

Reanalysis of Egger et al. (2022)

Michael Wiebe

September 13, 2024

1 Summary

Egger et al. (2022) studies the general equilibrium effects of a GiveDirectly cash transfer program in Kenya. The treatment was a one-time transfer of USD 1000 to households with a thatched roof, randomized across rural villages. The authors find that both recipients and non-recipients in control villages benefitted from the cash transfer. Overall, I trust the main results. I did not find any conceptual problems or coding errors, and my reanalyses suggest different interpretations rather than challenging the main findings.

The authors find large positive spillovers, and note that most of the spillover effects accrue to ineligible households (with metal roofs), suggesting that these are wealthier households who run businesses. Are spillovers more likely to accrue to richer households? The evidence is mixed. Spillover effects are not clearly larger for households with higher baseline assets (Section 3), but this could be due to assets being a noisy measure of wealth. In fact, the largest spillover effects are for low-asset ineligible households, suggesting that eligibility itself is a mechanism determining spillovers. So while the richest quintile of households does capture the largest share of spillover benefits, the overall correlation with wealth is small, and the relationship is complicated by the interaction with eligibility.

Section 4 shows that spillovers are actually larger for households with no baseline business revenue. This could be partially explained by non-entrepreneurs responding to the cash transfer by starting new businesses.

Section 5 tests for heterogeneity by assets in the direct effect on recipients. While top quintile households have the largest effect, there is not a clear trend with richer households benefitting more.

Section 6 decomposes the spillover effects for ineligible households into treatment and control villages. The spillover effect is larger for treatment-ineligibles, who receive a within-village as well as across-village spillovers. The across-village spillover appears to be larger than the within-village spillover, which is not easily explained.

Section 7 takes an alternative approach to separate the within- and across-village spillovers for treatment-ineligibles. The results are broadly similar, but are not directly comparable to those above.

Section 8 decomposes the direct effect on recipients into own-village and other-village effects. Section 9 presents the reduced-form corresponding to the IV regression. This specification is similar to that of Miguel and Kremer (2004).

2 Computational reproducibility

I downloaded the replication package from the Econometrica website.¹ I was not able to successfully run the code due to directory errors and missing datasets. I fixed the directory errors, and Michael Walker provided the missing datasets, allowing me to produce the reanalyses below.

¹<https://onlinelibrary.wiley.com/doi/full/10.3982/ECTA17945>

The README states that the data and code are available from Harvard's Dataverse, but I was not able to access it, using either my Dataverse account or my ORCID account. The README also links to a GitHub repository, which is empty.

3 Do spillovers accrue to wealthier households?

If spillovers accrue to wealthier households, then the welfare effects of cash transfers are smaller, since wealthier households have lower marginal utility. Table B8 in Egger et al. (2022) decomposes the spillover effect on non-recipients by control-eligibles and ineligibles, finding that most spillovers go to ineligibles. If we care about whether the spillover effects are accruing to richer households, this may not be an ideal test, because eligibility (thatched vs metal roof) is a rough form of means-testing. Using a direct measure of household wealth would be more appropriate.²

3.1 Heterogeneity by median baseline assets

Here I decompose the spillover effect on non-recipients by households with below- and above-median baseline total assets (including house and land value). As expected, eligible households have fewer assets, but the relationship is not very strong. The correlation between baseline assets and eligibility is -0.31. 80% of below-median-asset households are eligible, and 51% of above-median households are eligible. Conversely, 61% of eligible households have below-median assets, and 29% of ineligible households have below-median assets.

I modify Equation (3) by replacing the Eligibility dummy with the indicator variable $\text{Asset}_{iv} = 1\{\text{Below-median assets}\}$, so that the spillover effect can differ for below- and above-median-asset households. (I also interact the baseline variables with the asset indicator variable.)

$$y_{iv} = \alpha + \sum_r \gamma_r^1 \text{Amt}_{v,r} \times \text{Asset}_{iv} + \sum_r \gamma_r^2 \text{Amt}_{v,r} \times \text{Asset}_{iv} + \delta \text{Asset}_{iv} + \varepsilon_{iv} \quad (1)$$

The results are in Table 1. Column 1 shows the population-weighted average of effects for below- and above-median groups, using the share of below-median-asset non-recipient households among all non-recipient households. Column 2 shows the spillover effect for non-recipient households with below-median assets, and Column 3 has the effect for non-recipient households with above-median assets. The effect is larger for high asset households, though the difference is not statistically significant. If assets are a noisy measure of wealth, then a larger spillover effect for rich households would be obscured by attenuation bias.

The above-median effect (378) is a bit smaller than the original effect on ineligibles (411). This suggests that eligibility is proxying for household wealth. The below-median effect (232) is much larger than the original effect on control-eligibles (21). This suggests that there is spillover heterogeneity by eligibility, independent of assets.

²“most of the gains accrue to ineligibles. These comparatively wealthier households might be gaining more from business and additional labor income, and may be imperfectly substitutable with eligibles in the labor market. As a result, they may experience a larger increase in wages than recipient and non-recipient eligibles.” (p.2625)

We can further decompose each effect by treatment and control villages. If the spillover effect decays with distance, then it should be larger in treatment villages, which are more likely to be in high-saturation sublocations and hence closer to other treated villages. The effect for treatment households could also be larger if there is an independent effect on ineligibles, since out of the sample of non-recipients, only ineligibles are in treatment villages. Table A1 shows the results. As expected, the spillover effects are larger for households in treated villages compared to control villages.

Table 1: Replication of Table B8: below- vs. above-median assets

	Non-recipient households			(4) Control, low-saturation mean (SD)
	(1) Total Effect IV	(2) Below-median assets	(3) Above-median assets	
<i>Panel A: Expenditure</i>				
Household expenditure, annualized	327.24*** (125.90)	232.63 (174.93)	378.60** (169.01)	2536.01 (1933.51)
Non-durable expenditure, annualized	322.50*** (121.36)	229.83 (169.34)	372.82** (160.88)	2470.69 (1877.23)
Food expenditure, annualized	131.75** (61.90)	70.93 (107.12)	164.76** (80.28)	1578.05 (1072.00)
Temptation goods expenditure, annualized	-5.77 (6.24)	-9.62 (8.32)	-3.69 (7.83)	37.07 (123.54)
Durable expenditure, annualized	-2.75 (11.76)	5.65 (18.55)	-7.31 (14.34)	59.41 (230.83)
<i>Panel B: Assets</i>				
Assets (non-land, non-house), net borrowing	212.61** (95.71)	268.37** (114.32)	182.33 (132.29)	1131.66 (1419.70)
Housing value	292.97 (201.52)	-42.40 (187.44)	475.06 (299.54)	2032.11 (5028.27)
Land value	750.52** (376.08)	286.96 (369.34)	1002.19* (521.82)	5030.03 (6604.66)
<i>Panel C: Household balance sheet</i>				
Household income, annualized	222.59** (94.74)	361.65*** (109.89)	147.09 (133.74)	1023.36 (1634.02)
Net value of household transfers received, annualized	27.06* (15.82)	42.20** (20.87)	18.85 (22.62)	130.08 (263.65)
Tax paid, annualized	1.76 (2.17)	-1.63 (2.84)	3.60 (2.99)	16.92 (36.50)
Profits (ag & non-ag), annualized	41.42 (42.88)	117.30* (64.49)	0.23 (57.31)	485.56 (786.92)
Wage earnings, annualized	174.80** (84.55)	229.38** (104.28)	145.17 (108.77)	494.95 (1231.12)
Total loan amount	10.26 (11.55)	35.54* (20.02)	-3.46 (14.47)	65.34 (182.65)
Total loans given	0.25 (1.02)	-1.21 (1.79)	1.04 (1.36)	8.09 (22.31)
Business revenue, annualized	85.32 (94.53)	189.33 (152.59)	28.86 (122.99)	933.19 (1697.97)

3.2 Heterogeneity by median baseline assets and eligibility

To test for an independent spillover effect by eligibility, I extend the specification to a triple interaction with Eligible \times Below-median-assets to further decompose the effects in control villages by eligible and ineligible households. Here is the equation in terms of absolute effects.

$$\begin{aligned}
 y_{iv} = & \alpha + \sum_r \gamma_r^1 \text{Amt}_{v,r} \times \text{Below}_{iv} \times \text{Elig}_{iv} + \sum_r \gamma_r^2 \text{Amt}_{v,r} \times \text{Below}_{iv} \times \text{Inelig}_{iv} \\
 & + \sum_r \gamma_r^3 \text{Amt}_{v,r} \times \text{Above}_{iv} \times \text{Elig}_{iv} + \sum_r \gamma_r^4 \text{Amt}_{v,r} \times \text{Above}_{iv} \times \text{Inelig}_{iv} \\
 & + \delta_1 \text{Asset}_{iv} + \delta_2 \text{Elig}_{iv} + \delta_3 \text{Asset}_{iv} \times \text{Elig}_{iv} + \varepsilon_{iv}
 \end{aligned}$$

Table 2 shows the results. The effects for eligible households are very small (Columns 2 and 5), which is consistent with the eligible-control effect of 21 in Table B8. Control eligibles simply do not benefit from across-village spillovers, even if they have high levels of assets. The effects for ineligible households are large, regardless of baseline assets. In fact, the effects for below-median ineligibles are larger than the effects for above-median ineligibles (comparing Columns 3 and 6, and Columns 4 and 7).

These results suggest that eligibility itself is a determinant of spillover effects. Perhaps eligible households (with a thatched roof) spend their new income on upgrading their roof to metal, while ineligible households (with a metal roof) have already accomplished this and can immediately start making productive investments. This explanation doesn't seem to work, since eligibles do not show an increase in housing value.³

Moreover, below-median ineligibles have larger increases in business revenue, profits, and wages compared to above-median ineligibles. Hence, it seems to be households with a metal roof and low initial assets who are able to capture most of the spillovers. (One possible explanation is that households with a metal roof and high assets are older and work less, capturing less of the new spending.)⁴

Note that the total effect differs from Table A1 because the former allows the effects to differ by 1{Below-median assets}, while these results are based on 1{Below-median assets} \times 1{Eligible}. That is, the estimated coefficients themselves are different.

³Note that we do see an increase in housing value for recipients. So the housing variable is not too noisy to capture an effect.

⁴Section B tests whether below-median households are absolutely poor but relatively rich, by using village-specific median assets. That is, households that are below the overall median could be above-median in their village, and treatment effects are larger for relatively rich households. This is not the case, and in fact the spillover effect is larger for below-village- than above-village-median households.

Table 2: Replication of Table B8: below-median assets \times Eligible, decomposed by treatment

	Non-recipient households							(8) Control, low-saturation mean (SD)
	(1) Total Effect IV	(2) Below-median assets, control eligibles	(3) Below-median assets, control ineligibles	(4) Below-median assets, treatment ineligibles	(5) Above-median assets, control eligibles	(6) Above-median assets, control ineligibles	(7) Above-median assets, treatment ineligibles	
<i>Panel A: Expenditure</i>								
Household expenditure, annualized	353.29*** (129.14)	25.70 (113.60)	445.85* (267.68)	558.15* (335.10)	46.21 (137.34)	343.11** (163.50)	460.06** (219.23)	2536.01 (1933.51)
Non-durable expenditure, annualized	335.58*** (125.52)	1.78 (112.02)	435.36* (259.39)	545.02* (324.73)	84.03 (131.70)	320.76** (156.25)	430.10** (209.51)	2470.69 (1877.23)
Food expenditure, annualized	139.79** (65.15)	-6.12 (70.12)	156.83 (160.72)	196.33 (201.20)	46.04 (77.03)	143.09* (78.25)	191.87* (104.92)	1578.05 (1072.00)
Temptation goods expenditure, annualized	-1.14 (6.71)	12.25 (9.21)	-14.51 (12.45)	-18.16 (15.59)	10.10 (9.42)	0.59 (7.74)	0.79 (10.37)	37.07 (123.54)
Durable expenditure, annualized	9.52 (11.74)	28.82 (17.72)	15.19 (26.98)	19.01 (33.77)	-23.96 (32.14)	5.88 (12.98)	7.88 (17.40)	59.41 (230.83)
<i>Panel B: Assets</i>								
Assets (non-land, non-house), net borrowing	148.85 (98.31)	-22.89 (51.25)	344.17** (170.16)	430.85** (213.02)	-8.04 (82.19)	93.13 (131.49)	124.88 (176.31)	1131.66 (1419.70)
Housing value	77.88 (219.28)	66.62 (52.66)	-305.11 (329.29)	-381.96 (412.23)	-16.85 (67.72)	224.19 (311.89)	300.61 (418.20)	2032.11 (5028.27)
Land value	572.92 (391.28)	-43.20 (252.59)	86.83 (518.79)	108.69 (649.46)	522.92 (573.84)	766.93 (490.87)	1028.36 (658.19)	5030.03 (6604.66)
<i>Panel C: Household balance sheet</i>								
Household income, annualized	247.99*** (95.16)	139.32 (87.51)	561.93*** (140.98)	703.47*** (176.49)	8.09 (83.26)	125.49 (130.68)	168.27 (175.23)	1023.36 (1634.02)
Net value of household transfers received, annualized	11.26 (16.22)	7.02 (12.07)	28.96 (31.08)	36.25 (38.91)	-23.04 (18.13)	6.91 (22.31)	9.27 (29.91)	130.08 (263.65)
Tax paid, annualized	1.80 (2.37)	-1.10 (2.24)	-0.09 (4.71)	-0.11 (5.90)	-0.39 (2.70)	2.96 (3.00)	3.97 (4.02)	16.92 (36.50)
Profits (ag & non-ag), annualized	47.65 (45.39)	-11.58 (38.52)	187.96** (95.70)	235.31** (119.81)	28.42 (57.37)	-3.11 (59.22)	-4.17 (79.41)	485.56 (786.92)
Wage earnings, annualized	191.08** (87.56)	159.41** (75.18)	344.78** (134.14)	431.63** (167.92)	-19.44 (51.68)	124.52 (105.77)	166.96 (141.82)	494.95 (1231.12)
Total loan amount	4.81 (12.40)	6.10 (9.96)	41.54 (31.91)	52.00 (39.95)	-9.74 (9.61)	-8.91 (14.42)	-11.94 (19.33)	65.34 (182.65)
Total loans given	0.26 (1.17)	0.67 (1.73)	-2.05 (3.12)	-2.57 (3.90)	-0.28 (1.76)	1.09 (1.37)	1.46 (1.83)	8.09 (22.31)
Business revenue, annualized	71.16 (104.46)	44.52 (87.95)	245.59 (243.19)	307.45 (304.45)	152.03 (125.58)	-14.59 (126.96)	-19.56 (170.24)	933.19 (1697.97)

Standard errors clustered by sublocation. Total assets is the sum of non-land, non-house assets (net borrowing); housing value; and land value.

3.3 Is heterogeneity by assets driven by the tails?

To test whether the larger above-median effect is driven by the richest households, I split the sample by quintiles of baseline total assets (instead of below- and above-median).

$$y_{iv} = \alpha + \sum_r \left[\sum_{i=1}^5 \gamma_r^i \text{Amt}_{v,r} \times Q_i \right] + \sum_{i=1}^4 \eta_i Q_i + \varepsilon_{iv} \quad (2)$$

Table 3 shows the results. The effects are noisy, and do not show a clear correlation between wealth and effect size. Surprisingly, the effect is negative for the third quintile, though nonsignificant. While quintile 5 has the largest expenditure gains, this does not translate into household income (panel C).

I test whether high-asset households are borrowing from low-asset households to finance their increased consumption; this effect is small, though note that the variable only captures loans in the past 12 months.

To visualize the heterogeneity, I plot the confidence intervals for the total effect on household expenditure. Despite the large differences in point estimates, there does not appear to be a clear pattern, and the confidence intervals are overlapping.

Asset quintiles: confidence intervals (expenditure)

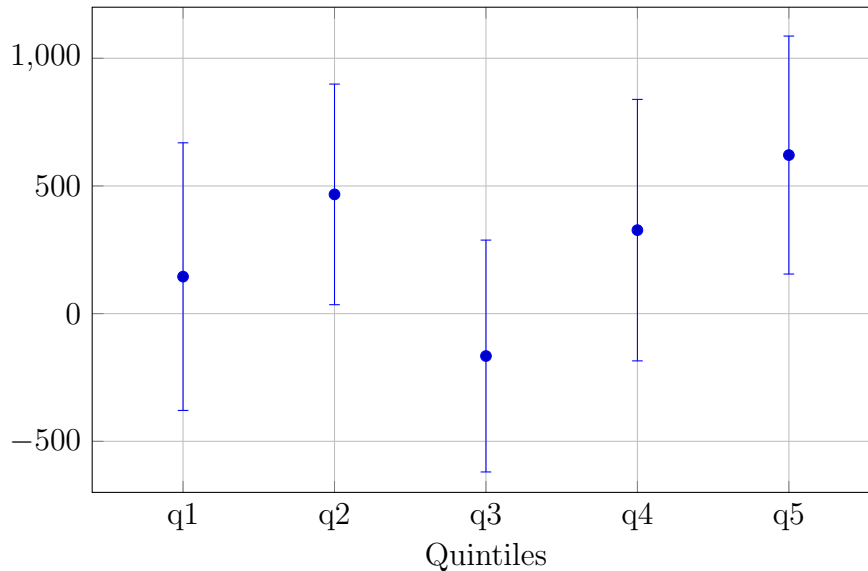


Table 3: Replication of Table B8: effect by asset quintiles

	Non-recipient households						(7) Control, low-saturation mean (SD)
	(1) Total Effect IV	(2) Quintile 1 assets	(3) Quintile 2 assets	(4) Quintile 3 assets	(5) Quintile 4 assets	(6) Quintile 5 assets	
<i>Panel A: Expenditure</i>							
Household expenditure, annualized	316.99** (127.04)	145.97 (261.91)	467.40** (216.48)	-166.80 (227.37)	327.70 (256.27)	620.66*** (233.56)	2536.01 (1933.51)
Non-durable expenditure, annualized	311.57** (121.95)	177.28 (258.95)	422.13** (198.51)	-132.27 (218.41)	351.08 (250.72)	577.31*** (215.08)	2470.69 (1877.23)
Food expenditure, annualized	125.32** (62.84)	116.24 (139.24)	141.44 (135.14)	-101.84 (136.02)	126.31 (130.44)	274.40** (110.70)	1578.05 (1072.00)
Temptation goods expenditure, annualized	-6.10 (6.21)	-4.02 (10.01)	-10.73 (14.28)	-16.51 (16.07)	-6.26 (12.38)	2.62 (12.08)	37.07 (123.54)
Durable expenditure, annualized	-2.14 (11.82)	-26.05 (23.91)	46.25 (38.16)	-25.22 (20.29)	-37.63 (26.25)	20.65 (22.36)	59.41 (230.83)
<i>Panel B: Assets</i>							
Assets (non-land, non-house), net borrowing	204.61** (95.74)	204.55 (176.71)	348.42*** (134.78)	-65.48 (144.64)	339.41** (162.67)	235.02 (239.61)	1131.66 (1419.70)
Housing value	292.15 (202.25)	-302.40 (305.04)	351.38 (272.70)	-257.73 (295.28)	683.13 (611.38)	571.28 (463.60)	2032.11 (5028.27)
Land value	722.28* (382.91)	-132.97 (285.74)	-92.26 (419.73)	833.64 (546.53)	1460.20* (753.68)	821.94 (850.62)	5030.03 (6604.66)
<i>Panel C: Household balance sheet</i>							
Household income, annualized	219.27** (94.28)	137.87 (163.29)	436.20** (199.83)	227.64 (144.83)	274.07 (238.48)	101.51 (185.54)	1023.36 (1634.02)
Net value of household transfers received, annualized	24.90 (15.96)	28.49 (34.35)	35.65 (33.86)	21.63 (25.38)	12.03 (50.75)	29.16 (29.51)	130.08 (263.65)
Tax paid, annualized	1.90 (2.16)	-2.50 (4.75)	3.16 (3.38)	-3.17 (5.09)	11.19* (5.99)	0.19 (3.72)	16.92 (36.50)
Profits (ag & non-ag), annualized	35.12 (42.06)	169.99** (81.27)	51.18 (100.73)	18.96 (81.26)	35.17 (96.45)	-2.62 (74.49)	485.56 (786.92)
Wage earnings, annualized	178.60** (84.12)	29.26 (131.05)	324.88* (173.95)	175.05 (114.01)	257.01 (175.67)	107.91 (167.75)	494.95 (1231.12)
Total loan amount	8.35 (11.27)	24.57 (21.38)	22.06 (22.88)	4.93 (25.30)	-24.59 (28.24)	20.21 (21.20)	65.34 (182.65)
Total loans given	0.22 (1.07)	3.16 (2.59)	-2.86 (3.03)	-2.43 (2.55)	3.65 (2.55)	0.38 (2.07)	8.09 (22.31)
Business revenue, annualized	79.63 (93.57)	369.75* (202.85)	-76.89 (263.86)	37.56 (168.24)	217.48 (243.92)	5.77 (161.08)	933.19 (1697.97)

Standard errors clustered by sublocation. Total assets is the sum of non-land, non-house assets (net borrowing); housing value; and land value.

3.4 Are spillovers negative for poor eligible households?

From Table 2, we see that control eligibles have the smallest spillover effects, and the effect is smaller for households with below-median than with above-median assets. This suggests that the spillover effect may be negative for the poorest eligible households. To test this, I repeat the Section 3.2 analysis using a below-20th-percentile indicator instead of a below-median indicator. (This approach is more appropriate than restricting the sample to eligibles, which throws away variation from ineligible households.)

Table 4 shows the results. The point estimate for below-p20 eligibles is negative, but nonsignificant. Overall, eligible households are unaffected by the cash transfer. The effects for below-p20 ineligibles are the largest, though the confidence intervals are wide. These households also have large decreases in housing and land value, and large increases in business revenue and profits.

Table 4: Replication of Table B8: below-P20 assets \times Eligible, decomposed by treatment

	Non-recipient households							(8) Control, low-saturation mean (SD)
	(1) Total Effect IV	(2) Below-p20 assets, control eligibles	(3) Below-p20 assets, control ineligibles	(4) Below-p20 assets, treatment ineligibles	(5) Above-p20 assets, control eligibles	(6) Above-p20 assets, control ineligibles	(7) Above-p20 assets, treatment ineligibles	
<i>Panel A: Expenditure</i>								
Household expenditure, annualized	347.22*** (134.25)	-111.01 (131.70)	922.62 (680.46)	1212.03 (893.92)	72.10 (109.54)	336.96** (144.32)	442.72** (189.61)	2536.01 (1933.51)
Non-durable expenditure, annualized	330.34** (129.88)	-170.98 (130.44)	1060.64 (682.81)	1393.35 (897.01)	99.41 (101.49)	309.34** (137.83)	406.42** (181.08)	2470.69 (1877.23)
Food expenditure, annualized	140.09** (65.59)	-121.19 (77.78)	662.36* (361.79)	870.14* (475.29)	60.90 (57.89)	119.16* (67.93)	156.56* (89.24)	1578.05 (1072.00)
Temptation goods expenditure, annualized	-0.49 (6.69)	5.30 (11.00)	1.12 (13.85)	1.48 (18.20)	12.87 (8.54)	-3.02 (7.23)	-3.96 (9.51)	37.07 (123.54)
Durable expenditure, annualized	8.37 (12.00)	50.16* (26.01)	-100.43 (67.09)	-131.93 (88.14)	-10.80 (22.42)	13.80 (11.74)	18.13 (15.43)	59.41 (230.83)
<i>Panel B: Assets</i>								
Assets (non-land, non-house), net borrowing	138.62 (101.09)	6.36 (58.57)	451.81 (439.51)	593.54 (577.38)	-22.22 (65.27)	134.84 (115.22)	177.15 (151.38)	1131.66 (1419.70)
Housing value	91.54 (233.19)	110.40 (69.65)	-1567.86 (1165.93)	-2059.69 (1531.67)	-6.14 (47.27)	186.82 (263.15)	245.45 (345.73)	2032.11 (5028.27)
Land value	563.83 (412.29)	323.74 (280.25)	-1281.23** (638.13)	-1683.13** (838.30)	128.41 (404.11)	671.47 (442.31)	882.20 (581.12)	5030.03 (6604.66)
<i>Panel C: Household balance sheet</i>								
Household income, annualized	229.22** (99.52)	4.06 (115.07)	392.95 (274.51)	516.22 (360.62)	107.79 (72.54)	220.20** (107.05)	289.30** (140.65)	1023.36 (1634.02)
Net value of household transfers received, annualized	9.24 (17.05)	22.89 (17.25)	-41.54 (93.32)	-54.58 (122.60)	-17.79 (14.74)	14.27 (19.13)	18.75 (25.14)	130.08 (263.65)
Tax paid, annualized	1.83 (2.44)	0.80 (3.16)	-4.11 (11.40)	-5.40 (14.97)	-1.52 (2.38)	2.50 (2.75)	3.29 (3.61)	16.92 (36.50)
Profits (ag & non-ag), annualized	40.10 (45.55)	51.57 (43.86)	361.94*** (136.72)	475.48*** (179.60)	-19.02 (40.62)	24.83 (51.17)	32.62 (67.23)	485.56 (786.92)
Wage earnings, annualized	184.02** (87.65)	7.57 (105.65)	115.67 (228.47)	151.95 (300.14)	120.77** (53.66)	182.33* (93.44)	239.55* (122.77)	494.95 (1231.12)
Total loan amount	2.89 (12.00)	14.85 (9.91)	28.21 (32.79)	37.06 (43.07)	-6.68 (10.10)	1.83 (12.96)	2.40 (17.03)	65.34 (182.65)
Total loans given	0.41 (1.12)	0.60 (1.43)	5.40 (5.99)	7.10 (7.87)	-0.04 (1.66)	0.12 (1.23)	0.16 (1.61)	8.09 (22.31)
Business revenue, annualized	61.97 (102.82)	30.63 (114.28)	849.53*** (306.98)	1116.01*** (403.28)	104.41 (95.00)	3.46 (119.84)	4.54 (157.45)	933.19 (1697.97)

Standard errors clustered by sublocation. Total assets is the sum of non-land, non-house assets (net borrowing); housing value; and land value.

4 Do spillovers accrue to business owners?

To test whether business owners are the main beneficiaries of spillovers, I test for an interaction effect with below-median baseline business revenue. The authors' Table B2 shows that the enterprise effects are concentrated in retail and manufacturing, and are close to zero in agriculture. Hence, I use non-agricultural business revenue; note that the median is 0, so most households have no business revenue at baseline.

The results are in Table 5.⁵ Surprisingly, the spillover effects are larger for households with no business revenue, contradicting the narrative that only business owners gain from spillovers. These households also have larger increases in assets and land value, though smaller increases in household income and wages.

One possible explanation is that non-business-owners use the cash transfer to start new businesses, and hence capture gains from new spending by recipients. There is suggestive evidence for this: business revenue increases much more for households with no baseline business revenue, though the effects are not statistically significant. Moreover, profits are only slightly larger for the below-median groups, implying that the new businesses are less profitable. Since expenditure comes out of profits (not revenue), this is not a complete explanation.

⁵Note that the total effect (Column 1) differs from the authors' Table 1 Column 3 because I include interaction terms with an indicator for below-median revenue.

Table 5: Replication of Table B8: below-median business revenue, decomposed by treatment

	Non-recipient households					(6) Control, low-saturation mean (SD)
	(1) Total Effect IV	(2) Below-median revenue, control	(3) Below-median revenue, treatment	(4) Above-median revenue, control	(5) Above-median revenue, treatment	
<i>Panel A: Expenditure</i>						
Household expenditure, annualized	348.09** (135.58)	352.67*** (120.80)	473.34*** (162.14)	228.89 (201.98)	291.46 (257.19)	2536.01 (1933.51)
Non-durable expenditure, annualized	343.76*** (129.84)	341.59*** (118.06)	458.47*** (158.45)	238.03 (199.19)	303.10 (253.64)	2470.69 (1877.23)
Food expenditure, annualized	140.17** (64.30)	151.65** (61.35)	203.54** (82.34)	74.91 (94.07)	95.39 (119.78)	1578.05 (1072.00)
Temptation goods expenditure, annualized	-6.51 (6.20)	-0.57 (7.29)	-0.76 (9.78)	-15.10 (9.51)	-19.22 (12.11)	37.07 (123.54)
Durable expenditure, annualized	-3.43 (12.04)	0.82 (11.94)	1.10 (16.03)	-9.95 (18.96)	-12.67 (24.14)	59.41 (230.83)
<i>Panel B: Assets</i>						
Assets (non-land, non-house), net borrowing	222.84** (97.62)	201.09** (97.34)	269.89** (130.64)	190.78 (149.03)	242.93 (189.77)	1131.66 (1419.70)
Housing value	339.89* (206.08)	174.30 (205.87)	233.93 (276.31)	528.31 (377.87)	672.73 (481.17)	2032.11 (5028.27)
Land value	828.63** (401.56)	760.02* (428.10)	1020.06* (574.57)	687.38 (559.74)	875.28 (712.75)	5030.03 (6604.66)
<i>Panel C: Household balance sheet</i>						
Household income, annualized	229.25** (101.75)	119.32 (75.96)	160.14 (101.95)	353.20* (195.91)	449.75* (249.46)	1023.36 (1634.02)
Net value of household transfers received, annualized	30.19* (17.01)	27.67* (14.92)	37.14* (20.03)	25.07 (33.78)	31.93 (43.01)	130.08 (263.65)
Tax paid, annualized	2.23 (2.41)	2.05 (1.93)	2.75 (2.58)	1.85 (5.24)	2.35 (6.67)	16.92 (36.50)
Profits (ag & non-ag), annualized	45.70 (45.28)	38.96 (38.99)	52.29 (52.33)	43.22 (90.33)	55.03 (115.02)	485.56 (786.92)
Wage earnings, annualized	179.85** (87.09)	79.07 (64.90)	106.12 (87.11)	303.15** (151.08)	386.02** (192.38)	494.95 (1231.12)
Total loan amount	9.22 (11.79)	17.08 (11.18)	22.93 (15.00)	-7.82 (23.15)	-9.96 (29.48)	65.34 (182.65)
Total loans given	0.35 (1.10)	0.84 (1.01)	1.12 (1.35)	-0.62 (2.70)	-0.79 (3.43)	8.09 (22.31)
Business revenue, annualized	93.71 (100.76)	120.12 (83.84)	161.22 (112.53)	16.48 (227.24)	20.99 (289.36)	933.19 (1697.97)

Standard errors clustered by sublocation. Households in control villages can be eligible or ineligible, while households in treatment villages are ineligible.

5 Is the direct effect larger for wealthier recipients?

Given the nonlinear effect heterogeneity in spillovers for nonrecipients by baseline assets, what does the heterogeneity in effects for recipients look like? I repeat the Table 1 results for recipients, splitting the total effect on recipients by quintile of baseline total assets. Specifically, I interact the own-village-cash and other-village-cash terms by indicators for each quintile. Note that I show the ‘absolute effect’ version of the regression, where the coefficients capture the effect for quintile i , instead of the differential effect relative to an omitted quintile. (This is how the authors implement their Equation 3 (interacting with an Eligibility indicator) in the code.)

$$y_{iv} = \alpha + \sum_{i=1}^5 \left[\beta_i \text{Amt}_v \times Q_i + \sum_r \beta_{i,r} \text{Amt}_{v,r}^{-v} \times Q_i \right] + \sum_{i=1}^4 \eta_i Q_i + \varepsilon_{iv} \quad (3)$$

Table 6 shows the results. The pattern is not very clear. While the top quintile has the largest effect, the correlation with wealth is weak. I plot the confidence intervals for household expenditure. The pattern in the point estimates is less striking when including the confidence intervals. If our prior is that treatment effects are increasing in wealth, we could interpret these results as showing that total assets are not a good measure of wealth.

Asset quintiles: confidence intervals (expenditure)

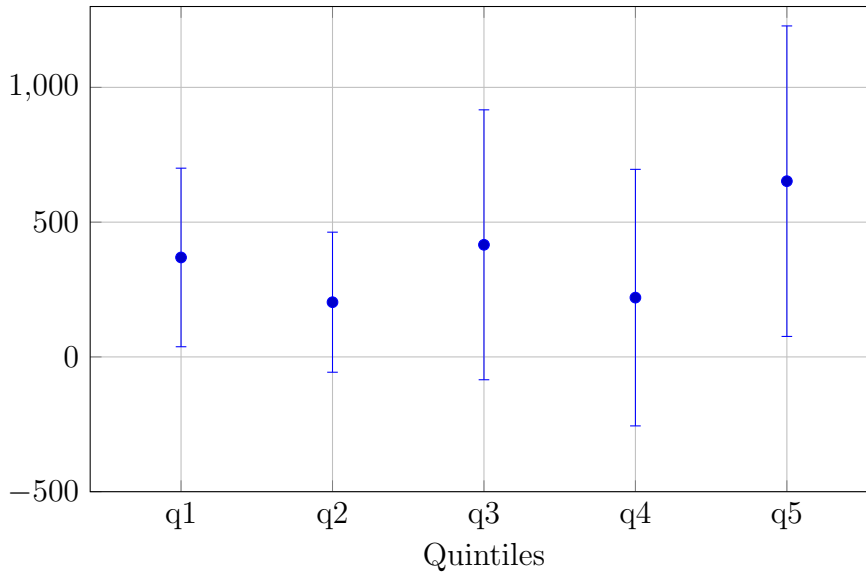


Table 6: Replication of Table 1: effect by total asset quintiles

	Recipient households						(7) Control, low-saturation mean (SD)
	(1) Total Effect IV	(2) Quintile 1 assets	(3) Quintile 2 assets	(4) Quintile 3 assets	(5) Quintile 4 assets	(6) Quintile 5 assets	
<i>Panel A: Expenditure</i>							
Household expenditure, annualized	344.41*** (102.16)	369.02** (169.75)	203.37 (132.57)	416.47 (255.46)	220.30 (242.81)	652.04** (293.90)	2536.01 (1933.51)
Non-durable expenditure, annualized	232.01** (94.45)	175.12 (171.20)	123.49 (135.31)	348.93 (215.78)	114.79 (248.05)	591.30** (292.62)	2470.69 (1877.23)
Food expenditure, annualized	134.48** (62.92)	118.59 (121.02)	82.10 (83.26)	188.80 (127.54)	93.40 (152.91)	257.98 (174.49)	1578.05 (1072.00)
Temptation goods expenditure, annualized	5.32 (8.28)	13.30 (13.62)	-4.63 (16.09)	24.34 (17.23)	-6.52 (19.89)	-6.79 (25.70)	37.07 (123.54)
Durable expenditure, annualized	109.91*** (26.02)	177.52*** (37.47)	87.96** (43.08)	76.91 (53.92)	90.05** (45.89)	71.96 (56.27)	59.41 (230.83)
<i>Panel B: Assets</i>							
Assets (non-land, non-house), net borrowing	186.30*** (52.99)	159.05** (68.48)	256.51*** (85.14)	171.87 (147.62)	55.90 (159.11)	338.00** (166.28)	1131.66 (1419.70)
Housing value	483.13*** (54.42)	554.58*** (78.11)	623.02*** (77.69)	427.37*** (146.65)	279.01** (139.06)	427.18*** (154.88)	2032.11 (5028.27)
Land value	141.90 (303.61)	327.24 (246.46)	387.73 (372.13)	175.25 (607.19)	-212.69 (793.10)	-330.06 (950.23)	5030.03 (6604.66)
<i>Panel C: Household balance sheet</i>							
Household income, annualized	140.88* (82.53)	358.26** (157.38)	41.21 (152.46)	52.84 (154.29)	66.34 (198.46)	66.14 (214.90)	1023.36 (1634.02)
Net value of household transfers received, annualized	-6.05 (14.69)	25.36 (20.47)	7.18 (22.26)	-14.06 (20.76)	-44.40 (34.17)	-38.65 (39.77)	130.08 (263.65)
Tax paid, annualized	0.29 (2.14)	0.47 (3.38)	1.92 (3.95)	-8.19 (5.61)	10.50* (6.21)	-5.64 (8.64)	16.92 (36.50)
Profits (ag & non-ag), annualized	41.83 (38.66)	125.66* (65.39)	-50.68 (76.46)	41.28 (80.28)	24.77 (91.65)	51.75 (155.42)	485.56 (786.92)
Wage earnings, annualized	71.32 (60.29)	120.01 (122.80)	74.59 (111.16)	20.65 (152.74)	40.08 (147.82)	75.53 (165.60)	494.95 (1231.12)
Total loan amount	6.05 (8.33)	33.84** (13.17)	10.85 (12.34)	-27.39 (20.92)	-5.71 (20.52)	0.25 (21.04)	65.34 (182.65)
Total loans given	3.28** (1.29)	6.46*** (2.35)	2.00 (2.67)	1.59 (3.15)	1.62 (3.17)	3.35 (4.54)	8.09 (22.31)
Business revenue, annualized	196.27** (76.53)	249.54* (143.49)	60.66 (154.47)	179.29 (162.43)	170.16 (186.79)	413.76 (259.28)	933.19 (1697.97)

Standard errors clustered by sublocation. Sample is restricted to eligible households. Total assets is the sum of non-land, non-house assets (net borrowing), housing value; and land value.

6 Decomposing spillover effects for ineligible households

In Table B8, the authors decompose the spillover effect by control-eligibles and ineligibles. Here I further decompose the effect on ineligibles by treatment-ineligibles and control-ineligibles.⁶ The spillover effects on non-recipients are based on Equation 3, which uses the total amount of cash transferred within a radius of village v . The authors present the equation for differential effects, but the code is implemented (equivalently) for absolute effects.⁷

$$y_{iv} = \alpha + \sum_r \gamma_r^1 \text{Amt}_{v,r} \times \text{Inelig}_{iv} + \sum_r \gamma_r^2 \text{Amt}_{v,r} \times \text{Elig}_{iv} + \delta \text{Elig}_{iv} + \varepsilon_{iv} \quad (4)$$

The total effect is a weighted average of the effects for the subgroups (see fn.20): $s^{i,c} \sum_r \gamma_r^1 \cdot (\overline{\text{Amt}}_{v,r} | i \text{ ineligible-control}) + s^{i,t} \sum_r \gamma_r^1 \cdot (\overline{\text{Amt}}_{v,r} | i \text{ ineligible-treatment}) + s^{e,c} \sum_r \gamma_r^2 \cdot (\overline{\text{Amt}}_{v,r} | i \text{ eligible-control})$, where $s^{i,c}$ is the population share of control-ineligibles among nonrecipients, $s^{i,t}$ is the population share of treatment-ineligibles, and $s^{e,c}$ is the population share of control-eligibles. The effects in Columns 4-6 are the unweighted component terms.

Table 7 shows the results. Note that the total effect in Column 3 is a weighted sum of the effects in Columns 4-6. The spillover effect is concentrated on ineligible households (both treatment and control), with a slightly larger effect for ineligibles in treatment villages. This differential effect is consistent with the intuition that the effect decays with distance, and ineligibles in treatment villages are closer to the cash disbursement than ineligibles in control villages. (In other words, treatment-ineligibles get both the within-village spillover and the across-village spillover; moreover, since they are closer to other treated villages, the total across-village spillover should be larger for treatment-ineligibles than for control-ineligibles.⁸)

We can use the difference between the control-ineligible and treatment-ineligible effects to obtain a rough estimate of the within-village spillover (which only treatment-ineligibles get). Assuming both groups have the same across-village spillover, the within spillover would be $466-355 = 111$. But if treatment-ineligibles are in a village where

⁶The sample is made up of recipients and non-recipients. Recipients are eligible households (with a thatched roof) in treated villages. Non-recipients include treatment-ineligibles (households with a metal roof in a treated village), control-eligibles (thatched roof in a control village), and control-ineligibles (metal roof in a control village).

⁷In this notation, $\gamma^1 = \beta^1$ and $\gamma^2 = \beta^1 + \beta^2$.

⁸Average cash transferred in other villages within 0-2km as a share of per-capita GDP is 0.088 for treatment-ineligibles, and 0.084 for control-ineligibles. From the first-level randomization into high- and low-saturation sublocations, a treated village has a two-thirds probability of being in a high-saturation sublocation, where two-thirds of villages are treated. That is, $P(\text{Hi-sat}|\text{Treat}) = 0.66$ (and $P(\text{Treat}|\text{Hi-sat}) = 0.66$). Hence, treated villages are closer (than control villages) to other treated villages and have more cash disbursed nearby.

cash is being disbursed, shouldn't their within spillover (111) be larger than the across spillover (355)? It is possible that there is more total cash in nearby villages than in a treated-ineligible household's own village. Another possible explanation is that recipients are reluctant to spend the new cash in their own village, and prefer to spend it in other villages (perhaps where they are more anonymous). If most spending is across-village, then it makes sense that the across-village spillovers are larger than within-village spillovers.⁹

Note that the total benefit to ineligibles (columns 5-6) is larger than the total benefit to recipients (column 2). This is also shown in Table B8, but not commented on by the authors. However, it is noteworthy that some nonrecipients benefit more from the cash transfer than direct recipients.

⁹However, the authors note that most customers at businesses are locals: "A large share of this spending likely takes place locally: enterprises report that 88 percent of their customers come from within the same village or sublocation." (p.2621) This leaves open the possibility that recipients spend at other villages within the same sublocation, or make large but infrequent shopping trips.

Table 7: Replication of Table B8: separating control- and treatment-ineligibles

	Recipient households		Non-recipient households				(7) Control, low-saturation mean (SD)
	(1) 1(Treat village) Reduced form	(2) Total Effect IV	(3) Total Effect IV	(4) Control Eligibles	(5) Control Ineligibles	(6) Treatment Ineligibles	
<i>Panel A: Expenditure</i>							
Household expenditure, annualized	293.59*** (60.11)	338.57*** (100.02)	334.77** (130.34)	21.03 (89.10)	355.05*** (136.54)	466.33*** (179.33)	2536.01 (1933.51)
Non-durable expenditure, annualized	187.65*** (58.59)	227.20** (90.83)	317.62** (126.13)	24.68 (82.80)	335.86** (132.61)	441.13** (174.17)	2470.69 (1877.23)
Food expenditure, annualized	72.04* (36.96)	133.84** (60.24)	133.30** (63.27)	10.59 (50.43)	140.91** (65.52)	185.07** (86.05)	1578.05 (1072.00)
Temptation goods expenditure, annualized	6.55 (5.79)	5.91 (8.38)	-0.68 (6.72)	10.65 (6.89)	-2.98 (7.04)	-3.92 (9.25)	37.07 (123.54)
Durable expenditure, annualized	95.09*** (12.64)	109.01*** (26.31)	8.44 (11.73)	5.69 (19.60)	7.86 (11.29)	10.33 (14.83)	59.41 (230.83)
<i>Panel B: Assets</i>							
Assets (non-land, non-house), net borrowing	178.78*** (24.66)	183.38*** (54.84)	133.06 (100.64)	-12.25 (51.22)	145.47 (105.66)	191.07 (138.77)	1131.66 (1419.70)
Housing value	376.92*** (26.37)	477.29*** (55.69)	80.65 (230.29)	26.90 (37.21)	80.92 (247.46)	106.29 (325.02)	2032.11 (5028.27)
Land value	51.28 (186.22)	158.47 (302.38)	544.85 (413.72)	192.35 (316.14)	544.47 (422.65)	715.12 (555.12)	5030.03 (6604.66)
<i>Panel C: Household balance sheet</i>							
Household income, annualized	79.43* (43.80)	135.70* (81.56)	224.96** (99.42)	83.37 (65.59)	223.97** (102.03)	294.17** (134.01)	1023.36 (1634.02)
Net value of household transfers received, annualized	-1.68 (6.81)	-7.43 (14.41)	8.85 (16.73)	-6.84 (11.55)	10.95 (17.73)	14.38 (23.28)	130.08 (263.65)
Tax paid, annualized	1.94 (1.28)	-0.09 (2.16)	1.68 (2.44)	-0.92 (1.82)	2.00 (2.56)	2.62 (3.37)	16.92 (36.50)
Profits (ag & non-ag), annualized	26.24 (23.67)	35.85 (37.44)	36.37 (46.14)	-1.74 (31.61)	39.43 (49.56)	51.78 (65.10)	485.56 (786.92)
Wage earnings, annualized	42.43 (32.23)	73.66 (61.99)	182.63** (89.60)	90.01* (50.25)	177.11** (89.94)	232.62** (118.13)	494.95 (1231.12)
Total loan amount	5.18 (4.17)	5.41 (8.61)	2.27 (12.05)	-0.85 (8.26)	2.61 (12.49)	3.43 (16.41)	65.34 (182.65)
Total loans given	2.81*** (0.80)	3.25** (1.34)	0.41 (1.11)	0.18 (1.30)	0.40 (1.15)	0.53 (1.52)	8.09 (22.31)
Business revenue, annualized	77.44 (52.63)	183.61** (75.38)	53.50 (104.11)	79.44 (78.16)	40.68 (112.80)	53.43 (148.16)	933.19 (1697.97)

Standard errors clustered by sublocation. Columns 1-4 and 7 are the same as in Table B8.

7 Within- and across-village spillovers for nonrecipients

The authors estimate Equation 2 on the sample of eligible households (in treatment and control villages) and report the treatment effect on recipients (which includes the direct effect and within- and across-village spillovers).

$$y_{iv} = \alpha + \beta \text{Amt}_v + \sum_r \beta_r \text{Amt}_{v,r}^{-v} + \varepsilon_{iv} \quad (5)$$

We can run the same regression using non-recipients to identify within-village spillovers, since, out of non-recipients, only treatment-ineligibles have own-village cash $\text{Amt}_v > 0$. (By definition, control villages have no cash transfer.)

To make the results comparable to Table B8, I include interactions with an eligibility indicator, allowing for heterogeneous effects for eligibles and ineligibles.

$$y_{iv} = \gamma^0 + \gamma^1 \text{Amt}_v + \sum_r [\gamma_r^2 \text{Amt}_{v,r}^{-v} \times \text{Inelig}_{iv} + \gamma_r^3 \text{Amt}_{v,r}^{-v} \times \text{Elig}_{iv}] + \text{Elig}_{iv} + \varepsilon_{iv} \quad (6)$$

Since $\text{Amt}_v > 0$ only for treatment-ineligibles, this equation is equivalent to interacting Amt_v with Inelig .

As before, I report the effects separately by treatment-ineligibles, control-ineligibles, and control-eligibles. Table 8 shows the results. The own-village effect (Column 1) is specific to treatment-ineligibles, while each subgroup has an other-village effect. I calculate the total effect (Column 5) as the weighted average of the component effects:

$$\begin{aligned} & s^{i,t} \gamma^1 \cdot (\overline{\text{Amt}_v} | i \text{ ineligible-treatment}) + \\ & \sum_r \left[s^{i,t} \gamma_r^2 \cdot (\overline{\text{Amt}_{v,r}^{-v}} | i \text{ ineligible-treatment}) + s^{i,c} \gamma_r^2 \cdot (\overline{\text{Amt}_{v,r}^{-v}} | i \text{ ineligible-control}) \right] + \\ & s^{e,c} \sum_r \gamma_r^3 \cdot (\overline{\text{Amt}_{v,r}^{-v}} | i \text{ eligible-control}). \end{aligned}$$

(That is, I weight the own-village effect by the share of treatment-ineligibles out of non-recipients.)

Note that these effects can differ from Equation 2, because the treatment variables are different. The Amount variables are normalized by per-capita GDP, so for control villages, $\text{Amt}_{v,r}$ (total cash as a share of per-capita GDP within radius r) can differ from $\text{Amt}_{v,r}^{-v}$ (total other-village cash as a share of per-capita GDP within radius r), by changing the denominator through changes in population. That is, since village v is excluded from the latter term, the per-capita calculation is different.

Similarly, for treatment villages, $\text{Amt}_{v,r}$ (total cash as a share of GDP within radius r , including own-village) should be larger than $\text{Amt}_{v,r}^{-v}$ (total cash as a share of GDP within radius r , excluding own-village). But there are a few observations where the reverse is true. This could also be caused by changes in the denominator.

The own-village effect for expenditure is 118 (Column 1). This is similar to the implied within-village spillover ($466-355=111$) when assuming equal across-village spillovers

for treatment- and control-ineligibles. The total treatment effect for treatment-ineligibles is $118+444=562$, which is larger than the total effect from Equation 3 (466). The effects for control-ineligibles and control-eligibles are also larger (428 vs 355 and 120 vs 21). These discrepancies could be from the regressions using different treatment variables. As before, the effect for control-eligibles is much smaller than the effect for ineligible.

Table 8: Replication of Table 1: effect for non-recipients

	Non-recipient households				
	(1) Own-village Treat-inelig	(2) Other-village Treat-inelig	(3) Other-village Control-inelig	(4) Other-village Control-elig	(5) Total Effect IV
<i>Panel A: Expenditure</i>					
Household expenditure, annualized	118.50 (88.22)	444.03*** (154.76)	428.28*** (149.27)	119.97 (115.25)	422.43*** (127.99)
Non-durable expenditure, annualized	115.25 (83.90)	419.39*** (150.13)	404.51*** (144.80)	118.03 (106.32)	401.26*** (125.22)
Food expenditure, annualized	55.68 (51.52)	195.75** (79.29)	188.80** (76.48)	82.75 (64.73)	193.50*** (67.45)
Temptation goods expenditure, annualized	0.60 (4.42)	-4.10 (8.17)	-3.96 (7.88)	7.75 (9.00)	-1.47 (6.90)
Durable expenditure, annualized	1.52 (9.08)	13.08 (11.82)	12.61 (11.40)	14.67 (24.57)	13.83 (11.50)
<i>Panel B: Assets</i>					
Assets (non-land, non-house), net borrowing	26.99 (61.14)	225.55* (118.25)	217.55* (114.06)	-6.00 (61.89)	187.87* (101.60)
Housing value	-81.15 (188.26)	178.13 (262.71)	171.82 (253.39)	39.74 (44.80)	115.32 (223.42)
Land value	443.41 (333.81)	554.80 (467.46)	535.13 (450.89)	171.98 (379.92)	652.63 (426.65)
<i>Panel C: Household balance sheet</i>					
Household income, annualized	39.87 (85.02)	290.15** (116.13)	279.86** (112.01)	124.19 (79.30)	269.72*** (103.47)
Net value of household transfers received, annualized	-9.69 (11.84)	24.27 (18.91)	23.41 (18.24)	-14.15 (14.21)	12.43 (16.93)
Tax paid, annualized	0.72 (1.56)	1.64 (2.94)	1.58 (2.84)	-0.63 (2.31)	1.46 (2.53)
Profits (ag & non-ag), annualized	20.24 (36.94)	51.31 (59.39)	49.49 (57.29)	14.58 (38.87)	51.62 (47.46)
Wage earnings, annualized	42.06 (65.12)	218.15** (107.45)	210.41** (103.64)	82.31 (59.23)	205.54** (95.32)
Total loan amount	12.83 (9.93)	-11.28 (15.72)	-10.88 (15.16)	4.56 (10.47)	-2.78 (13.15)
Total loans given	0.49 (0.80)	0.59 (1.36)	0.57 (1.31)	0.10 (1.47)	0.68 (1.18)
Business revenue, annualized	21.08 (73.30)	61.73 (124.63)	59.55 (120.21)	140.99 (96.51)	85.05 (104.67)

Sample is restricted to non-recipients. Standard errors clustered by sublocation.

8 Across-village spillovers for recipients

The authors compare the results from Equation 1 (Table 1, Column 1) and Equation 2 (Table 1, Column 2) to provide a sense of across-village spillovers for recipients.¹⁰ However, since the total effect is calculated as the sum of the own-village and other-village effects, we can simply report these effects separately to isolate across-village spillovers. From Equation 2 (see p.2612), the total effect is $\hat{\beta}$ multiplied by the average amount of own-village cash (for recipients) plus (the sum over radii of) $\hat{\beta}_r$ multiplied by the average amount of other-village cash (for recipients). Here, I decompose the total effect on recipients into own-village (direct effect + within-village spillovers) and other-village effects (across-village spillovers).¹¹

Table 9 shows the results. For expenditure, the total effect on recipients (Column 3) is coming almost entirely from direct and within-village spillovers (Column 1), with about 10% coming from across-village spillovers (Column 2). This is similar to the 13% difference reported by the authors.

Note that the across-village spillover is small for recipients (treatment-eligibles) as well as for control-eligibles, while across-village spillovers are large for ineligible households. This suggests that eligibility is a key mechanism determining across-village spillover effects.

Table A5 checks for robustness to dropping villages with the largest cash transfers; the effects are identical.

¹⁰“The estimated total treatment effect, including spatial effects, is larger at USD PPP 339, a 13.4% increase (column 2). This pattern between columns 1 and 2 is a first piece of evidence for localized, positive cross-village spillovers, which is repeated across other outcomes.” (p.2618)

¹¹Table F3 shows the steps for constructing the total effect starting from the coefficients. Note that the averages are rounded, so the total doesn’t match the total effect in Table 1.

Table 9: Replication of Table 1: recipients

	Recipient households			(4) Control, low-saturation mean (SD)
	(1) Own-village	(2) Other-village	(3) Total Effect IV	
<i>Panel A: Expenditure</i>				
Household expenditure, annualized	304.39*** (56.64)	34.17 (91.56)	338.57*** (100.02)	2536.01 (1933.51)
Non-durable expenditure, annualized	198.24*** (53.00)	28.96 (83.69)	227.20** (90.83)	2470.69 (1877.23)
Food expenditure, annualized	92.63*** (35.47)	41.21 (55.20)	133.84** (60.24)	1578.05 (1072.00)
Temptation goods expenditure, annualized	6.24 (6.02)	-0.34 (8.46)	5.91 (8.38)	37.07 (123.54)
Durable expenditure, annualized	96.48*** (15.27)	12.53 (21.46)	109.01*** (26.31)	59.41 (230.83)
<i>Panel B: Assets</i>				
Assets (non-land, non-house), net borrowing	177.63*** (27.81)	5.75 (40.98)	183.38*** (54.84)	1131.66 (1419.70)
Housing value	385.29*** (27.34)	92.01** (41.34)	477.29*** (55.69)	2032.11 (5028.27)
Land value	87.25 (158.89)	71.23 (291.78)	158.47 (302.38)	5030.03 (6604.66)
<i>Panel C: Household balance sheet</i>				
Household income, annualized	89.01** (44.48)	46.69 (74.47)	135.70* (81.56)	1023.36 (1634.02)
Net value of household transfers received, annualized	-1.55 (6.67)	-5.88 (12.58)	-7.43 (14.41)	130.08 (263.65)
Tax paid, annualized	1.91* (1.07)	-2.01 (1.79)	-0.09 (2.16)	16.92 (36.50)
Profits (ag & non-ag), annualized	31.82 (24.12)	4.03 (32.22)	35.85 (37.44)	485.56 (786.92)
Wage earnings, annualized	51.46* (30.27)	22.20 (61.63)	73.66 (61.99)	494.95 (1231.12)
Total loan amount	5.41 (3.57)	0.00 (7.54)	5.41 (8.61)	65.34 (182.65)
Total loans given	2.93*** (0.90)	0.32 (1.05)	3.25** (1.34)	8.09 (22.31)
Business revenue, annualized	86.30* (51.59)	97.31 (68.22)	183.61** (75.38)	933.19 (1697.97)

Sample is restricted to eligibles. Column 1 reports the total effect based on β from Equation 2, the own-village effect. Column 2 reports the total effect based on β_r from Equation 2, the other-village effect. Standard errors clustered by sublocation.

9 Reduced form

The authors present the IV estimates, using Treat and Share-eligible to instrument for own-village and other-village cash transferred, respectively. However, they do not show the reduced form, regressing y on the instruments (Treat and Share-eligible). Their Column 1 reports the regression of y on Treat and HighSat, which is not the actual reduced form corresponding to the IV estimates.

Also, note that the actual reduced form matches the specification used in Miguel and Kremer (2004). Their Equation 1 estimates across-school spillovers from deworming. Ignoring the special timing in their context, and using the EHMNW notation, the equation is:

$$y_{iv} = \alpha + \beta \text{Treat}_v + \sum_r \beta_r N_{v,r}^T + \sum_r \phi_r N_{v,r} + \varepsilon_{iv} \quad (7)$$

Here Treat is the school treatment indicator and $N_{v,r}^T$ is the number of treated pupils at radius r from the school. (Note that they control for the total number of pupils $N_{v,r}$, making this similar to using the share.)

This is very similar to EHMNW's Equation 2, which is (omitting baseline controls):

$$y_{iv} = \alpha + \beta \text{Amt}_v + \sum_r \beta_r \text{Amt}_{v,r}^{-v} + \varepsilon_{iv} \quad (8)$$

The reduced form for this regression uses Treat instead of Amt_v , and the share of eligible households in each radius assigned to treatment ($s_{-v,r}^{e,t}$) instead of Amt_r^{-v} . Hence, the reduced form is the Miguel and Kremer (2004) specification, but using the share instead of the number treated and controlling for the total:

$$y_{iv} = \lambda + \gamma \text{Treat}_v + \sum_r \gamma_r s_{-v,r}^{e,t} + \zeta_{iv} \quad (9)$$

The reduced form results are in Table 10, where I again decompose the total effect. Column 1 shows the total own-village effect, which is equal to the coefficient on Treat. Column 2 shows the total other-village effect, calculated by multiplying the coefficient on Share-eligible by the average of Share-eligible. (Recall that the total IV effect is from multiplying β_r by the average of Amount (other-village cash as a share of village GDP).) The own-village effect is quite similar, while the other-village effect is a bit smaller than the IV results. Overall, the reduced form results are similar, consistent with the instrument being strong.

Table 10: Replication of Table 1: reduced form

	Recipient households			(4) Control, low-saturation mean (SD)
	(1) Own-village	(2) Other-village	(3) Total Effect IV	
<i>Panel A: Expenditure</i>				
Household expenditure, annualized	305.16*** (57.52)	8.29 (70.27)	313.46*** (81.38)	2536.01 (1933.51)
Non-durable expenditure, annualized	198.61*** (53.69)	10.74 (65.31)	209.35*** (73.63)	2470.69 (1877.23)
Food expenditure, annualized	92.27** (36.26)	27.05 (43.37)	119.32** (49.92)	1578.05 (1072.00)
Temptation goods expenditure, annualized	6.28 (6.09)	-0.66 (6.86)	5.62 (6.85)	37.07 (123.54)
Durable expenditure, annualized	96.68*** (15.80)	3.97 (16.55)	100.65*** (22.75)	59.41 (230.83)
<i>Panel B: Assets</i>				
Assets (non-land, non-house), net borrowing	178.37*** (26.46)	-6.48 (31.57)	171.89*** (45.31)	1131.66 (1419.70)
Housing value	385.31*** (26.53)	50.07 (35.93)	435.38*** (46.72)	2032.11 (5028.27)
Land value	86.31 (160.97)	51.29 (236.85)	137.60 (248.03)	5030.03 (6604.66)
<i>Panel C: Household balance sheet</i>				
Household income, annualized	88.53* (45.50)	31.63 (59.53)	120.16* (66.48)	1023.36 (1634.02)
Net value of household transfers received, annualized	-1.44 (6.73)	-4.59 (10.06)	-6.03 (11.81)	130.08 (263.65)
Tax paid, annualized	1.96* (1.11)	-1.72 (1.47)	0.24 (1.84)	16.92 (36.50)
Profits (ag & non-ag), annualized	31.92 (24.55)	1.23 (25.69)	33.14 (31.37)	485.56 (786.92)
Wage earnings, annualized	51.27 (31.19)	14.46 (50.16)	65.73 (50.09)	494.95 (1231.12)
Total loan amount	5.44 (3.60)	-0.34 (5.97)	5.10 (6.98)	65.34 (182.65)
Total loans given	2.94*** (0.92)	0.07 (0.83)	3.01*** (1.15)	8.09 (22.31)
Business revenue, annualized	84.85 (51.83)	72.12 (52.55)	156.97*** (60.29)	933.19 (1697.97)

Sample is restricted to eligibles. Column 1 reports the coefficient on Treat. This is the same as the total own-village effect. Column 2 reports the total other-village effect based on the coefficient on Share-eligible. Standard errors clustered by sublocation.

References

- Egger, D., J. Haushofer, E. Miguel, P. Niehaus, and M. Walker (2022). General equilibrium effects of cash transfers: Experimental evidence from Kenya. *Econometrica* 90(6), 2603–2643.
- Miguel, E. and M. Kremer (2004). Worms: Identifying impacts on education and health in the presence of treatment externalities. *Econometrica* 72(1), 159–217.

A Spillover heterogeneity by baseline assets

Table A1: Replication of Table B8: below-median assets, decomposed by treatment

	Non-recipient households					(6) Control, low-saturation mean (SD)
	(1) Total Effect IV	(2) Below-median assets, control	(3) Below-median assets, treatment	(4) Above-median assets, control	(5) Above-median assets, treatment	
<i>Panel A: Expenditure</i>						
Household expenditure, annualized	327.24*** (125.90)	214.09 (160.99)	271.91 (204.46)	327.14** (146.04)	440.16** (196.49)	2536.01 (1933.51)
Non-durable expenditure, annualized	322.50** (121.36)	211.51 (155.85)	268.63 (197.94)	322.14** (139.01)	433.44** (187.04)	2470.69 (1877.23)
Food expenditure, annualized	131.75** (61.90)	65.28 (98.58)	82.91 (125.21)	142.37** (69.37)	191.56** (93.33)	1578.05 (1072.00)
Temptation goods expenditure, annualized	-5.77 (6.24)	-8.86 (7.66)	-11.25 (9.73)	-3.18 (6.76)	-4.29 (9.10)	37.07 (123.54)
Durable expenditure, annualized	-2.75 (11.76)	5.20 (17.07)	6.61 (21.68)	-6.32 (12.39)	-8.50 (16.67)	59.41 (230.83)
<i>Panel B: Assets</i>						
Assets (non-land, non-house), net borrowing	212.61** (95.71)	246.98** (105.21)	313.68** (133.62)	157.55 (114.31)	211.98 (153.80)	1131.66 (1419.70)
Housing value	292.97 (201.52)	-39.02 (172.50)	-49.56 (219.09)	410.48 (258.83)	552.30 (348.25)	2032.11 (5028.27)
Land value	750.52** (376.08)	264.09 (339.91)	335.42 (431.70)	865.96* (450.89)	1165.14* (606.67)	5030.03 (6604.66)
<i>Panel C: Household balance sheet</i>						
Household income, annualized	222.59** (94.74)	332.83*** (101.14)	422.71*** (128.45)	127.09 (115.56)	171.00 (155.48)	1023.36 (1634.02)
Net value of household transfers received, annualized	27.06* (15.82)	38.84** (19.20)	49.33** (24.39)	16.28 (19.55)	21.91 (26.30)	130.08 (263.65)
Tax paid, annualized	1.76 (2.17)	-1.50 (2.61)	-1.91 (3.32)	3.11 (2.59)	4.19 (3.48)	16.92 (36.50)
Profits (ag & non-ag), annualized	41.42 (42.88)	107.95* (59.35)	137.10* (75.38)	0.20 (49.52)	0.27 (66.63)	485.56 (786.92)
Wage earnings, annualized	174.80** (84.55)	211.10** (95.97)	268.11** (121.89)	125.44 (93.99)	168.78 (126.46)	494.95 (1231.12)
Total loan amount	10.26 (11.55)	32.71* (18.43)	41.54* (23.40)	-2.99 (12.51)	-4.02 (16.83)	65.34 (182.65)
Total loans given	0.25 (1.02)	-1.11 (1.64)	-1.41 (2.09)	0.90 (1.17)	1.21 (1.58)	8.09 (22.31)
Business revenue, annualized	85.32 (94.53)	174.24 (140.43)	221.30 (178.36)	24.94 (106.27)	33.55 (142.99)	933.19 (1697.97)

Standard errors clustered by sublocation. Total assets is the sum of non-land, non-house assets (net borrowing); housing value; and land value. Households in control villages can be eligible or ineligible, while households in treatment villages are ineligible.

B Village-specific median assets

I repeat the analysis calculating median assets at the village level. Ineligible households with assets below the overall median could be relatively rich in a poor village. Using village-specific median assets would classify these households as above-median.

Tables A2 - A4 show the results. Now below-median households benefit more than above-median households, and the larger effects for below-median ineligible are even more pronounced.

Table A2: Replication of Table B8: below- vs. above-village-median assets

	Recipient households		Non-recipient households			(6) Control, low-saturation mean (SD)
	(1) 1(Treat village) Reduced form	(2) Total Effect IV	(3) Total Effect IV	(4) Below-median assets	(5) Above-median assets	
<i>Panel A: Expenditure</i>						
Household expenditure, annualized	293.59*** (60.11)	338.57*** (100.02)	334.46*** (127.98)	368.12** (175.10)	319.33* (167.81)	2536.01 (1933.51)
Non-durable expenditure, annualized	187.65*** (58.59)	227.20** (90.83)	329.18*** (123.05)	356.47** (169.13)	316.91** (159.29)	2470.69 (1877.23)
Food expenditure, annualized	72.04* (36.96)	133.84** (60.24)	136.23** (61.13)	186.17** (84.95)	113.78 (79.33)	1578.05 (1072.00)
Temptation goods expenditure, annualized	6.55 (5.79)	5.91 (8.38)	-5.61 (6.24)	-11.59 (8.70)	-2.92 (8.06)	37.07 (123.54)
Durable expenditure, annualized	95.09*** (12.64)	109.01*** (26.31)	-2.59 (11.77)	11.84 (20.16)	-9.07 (14.55)	59.41 (230.83)
<i>Panel B: Assets</i>						
Assets (non-land, non-house), net borrowing	178.78*** (24.66)	183.38*** (54.84)	212.76** (96.78)	273.56*** (91.24)	185.43 (126.45)	1131.66 (1419.70)
Housing value	376.92*** (26.37)	477.29*** (55.69)	316.20 (204.95)	153.51 (179.44)	389.32 (292.38)	2032.11 (5028.27)
Land value	51.28 (186.22)	158.47 (302.38)	741.17* (396.26)	318.45 (354.58)	931.17* (527.61)	5030.03 (6604.66)
<i>Panel C: Household balance sheet</i>						
Household income, annualized	79.43* (43.80)	135.70* (81.56)	219.44** (96.31)	384.89*** (141.69)	145.08 (115.24)	1023.36 (1634.02)
Net value of household transfers received, annualized	-1.68 (6.81)	-7.43 (14.41)	26.32 (16.06)	11.41 (18.98)	33.02 (23.80)	130.08 (263.65)
Tax paid, annualized	1.94 (1.28)	-0.09 (2.16)	1.83 (2.24)	3.12 (3.61)	1.25 (3.00)	16.92 (36.50)
Profits (ag & non-ag), annualized	26.24 (23.67)	35.85 (37.44)	38.37 (43.12)	160.91** (68.78)	-16.71 (51.62)	485.56 (786.92)
Wage earnings, annualized	42.43 (32.23)	73.66 (61.99)	173.05** (84.92)	169.25* (100.26)	174.75* (104.75)	494.95 (1231.12)
Total loan amount	5.18 (4.17)	5.41 (8.61)	9.91 (11.61)	43.59** (20.98)	-5.22 (13.83)	65.34 (182.65)
Total loans given	2.81*** (0.80)	3.25** (1.34)	0.25 (1.02)	0.72 (1.79)	0.03 (1.22)	8.09 (22.31)
Business revenue, annualized	77.44 (52.63)	183.61** (75.38)	86.55 (95.79)	312.40 (192.86)	-14.96 (99.03)	933.19 (1697.97)

Standard errors clustered by sublocation. Total assets is the sum of non-land, non-house assets (net borrowing); housing value; and land value. Median assets is calculated at the village level. Column 4 is non-recipient households with below-median baseline assets. Column 5 is non-recipient households with above-median baseline assets. Note that these groups are not split by control and treatment villages. Columns 1,2, and 6 are the same as in Table B8.

Table A3: Replication of Table B8: below-village-median assets, decomposed by treatment

	Non-recipient households					(6) Control, low-saturation mean (SD)
	(1) Total Effect IV	(2) Below-median assets, control	(3) Below-median assets, treatment	(4) Above-median assets, control	(5) Above-median assets, treatment	
<i>Panel A: Expenditure</i>						
Household expenditure, annualized	334.46*** (127.98)	336.42** (160.03)	437.69** (208.20)	278.43* (146.32)	369.19* (194.01)	2536.01 (1933.51)
Non-durable expenditure, annualized	329.18*** (123.05)	325.78** (154.57)	423.84** (201.09)	276.33** (138.89)	366.40** (184.16)	2470.69 (1877.23)
Food expenditure, annualized	136.23** (61.13)	170.14** (77.64)	221.35** (101.01)	99.21 (69.17)	131.55 (91.71)	1578.05 (1072.00)
Temptation goods expenditure, annualized	-5.61 (6.24)	-10.60 (7.95)	-13.79 (10.35)	-2.54 (7.03)	-3.37 (9.32)	37.07 (123.54)
Durable expenditure, annualized	-2.59 (11.77)	10.82 (18.42)	14.08 (23.97)	-7.91 (12.68)	-10.49 (16.82)	59.41 (230.83)
<i>Panel B: Assets</i>						
Assets (non-land, non-house), net borrowing	212.76** (96.78)	250.00*** (83.38)	325.26*** (108.48)	161.68 (110.26)	214.38 (146.20)	1131.66 (1419.70)
Housing value	316.20 (204.95)	140.29 (163.99)	182.52 (213.35)	339.46 (254.94)	450.11 (338.03)	2032.11 (5028.27)
Land value	741.17* (396.26)	291.03 (324.05)	378.63 (421.59)	811.92* (460.04)	1076.56* (609.99)	5030.03 (6604.66)
<i>Panel C: Household balance sheet</i>						
Household income, annualized	219.44** (96.31)	351.75*** (129.49)	457.63*** (168.47)	126.50 (100.48)	167.73 (133.23)	1023.36 (1634.02)
Net value of household transfers received, annualized	26.32 (16.06)	10.43 (17.34)	13.57 (22.56)	28.79 (20.75)	38.18 (27.52)	130.08 (263.65)
Tax paid, annualized	1.83 (2.24)	2.85 (3.30)	3.71 (4.29)	1.09 (2.61)	1.45 (3.46)	16.92 (36.50)
Profits (ag & non-ag), annualized	38.37 (43.12)	147.05** (62.86)	191.32** (81.78)	-14.57 (45.01)	-19.32 (59.68)	485.56 (786.92)
Wage earnings, annualized	173.05** (84.92)	154.68* (91.63)	201.24* (119.21)	152.37* (91.34)	202.04* (121.11)	494.95 (1231.12)
Total loan amount	9.91 (11.61)	39.83** (19.18)	51.82** (24.95)	-4.55 (12.06)	-6.03 (15.99)	65.34 (182.65)
Total loans given	0.25 (1.02)	0.66 (1.64)	0.86 (2.13)	0.03 (1.07)	0.04 (1.41)	8.09 (22.31)
Business revenue, annualized	86.55 (95.79)	285.50 (176.25)	371.44 (229.30)	-13.04 (86.35)	-17.29 (114.49)	933.19 (1697.97)

Standard errors clustered by sublocation. Total assets is the sum of non-land, non-house assets (net borrowing); housing value; and land value. Median assets is calculated at the village level. Households in control villages can be eligible or ineligible, while households in treatment villages are ineligible.

Table A4: Replication of Table B8: below-village-median assets \times Eligible, decomposed by treatment

	Non-recipient households							(8) Control, low-saturation mean (SD)
	(1) Total Effect IV	(2) Below-median assets, control eligibles	(3) Below-median assets, control ineligibles	(4) Below-median assets, treatment ineligibles	(5) Above-median assets, control eligibles	(6) Above-median assets, control ineligibles	(7) Above-median assets, treatment ineligibles	
<i>Panel A: Expenditure</i>								
Household expenditure, annualized	362.56*** (128.88)	25.26 (112.73)	676.84** (282.47)	868.39** (362.41)	21.68 (142.07)	292.80* (162.37)	387.59* (214.94)	2536.01 (1933.51)
Non-durable expenditure, annualized	345.04*** (125.08)	-5.69 (111.47)	660.63** (274.75)	847.59** (352.51)	71.69 (135.87)	272.55* (155.59)	360.78* (205.96)	2470.69 (1877.23)
Food expenditure, annualized	146.22** (62.56)	16.21 (64.75)	324.20** (134.49)	415.95** (172.55)	5.39 (73.41)	101.48 (77.35)	134.34 (102.39)	1578.05 (1072.00)
Temptation goods expenditure, annualized	-1.07 (6.76)	2.32 (7.44)	-11.11 (13.35)	-14.26 (17.13)	22.43* (12.98)	-0.97 (7.88)	-1.28 (10.43)	37.07 (123.54)
Durable expenditure, annualized	9.22 (11.75)	27.92 (17.23)	21.79 (30.41)	27.96 (39.01)	-23.95 (33.99)	4.35 (13.13)	5.75 (17.39)	59.41 (230.83)
<i>Panel B: Assets</i>								
Assets (non-land, non-house), net borrowing	152.93 (97.55)	-18.68 (46.93)	374.24*** (138.05)	480.15*** (177.12)	-16.94 (80.11)	103.55 (127.31)	137.07 (168.52)	1131.66 (1419.70)
Housing value	105.55 (225.72)	90.55* (48.16)	-108.55 (345.91)	-139.27 (443.80)	-60.93 (65.84)	174.76 (304.26)	231.34 (402.76)	2032.11 (5028.27)
Land value	571.02 (400.65)	221.09 (332.33)	46.73 (475.83)	59.96 (610.49)	119.81 (427.77)	740.18 (516.65)	979.79 (683.90)	5030.03 (6604.66)
<i>Panel C: Household balance sheet</i>								
Household income, annualized	248.91** (98.20)	127.33 (83.57)	638.27*** (193.16)	818.91*** (247.82)	19.40 (102.12)	128.33 (114.47)	169.87 (151.52)	1023.36 (1634.02)
Net value of household transfers received, annualized	9.72 (16.40)	-1.75 (13.78)	-18.23 (29.90)	-23.38 (38.36)	-13.08 (24.28)	21.16 (23.30)	28.01 (30.84)	130.08 (263.65)
Tax paid, annualized	1.93 (2.35)	-0.45 (2.11)	6.53 (5.63)	8.38 (7.22)	-1.39 (3.18)	0.90 (3.03)	1.20 (4.01)	16.92 (36.50)
Profits (ag & non-ag), annualized	47.07 (45.58)	29.47 (33.55)	243.04** (107.67)	311.83** (138.14)	-42.98 (52.52)	-9.51 (53.15)	-12.59 (70.35)	485.56 (786.92)
Wage earnings, annualized	189.43** (88.32)	99.66 (65.62)	299.54** (138.93)	384.32** (178.25)	77.85 (70.37)	148.19 (102.03)	196.17 (135.06)	494.95 (1231.12)
Total loan amount	4.40 (12.61)	9.88 (7.43)	47.44 (35.78)	60.86 (45.90)	-15.23 (14.54)	-8.50 (13.25)	-11.25 (17.54)	65.34 (182.65)
Total loans given	0.22 (1.19)	0.81 (1.44)	0.38 (3.17)	0.48 (4.06)	-0.52 (2.06)	0.11 (1.22)	0.15 (1.61)	8.09 (22.31)
Business revenue, annualized	78.51 (105.53)	73.11 (81.68)	432.57 (323.06)	554.99 (414.49)	94.94 (112.35)	-47.24 (104.93)	-62.53 (138.90)	933.19 (1697.97)

Standard errors clustered by sublocation. Total assets is the sum of non-land, non-house assets (net borrowing); housing value; and land value. Median assets is calculated at the village level.

C Robustness: dropping outliers

Three villages have values of cash transfer as a share of village GDP per capita greater than 0.5; the average is 0.12. To test whether these villages are driving the positive effects, I drop them. The effects are nearly identical.

Table A5: Replication of Table 1: recipients, drop outlier villages

	Recipient households			
	(1)	(2)	(3)	(4)
	Own-village	Other-village	Total Effect IV	Control, low-saturation mean (SD)
<i>Panel A: Expenditure</i>				
Household expenditure, annualized	304.14*** (56.81)	32.57 (91.92)	336.71*** (99.86)	2536.01 (1933.51)
Non-durable expenditure, annualized	197.49*** (53.22)	28.86 (84.13)	226.35** (90.77)	2470.69 (1877.23)
Food expenditure, annualized	92.74*** (35.73)	40.14 (55.39)	132.88** (60.08)	1578.05 (1072.00)
Temptation goods expenditure, annualized	6.56 (6.06)	-0.79 (8.52)	5.77 (8.38)	37.07 (123.54)
Durable expenditure, annualized	96.32*** (15.28)	12.36 (21.56)	108.68*** (26.18)	59.41 (230.83)
<i>Panel B: Assets</i>				
Assets (non-land, non-house), net borrowing	177.78*** (27.58)	2.61 (40.93)	180.39*** (54.72)	1131.66 (1419.70)
Housing value	386.57*** (26.51)	85.02** (43.09)	471.58*** (56.18)	2032.11 (5028.27)
Land value	86.24 (158.15)	52.86 (294.70)	139.10 (303.60)	5030.03 (6604.66)
<i>Panel C: Household balance sheet</i>				
Household income, annualized	86.00* (44.18)	48.89 (75.23)	134.90* (81.82)	1023.36 (1634.02)
Net value of household transfers received, annualized	-1.06 (6.66)	-6.54 (12.40)	-7.60 (14.29)	130.08 (263.65)
Tax paid, annualized	1.91* (1.08)	-2.03 (1.80)	-0.12 (2.16)	16.92 (36.50)
Profits (ag & non-ag), annualized	31.75 (24.19)	3.98 (32.36)	35.74 (37.30)	485.56 (786.92)
Wage earnings, annualized	48.10 (30.24)	24.78 (62.57)	72.88 (62.40)	494.95 (1231.12)
Total loan amount	5.54 (3.60)	-0.20 (7.59)	5.34 (8.60)	65.34 (182.65)
Total loans given	2.94*** (0.90)	0.28 (1.05)	3.21** (1.33)	8.09 (22.31)
Business revenue, annualized	87.37* (51.87)	96.05 (68.66)	183.42** (75.10)	933.19 (1697.97)

Sample is restricted to eligibles. I drop three villages where the cash transfer is greater than 50% of per-capita GDP. Column 1 reports the total effect based on β from Equation 2, the own-village effect. Column 2 reports the total effect based on β_r from Equation 2, the other-village effect. Standard errors clustered by sublocation.