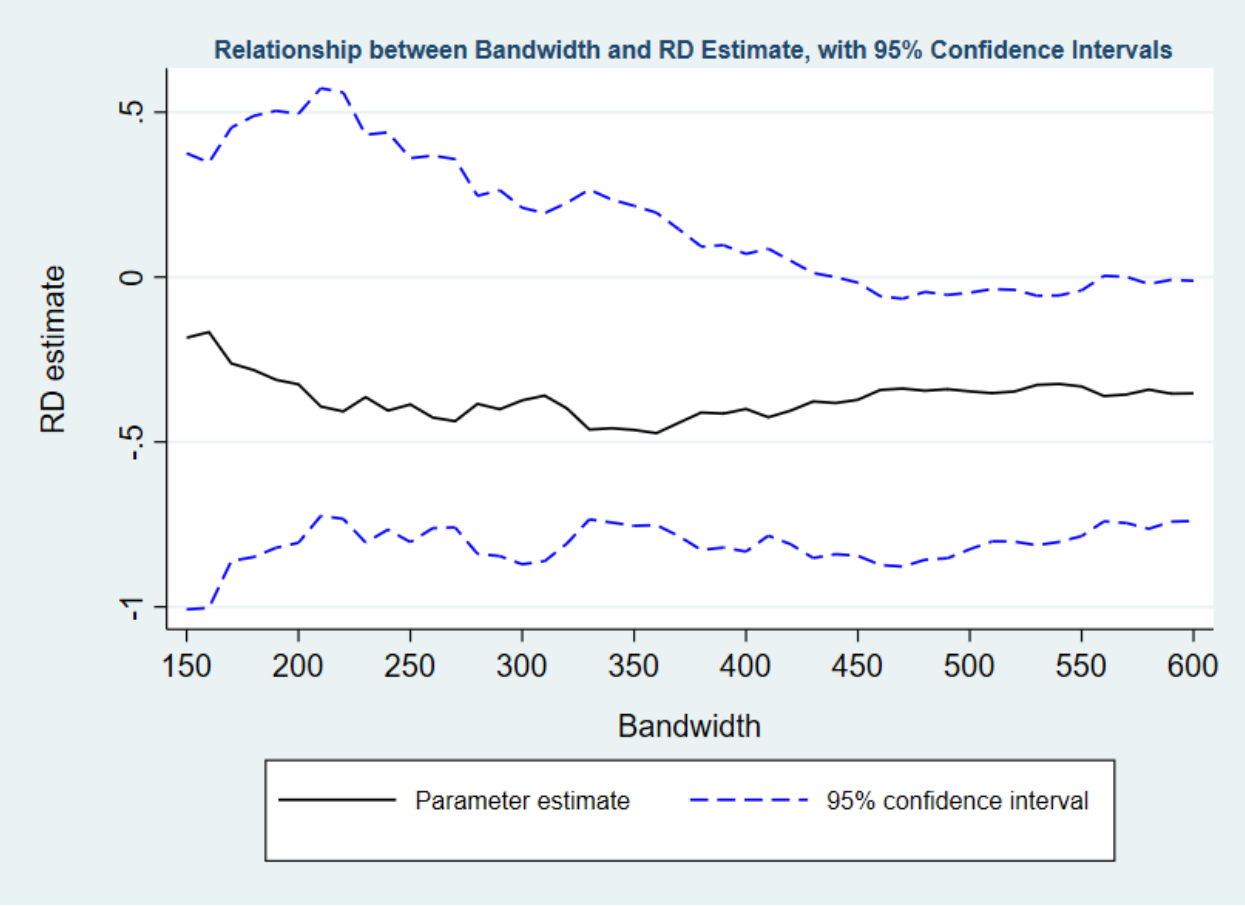
Robustness checks

To verify the validity of the estimated impacts from the main regression, we perform several checks as suggested in Imbens and Lemieux (2008). Because the PMT score was created using propensity scores and the 4500 point threshold was set based on the proportion of registrants that government funding could accommodate in the program, we believe that conditional expectations for potential outcomes are continuous functions of the PMT score. We test for the continuity in the density of scores above and below the 4500 threshold as suggestive evidence regarding any potential manipulation. Figure A1 in the appendix shows the results of this test graphically, confirming no significant discontinuity of the PMT score at the threshold. Additionally, we check that basic household characteristics are not discontinuous at the 4500 threshold. We examine age and education level of the head of the household and spouse and find no indication that the treatment impacted these fixed characteristics of the household. We also find no change at the threshold in the probability of any household member having a connection to MoSS staff, further supporting the lack of evidence regarding manipulation of scores. Results for these tests are shown in Table A1 in the Appendix. Finally, we perform a placebo test to verify that there is no discontinuity in our main outcome variable at a non-cutoff point. For both the full sample and the sample of women with no formal education, we test for jumps in our main outcome variables measuring women's empowerment at the median PMT scores above and below the 4500 cutoff and find only two significant coefficients at the 10% level among 16. Results are presented in Table A2 in the Appendix.

We also report our main regression results using a quadratic rather than a linear trend in the PMT variable and with varying bandwidth. Table A3 in the appendix shows a similar negative and significant impact on women's empowerment among the sample of women without formal education using a quadratic trend. Figure 3 displays the impact estimates for bandwidths between

150 and 600 points away from the eligibility cutoff, including increased variance implied by the bias correction. The coefficient is plotted in black and the 95% confidence interval is plotted in blue dashed lines. The negative impact on women with no education is robust to the choice of bandwidth, with the point estimate remaining fairly constant across bandwidths, despite the precision of the impact estimate declining for smaller bandwidths due to the declining sample size.[7]

Figure 3: Bandwidth sensitivity of the impact on women's decision-making index



Source: Authors' analysis.
Notes: The parameter estimate for our main result (using the subsample of women with no education in a linear specification).

5. MECHANISMS

Below, we present suggestive evidence that the cash transfers led to lower reported control over household decision making for women through two channels, both of which are strongly related to cultural norms. First, the program disincentivized paid work for women in a context where women working outside the home is culturally discouraged. Both theoretical literature on intra-household bargaining and empirical evidence from other contexts show that work outside the household can increase women's role in decision-making by improving their outside option and, thereby, their bargaining power (McElroy 1990, 1997; Anderson and Eswaran, 2009; Antman, 2014). However, in the rural Egyptian communities targeted by *Takaful,* the norm is for women not to work outside the home. The transfers may have reduced the need for households to resort to women working outside the home. Second, the cash transfers prompted a renegotiation of decision-making roles within the household, with women in *Takaful* households reporting increased participation of men in household

[7] We did not use the optimal bandwidth approach suggested in Calcanio et al. 2018, as our data was already limited to only include households near the cut-off and the optimal bandwidth algorithm is sensitive to the range of the original data entered.

decisions traditionally considered female domains. In a context in which men are normatively described as the primary decision-maker, it is reasonable that men may become involved in more household decisions in a way that reduces women's influence, particularly when more decisions need to be made regarding spending since there is more to spend. We first examine changes in female employment and men's involvement in decision-making and subsequently discuss the statistical evidence that these changes were linked to the decline in women's influence over household decisions.

Program impacts on female employment

We find a statistically significant negative impact estimate of the *Takaful* cash transfers on women's involvement in paid employment in the past year. As with the estimates on women's decision-making, the magnitude of the impact on employment is larger for women with less than primary education. Results are reported in **Error! Reference source not found.**, column (1). We separate working in the agricultural sector and the non-agricultural sector, as work for women in the agricultural sector is mostly seasonal or temporary and has much lower pay than in the non-agricultural sector. **Error! Reference source not found.** shows that the *Takaful* transfers caused a decrease of 6 percentage points in work in the agricultural sector among women without formal education. As the average rate of employment in agriculture for all women in this group is very low (3.1%), this impact implies that almost all women receiving the transfers who would otherwise have been working stopped work because of the transfers. These effects are significant at the 1% level. Estimates for women with at least some formal education are not significant and close to zero. Notably, as shown in columns 2 and 3, the decline in employment among less educated women is due to a lower probability of employment in the non-agricultural sector. The coefficients on employment are marginally statistically distinguishable between more and less educated women (p = 0.077).

Table 3: Impacts of Takaful on women's participation in paid work

	Ever worked for pay in the past year	Worked for pay in agriculture in the past year	Worked for pay outside of agriculture in the past year
Panel A: All women (N=5611)			
Takaful beneficiary	-0.026	-0.002	-0.025
	(0.013)	(0.008)	(0.011)
Robust *p*-value	0.389	0.542	0.563
Mean Dep. Var.	0.025	0.010	0.015
Panel B: No formal education (N=1949)			
Takaful beneficiary	-0.060***	-0.013	-0.046**
	(0.025)	(0.018)	(0.018)
Robust *p*-value	0.005	0.135	0.019
Mean Dep. Var.	0.031	0.015	0.016
Panel C: At least some formal education (N=3662)			
Takaful beneficiary	-0.006	0.004	-0.011
	(0.015)	(0.009)	(0.013)
Robust *p*-value	0.183	0.531	0.247
Mean Dep. Var.	0.022	0.007	0.015
***p*-value of difference between coefficients**	0.077	0.373	0.113

Source: Authors' analysis.

Note: Responses on the question on the degree to which women can influence decisions were scored on a scale of 1-4, corresponding to "not at all" (1), "a small extent" (2), "a medium extent" (3), or "to a great extent" (4). Outcome variables indicator variables equal to one if the respondent reported that she had ever worked for pay in the past year (Column 1), had ever worked for pay in the agricultural sector (Column 2), and had ever worked for pay in the non-agricultural sector in the past year (Column 3). Strata dummies are included and standard errors are clustered at the level of the community. * p < 0.1, ** p < .05, *** p < 0.01

The qualitative data also provide context to support the idea that receiving the *Takaful* transfers could have decreased female employment due to an interaction between an income effect and cultural norms. The predominant gender norm especially in poorer and more rural areas in Egypt is for men to be responsible for the household income and women to stay home (Hoodfar, 1997; Najjar, Frija and El Garhi, 2018; Salem et al., 2015). This norm was also highlighted in our qualitative data collection. For example, a *Takaful* beneficiary husband in rural Suhag (Upper Egypt) stated, "*We*

only have my work, because I'll never let my wife work and get this responsibility on her shoulders. Besides, it is not allowed for the women in our community to deal with other men." In this same community, however, women in the focus group described poor households where women were obliged to work to survive, due to an absence of able-bodied men. The income effect generated by the program may have decreased the economic pressure that necessitated women's work outside the home. Women may also have a preference to stop working, since female employment in the informal sector is dominated by low-paid jobs and poor work environments (UNDP and Ministry of Economic Development, 2010).

Program impacts on men's involvement in household decisions

The survey also asked women who in the household is involved in decision-making in each domain. As mentioned earlier, the response options were: the head of the household, the spouse of the head of the household, the head of the household and their spouse jointly, adult children, the head of the household and adult children, the spouse and adult children, the household head and a parent, the household head and brothers, and other. It was common for various combinations of family members, rather than single individuals, to be involved in decision-making. Because we are interested in how the transfers affected the underlying bargaining power of women, we construct an indicator equal to one if the household head is listed as being involved in decision-making either on his/her own or jointly with other household members. Table 3 reports that receiving *Takaful* caused the head of the household to be involved in making decisions in households where the female beneficiary had no formal education. In particular, men were significantly more likely to play a role in decisions about spending government subsidies and transfers, a woman buying clothes for herself, a woman receiving medical treatment for herself, and taking children to the doctor, some of which are traditionally female decision-making domains. These are similar to the categories with negative estimated impacts on women's decision-making influence. Estimates for women with at least some education failed to reject the null hypothesis of no effect for all 9 domains.

Table 3: Impacts of Takaful on probability that head of household has a role in decision-making by domain

	Participating in wage employment	Major HH expenditures	Minor HH expenditures	Using government subsidies/ transfers	What food should be cooked	Getting medical treatment	Buying new clothes for yourself	Taking a child to the doctor	Managing children's schooling
Panel A: All women (N=5611)									
Takaful beneficiary	0.016	0.017	0.008	0.059	0.037	0.042	0.014	0.027	0.015
	(0.030)	(0.030)	(0.042)	(0.041)	(0.038)	(0.039)	(0.041)	(0.037)	(0.041)
Robust *p*-value	0.948	0.720	0.851	0.126	0.102	0.103	0.407	0.619	0.676
Mean Dep. Var.	0.850	0.846	0.492	0.631	0.267	0.697	0.647	0.761	0.685
Panel B: No formal education (N=1949)									
Takaful beneficiary	0.005	0.035	0.108	0.125***	0.045	0.082*	0.158***	0.093*	0.038
	(0.050)	(0.051)	(0.068)	(0.068)	(0.060)	(0.063)	(0.068)	(0.060)	(0.066)
Robust *p*-value	0.791	0.221	0.279	0.006	0.286	0.056	0.005	0.069	0.209
Mean Dep. Var.	0.849	0.834	0.458	0.618	0.249	0.680	0.629	0.738	0.698
Panel C: At least some formal education (N=3662)									
Takaful beneficiary	0.021	-0.001	-0.053	0.019	0.030	0.017	-0.071	-0.009	-0.001
	(0.036)	(0.037)	(0.053)	(0.051)	(0.048)	(0.050)	(0.052)	(0.046)	(0.051)
Robust *p*-value	0.895	0.554	0.540	0.791	0.241	0.621	0.229	0.436	0.130
Mean Dep. Var.	0.851	0.853	0.510	0.638	0.278	0.705	0.656	0.773	0.678
***p*-value of difference between coefficients**	0.796	0.565	0.063	0.219	0.851	0.425	0.009	0.184	0.644

Source: Authors' analysis.

Note: Outcome variables are indicators for whether the head of household is mentioned by the female respondents as one of the household members involved in decision-making for the particular domain. Strata dummies are included and standard errors are clustered at the level of the community. * p < 0.1, ** p < .05, *** p < 0.01

We observe a large program impact on men's involvement in the category of deciding how to use government subsidies or transfers (a 12.5% increase). While very few households in the sample received transfers other than *Takaful*, 85% participated in the food subsidy program through which households receive an allowance that can be spent on a limited number of food items (e.g. bread, sugar, oil). The treatment impact we see in the domain of decision-making regarding use of "government subsidies and transfers" therefore represents a switch from everyday food spending decisions that are managed by women in households without *Takaful* transfers, to men becoming involved once the amount is larger and the transfer can potentially be used for a range of purchases rather than only food. We run a specification where the outcome variable is an indicator for whether it is just the household head who makes the decisions and our results are very similar. Results are available upon request.

Note that it is not mechanical that an increase in men's involvement in decision-making would be linked to a decrease in women's influence over household decisions. Recall that these outcome variables are based on separate questions and decision-making is not zero-sum. To make the connection between these two changes in household decision-making explicit, we test the correlation using the mediation analysis below.

The qualitative data also enriches this narrative as the qualitative interviewers spoke to both men and women in the same household and asked specifically about how the transfer money was managed. No men said that only they made decisions regarding spending the transfer. However, men mostly spoke about the transfers as part of the overall household resources, rather than cash that should be primarily controlled by women because she was the program beneficiary. Men, more often than women, described decision-making over the use of the *Takaful* transfers as joint, even in households where the female respondent said that she primarily managed the transfer spending alone. This self-described role of men in influencing transfer spending may have been reflected in the higher reporting of men's involvement in various decision-making domains by *Takaful* beneficiary women in the quantitative survey. The loss of female control over the category of "buying new clothes for yourself" may also specifically reflect a concern among men that women should spend the transfer money on household needs and their children, rather than on herself. For example, a mother in-law sitting in on an interview in Fayoum intervened to express that *"when the wife is good and spends on the house, it will not matter to the man that she has money in her hands."* In Menoufia, while a beneficiary man saw no effects from targeting the transfer to women on his relationship with his wife, he pointed to what he perceived as problematic for a minority of families, which he attributed "*to the woman not wanting to share the money*."

Mediation analysis

Without suggesting that we can identify any specific causal pathway, we employ mediation analysis to examine whether the proposed mechanisms- women's labor supply and the household head's involvement in decision-making- act as mediators for the relationship between women's influence on household decision-making and *Takaful* cash transfers, lending support to the argument that the mechanism behind the negative impact involves these two channels. In order to use standard tools of mediation analysis, instead of estimating separate local linear regressions on either side of the cutoff, we estimate a single linear equation where we instrument program participation *(P)* with the discontinuity in program eligibility at the at the threshold. Conceptually, this is almost equivalent to the approach used above, although it no longer allows for different slopes at each side of the threshold and does not include the bias correction. The point estimates generated by the two approaches are almost identical.

The first stage estimating equation is:

$$P = \alpha \boldsymbol{I}[\boldsymbol{Score} < 4500] + \gamma Score + \delta_{strata} \quad (2)$$

The second stage estimating equation is:

$$Y = \beta\hat{P} + \rho Score + \partial_{strata} + \eta_s \quad (3)$$

Following Baron and Kenny (1986), we add the potential mediator as an additional explanatory variable and compare the coefficients on treatment (here, predicted *Takaful* participation - $\hat{P}$) between equations (3) above and (4) below to quantify the degree to which the association between the outcome (women's decision-making - Y) and the treatment is attenuated when we add the mediator.

$$Y = \gamma\hat{P}_{ics} + \beta mediator + \partial_{strata} + \eta_s \quad (4)$$

To test the statistical significance of this attenuation, we estimate the indirect effect for each mediator as the product of the coefficient β from equation (4) and α from equation (5) below.

$$mediator_{ics} = \alpha\hat{P}_{ics} + \partial_s + \eta_s \quad (5)$$

Following Preacher and Hayes (2008), we use seemingly unrelated regressions to estimate equations (4) and (5) and bootstrap the standard errors (with 1000 replications) to estimate the indirect effect ($\alpha\beta$). If the indirect effect is significantly different from zero, the impacts of the program on women's decision-making are linked to the impacts on women's labor supply and men's involvement in decision-making.

Since we cannot exclude the intervening influence of other factors, we explicitly limit our analytical claim here to showing whether the mediators and the main outcome variable are correlated with the impacts of the *Takaful* transfers. The indirect effect estimated is not interpretable as a causal mediation effect due to violations of the sequential ignorability assumption that the potential impacts of the cash transfer on women's decision-making are independent of potential impacts of the cash transfer on women's work or men's role in decision-making. That is, this analysis reveals whether the type of household in which one of these impacts occurred was more likely to experience the other impacts as well. The intuition behind this interpretation of using mediation analysis to show links between impact results is grounded in the idea that mediation can be expressed in terms of the potential outcomes for underlying principal strata as in Rubin (2004).[8]

Error! Reference source not found. presents the results from adding the hypothesized mediators individually and jointly to an IV specification for program impact. Controlling for changes in paid work as well as changes in men's roles in decision-making markedly decreases the statistical significance and the magnitude of the coefficient on the treatment indicator, suggesting that these mediators are related to the impacts of *Takaful* on women's decision-making.

[8] The underlying principal strata in the case of these two pathways would be women who were or were not vulnerable to dropping out of the labor force as a potential outcome of the Takaful transfers and women whose husbands were or were not likely to become more involved of household decisions as a potential outcome of Takaful transfers. This framework means that we can follow the Baron and Kenny (1986) approach because our proposed mediators are fixed characteristics for the corresponding unobservable principal strata.

Table 6: Role of mediators in impacts of Takaful program on women's decision-making- Women with no formal education

	Women's decision-making index							
Takaful beneficiary	-0.347***	-0.305**	-0.312***	-0.265**	-0.308***	-0.314**	-0.247**	-0.214*
	(0.123)	(0.122)	(0.118)	(0.115)	(0.119)	(0.123)	(0.114)	(0.115)
Household head involved in decisions regarding:								
Using government subsidies/ transfers		-0.350***					-0.191***	-0.192***
		(0.045)					(0.046)	(0.046)
Getting medical treatment			-0.414***				-0.086	-0.094*
			(0.046)				(0.053)	(0.053)
Buying new clothes for yourself				-0.540***			-0.375***	-0.368***
				(0.044)			(0.052)	(0.052)
Taking a child to the doctor					-0.458***		-0.158***	-0.160***
					(0.045)		(0.048)	(0.048)
Works in non-agriculture for pay						0.739***		0.749***
						(0.160)		(0.143)
Observations	1949	1949	1949	1949	1949	1949	1949	1949
R^2	0.093	0.125	0.135	0.171	0.137	0.105	0.188	0.199
First stage F-statistic	336.401	336.408	334.162	335.898	332.825	335.464	336.437	335.197
Mean Dependent Variable	-0.043	-0.043	-0.043	-0.043	-0.043	-0.043	-0.043	-0.043

Source: Authors' analysis.

Note:.The sample is restricted to women who have no formal education. These estimates use a single instrumental variables specification for estimating the impact of the program at the discontinuity, rather than separate local linear regressions as implemented in rdrobust as in the previous tables. * p < 0.10, ** p < 0.05, *** p < 0.01

As described above, we also conduct a formal test to show whether the attenuating effect of adding these mediators is statistically significant. **Error! Reference source not found.** reports the indirect effect of each of the mediators individually and as a group. The indirect effect is the product of the coefficients $\alpha\beta$ from equations (4) and (5) representing the impact of the program on the mediator multiplied by the correlation between the mediator and women's decision-making, respectively. We use bootstrapped standard errors (with 1,000 replications) to test whether these indirect effects are significantly different from zero. Both symmetrical and bias-corrected percentile-based confidence intervals are reported. For working for pay, head's involvement in using government subsidies and transfers, and head's involvement in buying new clothes for oneself, the results demonstrate that the mediators examined had a significant negative indirect effect on women's decision-making for less educated women. The total indirect effect (αβ) from these mediators is -0.10 standard deviations, representing more than a quarter of the negative program impact of -0.348 standard deviations reported in **Error! Reference source not found.**. The increased involvement of men in decision-making and the decreased labor force participation of women likely play a substantial role in the estimated negative impact of the program on women's influence in decision-making.

Table 7: Test of the role of mediators in impacts of Takaful program on women's decision-making- Women with no formal education

	Indirect Effect	Standard error	Percentile confidence interval		Bias- corrected confidence interval	
Working for pay in non-agriculture	-0.032**	(0.015)	-0.062	-0.003	-0.064	-0.005
Head's involvement on using government subsidies & transfers	-0.042*	(0.024)	-0.089	0.005	-0.090	0.004
Head's involvement on medical treatment	-0.034	(0.027)	-0.086	0.018	-0.085	0.019
Head's involvement on buying new clothes for oneself	-0.082**	(0.038)	-0.156	-0.007	-0.156	-0.012
Head's involvement on taking a child to a doctor	-0.038	(0.028)	-0.093	0.017	-0.093	0.014
Total Indirect Effect	-0.102**	(0.042)	-0.184	-0.020	-0.185	-0.022
Observations	1949					

Source: Authors' analysis.
Note:.Test uses regressions of equation (4) and (5) as inputs. * p < 0.10, ** p < 0.05, *** p < 0.01

Alternative mechanisms

In this section, we address some potential alternative explanations for the patterns reported above.

First, one alternative explanation would be that the program's future requirements to comply with conditionalities reduced women's freedom to make decisions. This is not likely to be relevant for our sample as the conditionalities related to children's education and health were not yet enforced or even widely publicized at the time of our survey. In response to questions about awareness of conditionalities, only 2.5% of women in the sample reported being aware of conditionalities related to education and only a single woman in the sample of 5,629 mentioned knowing about any conditionality related to healthcare.

Secondly, we check whether the negative impact on decision-making could have been driven by women feeling they have less agency in general due to dependence on a government program. Women with lower levels of education may experience this to a higher degree. Another survey module directed to the female beneficiary asked a standard series of questions measuring self-efficacy (Chen, Gully, and Eden 2001). We created a similar PCA-based index from the responses to this set of questions. There is no impact of the program on women's self-efficacy (**Error! Reference source not found.**). There are no statistically significant impacts for the full sample of women, the sample of women with or without formal education. This result clarifies that the program did not cause broad declines in women's agency, but rather resulted in negative impacts specifically within the context of intrahousehold decision-making.

Table 8: Impacts of Takaful on women's self-efficacy

	Self-efficacy index
Panel A: All women (N=5611)	
Takaful beneficiary	0.095
	(0.084)
Robust *p*-value	0.274
Panel B: No formal education (N=1949)	
Takaful beneficiary	0.175
	(0.130)
Robust *p*-value	0.495
Panel C: At least some formal education (N=3662)	
Takaful beneficiary	0.052
	(0.106)
Robust *p*-value	0.356
***p*-value of difference between coefficients**	0.466

Source: Authors' analysis.

Note:. The dependent variable combines the values of 8 standard Likert scale questions used to measure self-efficacy using the first component from a principal component analysis, which is subsequently normalized so that impacts reported are in standard deviations. The set of questions are included in the Appendix. The rdrobust command was employed and a linear specification for the relationship with the running variable (Score) was used..* p < 0.10, ** p < 0.05, *** p < 0.01

Another consideration is whether the larger negative impact on women's decision-making power among women without formal education is driven by the difference in education levels between men and women, rather than absolute levels. When men have greater education levels than their wives, it is reasonable to hypothesize that they may have greater decision-making power than if both spouses had the same level of education. To check this, we split the sample by whether the husband has more education than his wife rather than by the level of education of the women. Results are reported in **Error! Reference source not found.**. A similar pattern emerges, but the differences between women with and without formal education are not statistically significant. This result indicates that the difference in levels of education between men and women is not what is driving our results. Rather, it is the female beneficiary's education that matters.

Finally, while other studies have found that providing women with transfers may increase conflict in a household through disagreements on how to spend money (Molyneaux & Thomson, 2011; Das & Nanda, 2016; Bradshaw & Viquez, 2008), resulting in the possibility that men take over more decision-making. However, we do not believe this was the main mechanism in Egypt. We did not collect data on domestic violence in the quantitative survey, but in the qualitative data collection there were only rare second-hand reports of the transfers causing friction between husbands and wives. Conversely, most interview respondents felt that the transfers reduced stress over household spending and thus improved household relationships. Additionally, both women and men had mostly favorable or indifferent views when asked about the *Takaful* policy of directing cash transfers to women.

6. CONCLUSION

Takaful, like many cash transfer programs, deliberately targets women as the primary beneficiaries with the intent to increase women's control over financial resources and thus decision-making within the household. However, we find that in Egypt, these transfers ostensibly do not increase women's control over household decision-making. In fact, the transfers decrease women's decision-making power in households where women had no formal education. This impact is related to reduced female labor force participation and to the head of household taking on a larger role in traditionally female domains as a result of the program. In parallel, our qualitative data suggest that the program is still positively perceived by women, particularly in terms of the targeting of the transfer towards them. Both men and women in beneficiary and non-beneficiary households largely expressed support of the program design choice to give the cash to women.

Our findings demonstrate that in the Egyptian context, targeting cash to poor women is not sufficient to increase women's control over resources and that if that is the goal, a different approach will be needed. We cannot conclude whether these effects would have been different if the transfers

were targeted to men, but it seems unlikely that this would have improved women's control over household spending decisions. In reaction to these findings, policymakers in Egypt have expressed interest in "mainstreaming gender" through other complementary interventions within *Takaful and Karama* programming. Earlier qualitative research on a pilot program for Takaful conducted in the Cairo slum of Ain El-Sira had concluded that program contributed to women's empowerment, but that the impacts were due primarily to a component in the pilot intervention- regular interactions with the social workers- which was not part of the national *Takaful* program (Sholkamy, 2014). This points to the type of complementary interventions that might be needed in order to find an impact on women's decision-making in the Egyptian context.

While decision-making indicators are important for comparability purposes, it is also important to consider women's own understanding, valuation, and contextual conception of their decision-making abilities and empowerment. This may differ from pre-determined indicators or externally structured definitions, as highlighted by Meinzen-Dick et al. (2019). For example, in responding to the semi-structured interview questions intended to elicit self-conceptions of their level of empowerment and control over decision-making, some women responded with explanations of how tight their overall household budget was, while others responded by referring to their education, their health, and their opportunities or lack thereof to support their households through income-generating activities. Women's generally positive responses to questions regarding the impacts of the transfer may reflect the very positive impact of the transfer on household consumption, which may be more important to them than their ability to influence household decisions. Some women also considered the *Takaful* transfers being targeted to women to have extended to them a form of public recognition of their roles as mothers and household managers. As one woman commented, *"It's good this way [that the transfers are targeted to women] … the state's caring for me. In other words, it's given me dignity."*

Within the broader literature on the impacts of development interventions on intrahousehold decision-making, our results complement the Roy et al. (2015) evaluation of a program targeting the ultra-poor in Bangladesh. Our findings show that in rural Egypt, as in their study sample in Bangladesh, the socio-cultural norms for gender dynamics within the household mean that even for interventions that target women and increase overall household welfare, women can lose voice within the household as men assert control over the expanded household assets and women are discouraged from seeking work outside the house. Cultural norms regarding men and women's roles are similar in these contexts. We are additionally able to qualify this seemingly pessimistic result with qualitative analysis showing that women perceive the program as empowering and having positive impacts on intra-household relationships. The fact that the cash transfers' impacts are processed through the social norms of men as decision-makers and income providers is not seen as a negative outcome by the female beneficiaries themselves. What is particularly interesting in our study is that these negative impact estimates on decision-making are concentrated among women who have no formal education, suggesting the potential for expanded education for girls to change the underlying norms driving these dynamics. In general, our study highlights the importance of understanding cultures and norms when interpreting impact estimates and in attempting to reconcile different patterns of impact in the literature.

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APPENDICES

Appendix 1: Survey Questions for Control over Household Decision-Making

Q02	Q03a	Q03b
	When decisions are made regarding the following aspects of household life, who is it that normally takes the decision? Head ……01 Spouse ……02 Head and spouse jointly……03 Adult children ……04 Head and adult children ……05 Spouse and adult children……06 Head and parent ……07 Head and brothers……08 Other ……96 IF 97 SKIP TO NEXT ITEM	If the subject is very important, to what extent do you feel you can make your own personal decisions regarding these aspects of household life if you want(ed) to? Not at all……...1 Small extent……2 Medium extent...3 Great extent……4
1. Decisions about agricultural production or household enterprise (code=98 if not involved in agriculture or household enterprise) production	[__[__]	[__]
2. Whether or not you participate in wage employment	[__[__]	[__]
3. Major household expenditures (e.g., house repairs; buying large consumer durable)	[__[__]	[__]
4. Minor household expenditures (e.g., daily food, other household needs)	[__[__]	[__]
5. How to use government cash transfers/food subsidies	[__[__]	[__]
6. What food should be cooked each day	[__[__]	[__]
7. Getting medical treatment or advice for yourself	[__[__]	[__]
8. Buying clothes for yourself	[__[__]	[__]
9. Taking a child to the doctor	e	[__]
10. Dealing with child's school and teachers; sending children to school on a daily basis	[__[__]	[__]

Appendix 2: Survey Questions for Control over Household Decision-Making

Now I'm going to ask you some questions about different feelings you might have. Please listen to each of the following statements. Think about how each statement relates to your life, and then tell me how much you agree or disagree with the statement on a scale of 1 to 5, where 1 means you "strongly disagree" and 5 means you "strongly agree."

P04 — Statements						
		Strongly disagree	**Disagree**	**Neither agree or disagree**	**Agree**	**Strongly Agree**
A	I will not be able to achieve most of the goals that I have set for myself.	1	2	3	4	5
B	When facing difficult tasks, I am certain that I will accomplish them.	1	2	3	4	5
C	In general, I do not think that I can obtain outcomes that are important to me.	1	2	3	4	5
D	I believe I can succeed at most any endeavour to which I set my mind	1	2	3	4	5
E	I will not be able to successfully overcome many challenges.	1	2	3	4	5
F	I am confident that I can perform effectively on many different tasks.	1	2	3	4	5
G	Compared to other people, I cannot do most tasks very well.	1	2	3	4	5
H	Even when things are tough, I can perform quite well.	1	2	3	4	5

Appendix 3: Semi-structured interview questions related to decision-making

A.1. Please imagine a 5-step ladder (show figure of ladder), where on the first step at the bottom, is a [woman/ man] with little ability to make their own decisions about their lives. These [men/ women] are not able to decide about if or where they will work, or about starting or ending a relationship with a [opposite sex]. On the first step at the top, stand those who have great capacity to make important decisions for themselves, including about their working life and whether to start or end a relationship in their personal life.
If we ask you to position yourself on this ladder, on which step would you put yourself?

A.2. Why did you put yourself at this step of the ladder?
What types of decisions can you make on your own?
Do you consider that circumstances would be stronger than you *[literal translation]* if you want to start a new business or have a small shop or anything else that can increase your income, or do you feel that you are able to implement this if you want to?
What about things related to your family like your children's education? What about purchasing things for the house?
What types of decisions do you discuss with your spouse?
What types of decisions, made by other people, such as your father or mother or boss, influence your life?

A.3. All couples have differences from time-to-time over the household budget and spending priorities. Let's say you two have been disagreeing these past 2 months over purchasing new shoes for the children or something like that. When all is said and done, which one of you usually decides in the end?
Probe:
How do these kind of negotiations over spending priorities typically play out in your family?

B.1. Who makes household spending decisions for everyday necessities?
[Indicate: Own decision __ Consults with husband __ Husband decides __ Other __]

B.2. Do you usually know exactly how much money there is in the house to cover this week's food and other needs for the household?
[Indicate: Yes ___ Sometimes ____ No ____

B.3. Who in your family goes to the market to buy food for your household?
Probes *if respondent does not do the shopping*:
Are there times when you do go to the market?
Do you go alone?
What are some (other) places where you go freely on your own?
[Usually can move alone ___ Does not normally move alone ___]

B.4. Let's say you have personally decided that you are going to buy something costly, like a cell phone or a fan.
Do you feel you are always able to make a decision on something costly like that on your own – Would you say Always, Not always, A little, or Never?
To what extent do you feel that you can make your own decisions about costly purchases such these?
[Indicate response: Always ____ Not Always ___ A Little ___ Never __
Probes:
Would you need to consult someone?
If so, who?

C.1. When you think back over the period since your household began to receive the transfers [*specify when this was*], has the program had any effects on your own daily life or wellbeing?
Probe deeply here in ways that echo and build on the responses (e.g. try to enrich but not bias their thinking in any particular direction):
Have there been effects on your sense of wellbeing? Your self-confidence?
Have the transfers affected your plans for yourself or another member of the family?
Have the transfers impacted your responsibilities as a parent?
Have the transfers affected your relationships with others in the family -- Husband? Son(s)? Daughter(s)?
Have the transfers affected your efforts to earn income?
Have the transfers affected how you manage the household budget? Your spending priorities?

C.2. Have the transfers affected the daily life or wellbeing of other members of your family?
Probe:
Can you provide specific examples of changes?

C.3. When you pick up your cash, is this money stored alone or in the same place as other money? [*Pause*]
Do you, your husband, or both of you keep this money?

[Indicate response: Respondent keeps money___ Husband ___ Both____ Other_____]

Who spends from this money?

Do you use this money just like any other money?

C.4. Who mostly decides how the cash transfer will be used?

[Indicate response: Respondent decides __ Both decide __ Husband decides__ Other __]

C.5. Compared to before you started receiving the transfer, would you say that disagreements over the household budget and spending are fewer, the same or more common?

[Indicate response: fewer ___ same____ more ____]

Why?

D.1. When you first learned of the Takaful and Karama Program, did you imagine the cash transfers could affect your life and your family?

[If so,] How?

Probe:

If a non-beneficiary: Did you consider registering for the program? Why/Why not?

D.2. What is your impression of the Program and how it is working here in your community?

D.3. Overall, how do you see that the Takaful transfers have affected the wellbeing of families with little income in the community?

Probes:

Why/ Why not?

Are there positive impacts on the wellbeing of families?

Are there any negative impacts on wellbeing or livelihoods?

D.4. Has the program also impacted the wellbeing or livelihoods of families in the community who are not receiving the transfers?

D.5. What do you think about how the transfers go to women?

Probes:

Do you think this affects how the transfer is used?

For example, do you think that women would spend the transfer money differently than men?

D.6. Do you think the transfers have effects on the relationship between husbands and wives? Why?

Focus-Group Discussion Questions Related to Decision-Making

1. What is your impression of the Takaful and Karama Cash Transfer Program?

[Take time to allow a meaty discussion here. Echo their responses and especially probe if issues arise at any point related to:

i) Differences in program effects on ultra-poor versus. households near CPL (Step 1 and 2 under CPL)

ii) Use of transfer

iii) The couple's or other relationships in the household (e.g., father and son) or in the community

[Probe cautiously but try to get details on these issues.]

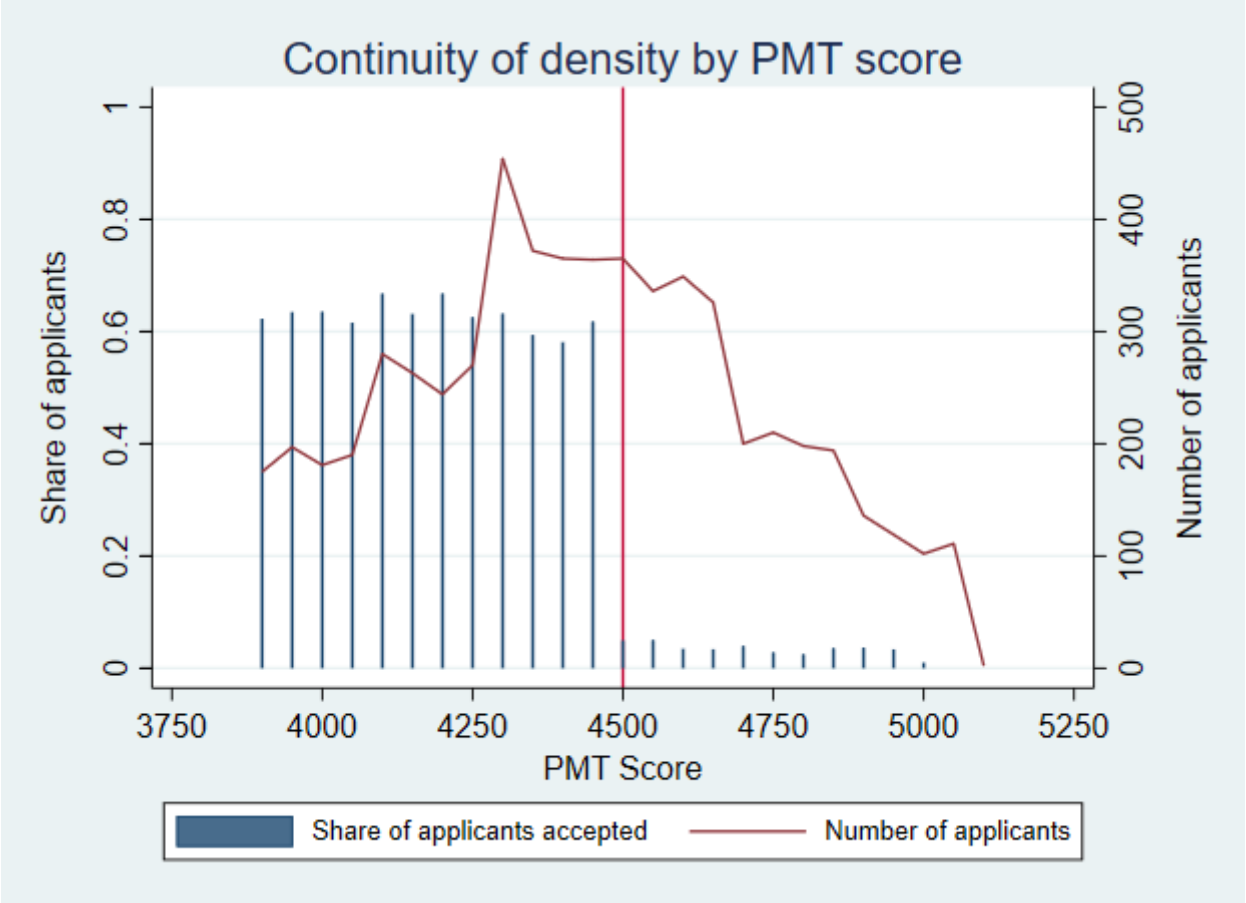
2. Has the program had any effects on the wellbeing of your friends and neighbors in this community?
3. Has the program had any effects on relationships between men and women in the household?
4. In your opinion, do you think that the transfers makes it more or less likely for a man to look for a job?

[Pause.]

Do transfers make it more or less likely for woman to look for a job?

Appendix 4: Additional Figures and Tables

Figure A1: Continuity of applicant density at the threshold



Source: Authors' analysis
Note: Line graph shows number of households in our sample of Takaful and Karama applicants by PMT score. Bar graph shows probability of treatment status by PMT score.

Table A1: Tests for continuity of household characteristics at the 4500 threshold

	Age of the household head	Head less than primary education	Head primary education	Head secondary education	Spouse less than primary education	Spouse primary education	Spouse secondary education
Panel A1: All women (N=5611)							
Takaful beneficiary	0.674	0.025	-0.019	-0.054	0.011	-0.004	-0.027
	(0.881)	(0.039)	(0.033)	(0.044)	(0.044)	(0.028)	(0.043)
Robust *p*-value	0.472	0.837	0.697	0.447	0.774	0.275	0.681
Panel A2: No education (N=1949)							
Takaful beneficiary	0.509	-0.047	0.050	-0.030	-0.010		
	(1.546)	(0.067)	(0.059)	(0.052)	(0.007)		
Robust *p*-value	0.406	0.494	0.207	0.220	0.266	.	.

Source: Authors' analysis
Note: Standard errors in parentheses (* p < 0.10, ** p < 0.05, *** p < 0.01). Results from using households characteristics at the dependent variable with the same regression discontinuity specification used for our main results. Panel A reports results for the full sample, Panel A2 reports results for the sample of women who have no formal education. In Column (1) the outcome variable is the age of the household head in completed years. Outcome variables in columns (2) – (7) refer to the highest level of educational attainment by the household head or his spouse. The outcome variable in Column (8) is an indicator variable for whether any member of the household knows someone who works in a local Ministry of Social Solidarity (MoSS) office (the department implementing the cash transfer program). The rdrobust command was employed and a quadratic specification for the relationship with the running variable (Score) was used. The bandwidth is selected to include the full sample since households were purposely sampled around the program cut-off value.

Table A2: Placebo test at non-cutoff points

	Women decision-making index based on Likert scale (PCA, normalized)	Women's decision-making score, average (1-4)	Number of 'To a great extent' decisions	Number of 'Not at all' decisions
Panel A1: Placebo test for impact at 4277 among all women with PMT score <4500 (N=3162)				
PMT Score<4277	-5.291	-2.732	8.546	42.612
	(63.660)	(33.814)	(116.119)	(488.944)
Robust *p*-value	0.260	0.250	0.269	0.242
Panel A2: Placebo test for impact at 4730 among all women with PMT score> 4500 (N=2440)				
PMT Score>4730	-2.056	-1.475	-7.373	8.585
	(5.220)	(3.447)	(16.383)	(12.325)
Robust *p*-value	0.069	0.081	0.108	0.991
Panel B1: Placebo test for impact at 4267 among women with no education and PMT score<4500 (N=1185)				
PMT Score<4267	-0.314	-0.068	-8.178	-11.751
	(5.059)	(3.326)	(24.242)	(31.309)
Robust *p*-value	0.752	0.780	0.791	0.361
Panel B2: Placebo test for impact at 4755 among women with no education and PMT score > 4500 (N=759)				
PMT Score>4755	5.132	1.877	30.875	9.699
	(6.311)	(3.424)	(28.768)	(12.469)
Robust *p*-value	0.134	0.102	0.207	0.637

Source: Authors' analysis

Note: Standard errors in parentheses (* p < 0.10, ** p < 0.05, *** p < 0.01). In column (1) the dependent variable combines the values of 9 Likert scale questions regarding the degree of influence over decision-making for different domains using the first component from a principal component analysis, which is subsequently normalized so that impacts reported are in standard deviations. Domains are: participating in wage employment, major household expenditures, minor household expenditures, the use of government subsidies and transfers, what food should be cooked, getting medical treatment, taking a child to the doctor, and managing children's schooling. Response options are: 4= "a great extent"; 3= "a medium extent"; 2= "a small extent"; 1= "not at all". In column (2) the dependent variable is the simple average of the values on the Likert scale for the nine different domains. In column (3) the dependent variable is the number of domains (out of 9) in which the respondent reported that she had a great degree of influence on decision-making. In column (4) the dependent variable is the number of domains (out of 9) where the respondent reported that she had no influence on household decision-making. The rdrobust command was employed and a quadratic specification for the relationship with the running variable (Score) was used. The bandwidth is selected to include the full sample since households were purposely sampled around the program cut-off value.

Table A3: Impacts of Takaful on women's control over decision-making- quadratic specification

	Women decision-making index	Women's decision-making average score	Number of domains influence 'to a great extent'	Number of domains influence 'not at all'
Panel A1: All women (N=5611)				
Takaful beneficiary	-0.054	-0.046	-0.040	0.261
	(0.113)	(0.074)	(0.329)	(0.223)
Robust *p*-value	0.946	0.981	0.712	0.278
Panel A2: No education (N=1949)				
Takaful beneficiary	-0.377	-0.273*	-0.617	0.773**
	(0.198)	(0.132)	(0.568)	(0.426)
Robust *p*-value	0.136	0.082	0.713	0.023
Panel A3: At least some formal education (N=3662)				
Takaful beneficiary	0.117	0.074	0.258	-0.025
	(0.142)	(0.092)	(0.412)	(0.259)
Robust *p*-value	0.288	0.253	0.481	0.666

Source: Authors' anlaysis

Note: Standard errors in parentheses (* p < 0.10, ** p < 0.05, *** p < 0.01). Panel A reports results for the full sample, Panel B reports results for the sample of women who have no formal education, and Panel C reports results for women who have at least some formal education. In column (1) the dependent variable combines the values of 9 Likert scale questions regarding the degree of influence over decision-making for different domains using the first component from a principal component analysis, which is subsequently normalized so that impacts reported are in standard deviations. Domains are: participating in wage employment, major household expenditures, minor household expenditures, the use of government subsidies and transfers, what food should be cooked, getting medical treatment, taking a child to the doctor, and managing children's schooling. Response options are: 4= "a great extent"; 3= "a medium extent"; 2= "a small extent"; 1= "not at all". In column (2) the dependent variable is the simple average of the values on the Likert scale for the nine different domains. In column (3) the dependent variable is the number of domains (out of 9) in which the respondent reported that she had a great degree of influence on decision-making. In column (4) the dependent variable is the number of domains (out of 9) where the respondent reported that she had no influence on household decision-making. The rdrobust command was employed and a quadratic specification for the relationship with the running variable (Score) was used. The bandwidth is selected to include the full sample since households were purposely sampled around the program cut-off value.

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