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Cash Transfers and Temptation Goods

A Review of Global Evidence

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Abstract

Cash transfers have been demonstrated to improve education and health outcomes and alleviate poverty in various contexts. However, policy makers and others often express concern that poor households will use transfers to buy alcohol, tobacco, or other "temptation goods." The income effect of transfers will increase expenditures if alcohol and tobacco are normal goods, but this may be offset by other effects, including the substitution effect, the effect of social messaging about the appropriate use of transfers, and the effect of shifting dynamics in intra-household bargaining. The net effect is ambiguous. This paper reviews 19 studies with quantitative evidence on the impact of cash transfers on temptation goods, as well as 11 studies that surveyed the number of respondents who reported they used transfers for temptation goods. Almost without exception, studies find either no significant impact or a significant negative impact of transfers on temptation goods. In the only (two, non-experimental) studies with positive significant impacts, the magnitude is small. This result is supported by data from Latin America, Africa, and Asia. A growing number of studies from a range of contexts therefore indicate that concerns about the use of cash transfers for alcohol and tobacco consumption are unfounded.

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A Review of Global Evidence

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Motivation

Since the introduction of cash transfer programs, both conditional and unconditional, a major concern has been that households will misuse the cash. In Nicaragua, a senior government official expressed concern that "husbands were waiting for wives to return in order to take the money and spend it on alcohol" (Moore 2009). Interviews with stakeholders in Kenya revealed "widespread belief that cash transfers would either be abused or misdirected in alcohol consumption and other non-essential forms of consumption" (Ikiara 2009). A broader survey highlights that, "There is a widely held belief that cash given to poor people (especially to men) will be squandered on alcohol and other non-essentials" (Devereux 2002). Governments and aid agencies may worry that "men could control the cash provided and spend it on alcohol and cigarettes, rather than food for hungry children" (Harvey 2005). These concerns may explain why many countries prefer in-kind transfer programs, even though economic reasoning would suggest that cash transfers are more efficient (Case and Deaton 1998): Households can more easily meet their heterogeneous needs with liquid cash than with other, less liquid goods.

Alcohol and tobacco have been referred to as "temptation goods" (Dasso and Fernandez 2013), a term used by Banerjee & Mullainathan (2010) to refer to "goods that generate positive utility for the self that consumes them, but not for any previous self that anticipates that they will be consumed in the future." In an earlier literature, Musgrave (1959) used a related (but more normatively charged) term, "demerit goods," to refer to goods that were so demeritorious (either to the consumer or to others) that the government may be correct in regulating their use. That term is sometimes used in reference to alcohol and tobacco in cash transfer studies.

In this study, we use the term "temptation goods" principally to refer to alcohol and tobacco.[1] This study makes no normative assumption as to the value of alcohol and tobacco expenditures but merely seeks to systematically characterize the literature on the impact of cash transfers on these goods. Although alcohol and tobacco are the principal goods under consideration, some studies report other items as part of the same category, from doughnuts (Aker 2013) to soft drinks and Chinese food (Dasso and Fernandez 2013). The poor may wish to reduce spending on these items, as evidenced by a survey in Hyderabad, India, that asked households if they would like to eliminate any expenses in their budget: 28% of households identified at least one item, and the top items (44% of those) that households wanted to cut were alcohol and tobacco (Banerjee and Duflo 2007).

Most cash transfer programs are not focused on either increasing or decreasing consumption of these goods specifically, and so most evaluations and the subsequent reviews have not been

[1] Consumption of these goods may in some cases serve positive social purposes. For example, one study recounts the anecdote of demobilized soldiers returning home in Mozambique and using some of their demobilization grant on alcohol in the context of a village celebration to assist in their reintegration (Harvey 2005).

focused on these. Rather, reviews have focused on outcomes in schooling (Baird, et al. 2014, Saavedra and García 2013), health (Leroy, Ruel and Verhofstadt 2009, Ranganathan and Lagarde 2012), consumption (Fiszbein, et al. 2009), or a combination of these (IEG 2011). At the same time, many individual evaluations of cash transfer programs have included analysis of the impact on some set of temptation goods within their consumption analysis.

Across 44 estimates from 19 studies, we find that almost without exception, studies find either no significant impact or a significant negative impact of transfers on expenditures on alcohol and tobacco. This finding is similar whether the analysis includes experimental and quasi-experimental designs or if it is restricted to randomized trials alone. Likewise, studies that have tried to quantify the proportion of beneficiaries who spend transfers on temptation goods find negligible effects. This result is consistent across the world, supported by data from Latin America, Africa, and Asia. It is also consistent across conditional and unconditional cash transfer programs. The evidence suggests that cash transfers are not used for alcohol and tobacco at any significant levels.

Cash, Spending, and Consumption of Temptation Goods

If alcohol and tobacco are normal goods, then as incomes rise, consumption of these goods will likewise rise (i.e., the income effect). Evidence from the United States suggests that alcohol is a normal good, whereas tobacco is an inferior good (Decker and Schwartz 2000); evidence from the United Kingdom suggests that alcohol expenditures rise with income, at least to a point (Banks, Blundell and Lewbel 1997). Banerjee and Duflo (2006; 2007) show expenditures for households living on under $1.08 per day and for households living on under $2.16 per day in 11 countries divided into urban and rural areas, resulting in 21 country-urban or country-rural combinations, due to missing data on urban Guatemala (Table 1). Of these 21 combinations, 14 increased or maintained the same percentage of spending on alcohol and tobacco combined when comparing $1.08 to $2.16 daily income, suggesting a likely increase in the total spending.[2] That number rises to 20 out of 21 if one includes settings with minor decreases in the proportion, still consistent with increases in the total spending on these goods given the rise in income. These numbers suggest that alcohol and tobacco, when examining regular income, are normal goods.

Beyond the income effect, there are at least three reasons that cash transfer income may affect spending on temptation goods differently from other income. First, *conditional* cash transfers in particular may induce a substitution effect, increasing the value of schooling and health

[2] These percentages are best for distinguishing luxury goods (for which the proportion of spending increases with income) from necessity goods (for which the proportion falls), but they are suggestive of an increase in absolute spending (i.e., normal goods).

investments relative to all other goods, which may shift households away from consumption of temptation goods (Fiszbein, et al. 2009). The relative strength of the income and substitution effects will vary across households depending on their baseline schooling and health investments. Those beneficiary households that make sufficient investments in their children's education to satisfy the conditions of the program, before the program, will be less affected by the substitution effect. On the other hand, those who – before the program – are investing in education and health at levels below those required by program conditions will be more affected by the substitution effect.

Second, while few cash transfer programs have explicit spending restrictions, they often come with strong social messaging. For example, Ecuador's unconditional cash transfer program (*Bono de Desarrollo Humano*) was accompanied by an advertising campaign encouraging households to invest in their children's human capital (Schady and Rosero 2008). In Zimbabwe, recipients of a cash transfer program were "instructed not to 'waste' the cash on drinks and other unproductive items" (Román 2010). In Nicaragua, a task of the community coordinators for the program was "promoting the use of cash transfers to buy goods and services which improve the nutritional, educational and health status of beneficiary families" (Adato and Roopnaraine 2004). Program officers often communicate to households that these resources are intended to improve education or health outcomes. As a result, households may be more likely to use the resources for expenditures related to education and health than on tempation goods, a manifestation of what has been termed the flypaper effect (Inman 2008).

Finally, transfer income is often targeted at women, particularly in Latin America (Fiszbein, et al. 2009). This design choice is driven by the long-held idea that women are more likely to invest in children than men. The actual evidence on this is mixed. On one hand, researchers found that higher proportions of household income controlled by women led to greater food expenditures in Côte d'Ivoire (Hoddinott and Haddad 1995), greater expenditures on food and children's goods in Mexico (Bobonis 2009), and to improved child health in Brazil (Thomas 1990). In Macedonia, randomly assigning cash transfers to mothers (versus the household head) significantly increased education expenditures as well as secondary school enrollment and achievement, but only when parents' perceived returns to education were high (Armand 2013). On the other hand, two cash transfer programs that randomized whether the transfer was given to the woman or the man found no sigificant differences in outcomes for children. The outcome in the first study was health clinic visits for children in Burkina Faso (Akresh, de Walque and Kazianga 2012) and in the second study it was school participation in Morocco (Benhassine, et al. 2013).

If men are indeed more likely to purchase temptation goods (as was explicitly documented in Côte d'Ivoire), then providing transfer income to women could reduce spending on those

goods, a household bargaining effect. The net effect – between the income effect, the substitution effect, the flypaper effect, and the household bargaining effect – is unclear theoretically: This paper seeks to characterize it empirically.

A large literature has examined the impact of cash transfers on consumption, with a few studies explicitly contrasting transfer income with earned income. For example, Schady and Rosero (2008) show that food expenditures were much higher for transfer recipients than non-recipients in the Ecuador program, even when controlling for per capita expenditures (i.e., the income effect of cash transfers). This finding is contrary to Engel's law, which states that "the proportion of income spent on food declines as income rises" (Houthakker 1957) and which has been empirically identified across many countries. In Nicaragua, Macours, Schady and Vakis (2012) use a similar strategy and find that cash transfer recipients shifted the composition of food expenditures to more expensive foods (i.e., more protein, fruits, and vegetables; fewer staples), even though total food expenditures were not different from other households with similar per capital expenditures. Case & Deaton (1998) demonstrate that pension income in South Africa increased food consumption and may have reduced alcohol and tobacco consumption, depending on the specification. These studies suggest that households may indeed treat transfer income differently from earned income.

Methodology

In this section we describe the criteria used to define the universe of literature relevant to this systematic review, as well as the search strategy employed to find papers conforming to these criteria.

Scope of the review

First, we describe the scope of the review in terms of the types of interventions, studies, and outcome variables of primary interest. We restrict our analysis to conditional cash transfers (CCTs) and unconditional cash transfers (UCTs) implemented in low and middle-income countries (as defined by the World Bank), with no other explicit population exclusion criteria. Since both CCTs and UCTs generally target poor and vulnerable households (often including school-aged children or pregnant women), the entire set of eligible interventions is largely targeted at disadvantaged populations.

The review focuses on studies from 1997 to early 2014, which corresponds to the period following the onset of PROGRESA/Oportunidades, allowing for a relatively comparable group of cash transfer interventions, as in Baird et al. (2014). Eligible studies include both experimental and quasi-experimental designs. We limit the review to papers that compare cash transfer

recipients to a group that receives no transfers. Specifically, in the systematic review we consider the effects on consumption of all those goods which studies themselves identify as "temptation", "demerit", or "anti-social" goods, or those which reflect "misuse" or "waste". In conducting the review we focus on the effects on alcohol and tobacco consumption, for comparability purposes.

Consumption of temptation goods is measured in a number of ways across studies: notably, expenditure, share of expenditure, and share of individuals consuming the temptation good in the reference period. We include studies using all of these measures, although we focus on expenditure as our primary outcome of interest.

We classify this universe of eligible studies into the following three categories:

i. Impact Estimates: Randomized-control trials or quasi-experimental studies that estimate the impact of cash transfers on the consumption of temptation goods;
ii. Level Estimates: Studies that use surveys or focus groups to characterize the number of beneficiaries or amount of transfers used to purchase temptation goods; and
iii. Qualitative Reports: Studies that discuss reports of the use of transfers to purchase temptation goods, not necessarily by the interviewed household.

Search methods for the identification of studies

The remainder of this section describes how the literature was searched. The various phases of the search process are also summarized in chronological order in Table 2, together with the number of results they yielded. We restricted all searches to papers published since 1997. Our primary electronic search was conducted using Google Scholar.[3] The initial search was completed on January 20th, 2014; thus papers that were not yet available at that time are not included in this review. We searched for papers that included both the term "cash transfers", and any one of the terms "alcohol", "tobacco", "cigarettes", "temptation goods", or "demerit goods". This search yielded a total of 4,290 articles. The titles and sources of these papers were reviewed and the majority of papers discarded due to irrelevant subject areas, leaving 434 papers. These were then checked for duplicates and 23 were removed, leaving 411 papers. These 411 papers were reviewed by reading their abstracts and conducting a word search within each article for appearances of the key search terms listed above, so as to identify the context within which they are referenced by the article. 179 papers were deemed irrelevant and removed on the basis of this review process – typically because the terms of interest

[3] The search produced results drawn from databases including Science Direct, the Social Science Research Network, and the Wiley Online Library, as well as the databases of a number of international organizations – notably the Overseas Development Institute, United Nations Development Programme, the United Nations Children's Fund, the World Bank, the International Initiative for Impact Evaluation (3ie), the World Food Program – and universities.

appeared either in passing, or in a context other than that of cash transfers – leaving 232 papers. In addition to the Google Scholar search, we added 7 studies from our own knowledge as well as those recommended by other researchers. We investigated the bibliographies of relevant papers and systematic reviews of cash transfers uncovered through the previous steps and manually searched a number of databases to find relevant papers mentioned, yielding another 12 papers, bringing the total to 251 papers.[4]

These papers were then examined more closely, and studies were removed that did not fall into any of the three categories described earlier (impact estimates, level estimates, and qualitative reports). This left 42 papers. The countries represented by these papers by impact estimates and level estimates, from all over the world, are illustrated in Figure 1.

Several of these papers report multiple estimates: For example, estimates are reported using two different estimators (e.g., treatment-on-the-treated versus intent-to-treat, or matching versus instrumental variables) or in multiple time periods (e.g., the first tranche of transfers versus the second tranche). In order to capture the full range of possible impacts, we include all these estimates. We do not include estimates on sub-populations (e.g., female-headed households only) except when that is the only format in which results are reported in the original studies, because papers are very inconsistent in the sub-populations for which they report outcomes, and because relatively few do so.

Results

First, we discuss the evidence from estimates of program impacts on spending on alcohol and tobacco. Second, we discuss evidence from studies that surveyed the number of respondents who reported using transfers to purchase temptation goods.

Impact Estimates

Nineteen studies from 10 countries around the world (in Latin America, Africa, and Asia) report impacts of cash transfers on the level or proportion of expenditures on alcohol or tobacco, or the probability of consumption or abuse of these goods. These studies and the reported impacts are listed in Tables 3 and 4. The 19 studies include 44 impact estimates. To simplify, we group these estimates into four categories:

[4] Of the 19 papers which were added manually, 4 contained relevant impact estimates and made it to our final sample of literature. Two of these (Dasso and Fernandez 2013 and Evans et al. 2014) were unpublished mimeos at the time of the original search and were therefore not picked up by our algorithm. Another study (Gilligan and Roy 2013) was not picked up because it does not include any of our search terms; specifically, it refers to estimates of consumption of "beer" only. The other study (The Kenya CT-OVC Evaluation Team 2010) was an in-depth internal evaluation report underlying a policy note identified using our algorithm. The remaining 15 papers in this group - a number of which were systematic reviews of cash transfers and social policies - contained relevant background material on cash transfers but no evidence on their effect on the consumption of temptation goods.

(1) negative and significant,
(2) negative or zero and insignificant,
(3) positive and insignificant, and
(4) positive and significant.

Across all 44 estimates (from the 19 studies), there are 12 estimates which are negative and significant, 24 which are negative and insignificant, 6 which are positive and insignificant, and 2 which are positive and significant (Table 5 Panel A). In other words, 82% of estimates are negative, and just 5% of estimates are significant and positive (Table 6 and Figure 2). One of those two positive results is an unconditional cash transfer program in Indonesia: in the first disbursement, the impact was slightly negative and highly significant, whereas in the second disbursement, the impact was slightly positive and mildly significant. The size of the coefficient is almost identical to that for expenditures on prepared food. The other positive result, from Peru's *Juntos* program, is from a paper that uses two different methods, matching and instrumental variables, and finds opposite results from the two estimates on alcohol consumption: a moderately significant negative impact from the matching estimate and a weakly significant positive impact from the instrumental variables estimate. Estimates on other outcomes are mostly consistent across the two estimation methods. Thus, in both cases of positive significant results, the impacts are weakly significant and are not consistent across estimates within the same study. Furthermore, the effect sizes are very small: one is less than a penny, whereas the other is 21 cents. Even if those estimates accurately reflect changes in expenditures, the changes are trivial.

If we instead consider only the 17 estimates from 8 randomized-control trials, we find 1 estimate which is negative and significant, 13 that are negative and insignificant, 3 that are positive and insignificant, and zero that are positive and significant (Table 5 Panel C). In other words, 82% are negative, and none are positive and significant (Table 6).

Four studies explore the impacts on alternate measures of temptation goods. Two of them, rather than estimating the impact of transfers on expenditure levels or proportions, estimate the impact of the program on the share of individuals who consume any of the temptation good (i.e., who smoke or who drink). They both examine this impact for adolescents in Mexico, in the context of the Oportunidades transfer program. One paper examines the impact using 2004 data and an instrumental variables strategy. It separates the impact of program participation from the impact of total cumulative transfers, with community awareness of the program as an instrument for household participation in the program, and potential transfers (based on household demographics) as an instrument for actual transfers (Galárraga and Gertler 2009). The *net* effect is reported for smoking for men (a reduction from 30% of men smoking to 16%) and for alcohol consumption for women (a reduction from 22% of women

drinking to 13%). The other paper, using data from 1998 and 2000 and a propensity score matching approach, finds a reduction in adolescents that have had alcoholic drinks (12% reduction in rural areas, 2% in urban areas) and in those that have smoked (14% in rural areas, 4% in urban areas) (Gutiérrez, et al. 2004). A third study, from Uganda, uses a randomized design to estimate the impact of cash transfers provided through early childhood development centers on the number of days that children (aged 1 to 7 years) drank beer in the week preceding the survey (Gilligan and Roy 2013)[5]. They find an insignificant reduction of 20% in the frequency of consumption.

Finally, a randomized evaluation estimates the impact of Oportunidades on the probability of alcohol abuse, and finds that beneficiaries of the program are significantly less likely to have a habitual drinker present in the household than non-beneficiaries (Angelucci 2008). These studies add to the evidence that the net effect of cash is likely to be either insignificant or negative. The distribution of results is very similar if one includes only estimates on expenditure levels and not on the proportion of income spent or these other outcomes (Table 5 and Figure 2).

There are several potential sources of heterogeneity in the impact of cash transfers on temptation goods, including program design (e.g., conditional versus unconditional cash transfers), geographic variation, or variation in how long households have been receiving the transfers. However, with so few significant effects, it is difficult to identify heterogeneity. We have 31 estimates from conditional cash transfer programs and 11 estimates from unconditional cash transfer programs.[6] Table 7 shows the distribution of estimates (from negative and significant to positive and significant) for the two groups; we observe essentially the same pattern, with 84% and 73% of estimates being negative for conditional cash transfer programs and unconditional cash transfer programs, respectively. The proportions are almost identical when we consider estimates from randomized trials only.

Likewise, if we separate the studies in Latin America from those in Asia and in Africa, there are no clear differences, albeit with slightly greater heterogeneity in Latin America (Table 8). We find that 79% of estimates in Latin America are negative, compared to 88% of estimates from other regions. There is also no evidence of differences related to the length of time people have been receiving transfers. The time during which beneficiaries have been receiving transfers is – on average – 1.9 years, and ranges from 6 months to 5.5 years, with no clear relationship

[5] In the Karamoja sub-region of Uganda, where this program was implemented, it is common to make a local homebrewed weak beer from sorghum and for both adults and young children to consume this, as well as the beer residue (Gilligan and Roy 2013).

[6] For this comparison of conditional and unconditional transfer programs, we exclude the 2 estimates from the evaluation of The Kenya Cash Transfer Program for Orphans and Vulnerable Children, which imposed conditions in 3 of the 7 districts in which it was implemented.

between the duration of treatment and the program effects on consumption of alcohol and tobacco.

Level Estimates

Other studies, while not estimating the impact of transfers on consumption of or expenditures on temptation goods, have sought to quantify how many beneficiaries use transfers for temptation goods, or how much of the transfers has been spent on temptation goods; these studies rely either on surveys or focus groups. We identified 11 such studies, representing programs in 8 countries: 6 in Africa, 1 in Asia, and 1 in the Middle East (Table 9). Four of the studies identified a proportion of beneficiaries or households that spent some or all of the transfer on temptation goods. The median proportion was 1.2%, a tiny fraction of households. Even in the one outlier, Lesotho's Cash & Food Transfers Pilot Project, where about 6% of beneficiaries admitted to spending some of their transfer on alcohol and cigarettes, the study quotes a recipient as saying that it happens "only in rare and discreet cases." Two more studies, from Malawi and Zimbabwe, identify the proportion of transfers spent on temptation goods: In both cases, the proportion is under 0.5%. The remaining studies simply report that they found no evidence that households were purchasing temptation goods, except one case that reports a "marginal increase."

This evidence is significantly less convincing than the impact estimates, which look at total expenditures rather than transfer expenditures alone, as transfer and other income are fungible. A household could, for example, use the transfer income entirely for education investments but at the same time decrease spending on education from regular income by ten percent. Then they could use that ten percent of regular income for temptation goods. In the respondent's view, none of the transfer income would have been used for temptation goods, although clearly the transfer is what enabled the increased expenditures. Despite this caveat, these level estimates are consistent with the finding of insignificant quantities being spent on alcohol and tobacco that was already observed in the more reliable estimates on overall expenditures.

Discussion

In this section we discuss some of the implications and challenges related to this analysis. One principal concern when studying the consumption of goods such as alcohol and tobacco, especially in the context of a program where beneficiaries are encouraged not to use the resources on those goods, is that beneficiaries will report low expenditures on those goods

because they want to minimize the risk of expulsion from the program or other potential negative consequences. This is known as "social desirability bias." There is some evidence from undergraduate students in the United States that self-reports of alcohol consumption can be biased downward (David, Thake and Vilhena 2010). In developing contexts, this is much less explored for alcohol and tobacco consumption. (For sexual behaviors, it has been explored extensively.[7]) However, we do not expect this to be a major problem here, for the following reasons. First, the impact estimates presented here are usually based on detailed expenditure surveys that ask a household respondent how much the household spends on each of a long list of items. Alcohol and tobacco are not singled out. For the estimates of what proportion of households spent any resources on temptation goods, alcohol and tobacco may be singled out, which could explain why several studies found zero reports of any spending on temptation goods. However, those estimates merely provide supportive evidence to the more robust impact estimates.

Second, transfer income is not asked about separately, so households would have to recall the amount of their overall income spent on temptation goods before the program and report a similar amount later. The simplest solution for households seeking to appease an interviewer would be to report zero or extremely low expenditures on alcohol and tobacco. This is especially true since household surveys are administered infrequently and so recalling previous reports may be difficult. In that case, we would expect to see a much starker pattern of significant negative impacts. On the contrary, we observe just 24% of all impacts on expenditures to be negative and significant, and 9% for randomized-control trials. The far more common result is an insignificant difference: the outcome in all eleven randomized trials (Figure 2 Panel D). This does not look like systematic social desirability bias.

An additional concern could be that these studies were not sufficiently statistically powered to capture consumption impacts at all, whether on temptation goods or other categories of consumables. For this, we focus on the 6 positive and insignificant estimates in more detail. These 6 estimates come from 5 studies (each from different countries around the world), most of which report the estimated impact of cash transfers for total expenditure on temptation goods; Maluccio and Flores (2005) also present an estimate of the impact on the proportion of expenditures. For each of these studies, we examine whether the studies had sufficient statistical power to identify significant impacts on overall consumption using the same

[7] This issue has been studied more extensively for sexual behavior in developing countries, and the evidence has been inconsistent: In Malawi and Kenya, for example, young women were more likely to report ever having had sex in a face-to-face interview, whereas they were likely to report more total partners in an audio computer-assisted self-interview (Mensch, et al. 2008). In Zimbabwe, respondents also reported fewer partners in face-to-face interviews (Gregson, et al. 2002). A study in Tanzania found female adolescents were more honest about sexual infection in face-to-face interviews, whereas males were less honest (Plummer, et al. 2004). A fuller list of relevant references is available in Handa et al. (2014).

estimation methodology (Table 10). We observe that in every case, the studies finding positive and insignificant estimates for temptation goods at the same time produce *significant* (positive) estimates for the impact on overall consumption. Because identifying impacts on individual consumption items or categories requires greater statistical power than identifying effects on total consumption, we also look at whether these studies find significant impacts on individual consumption items other than temptation goods (also in Table 10). We find that every study finding positive and insignificant estimates for temptation goods produces *significant* estimates for at least 20 percent of the disaggregated consumption items. This suggests that the insignificance of these temptation good estimates does not derive from a lack of statistical power. Rather, there is simply no quantitative evidence that beneficiaries use their transfers on alcohol and tobacco.

An alternative comparison to the one central to this study is the relative impact of cash transfers versus in-kind food transfers. In the course of our search, we identified three studies – all randomized trials – that quantitatively estimate this relative impact: one in Mexico (Cunha 2012), one in Uganda (Gilligan and Roy 2013), and one in Yemen (Schwab, Margolies and Hoddinott 2013). The Mexico study finds (insignificantly) increased expenditures on alcohol among cash recipient households relative to food recipient households. The Uganda study, focusing on children age 1-7, finds that children of cash transfer recipients are (insignificantly) less likely to consume sorghum beer. The Yemen study estimates (insignificantly) higher expenditures on tobacco and khat for cash transfer recipients. In none of the cases is there a significant difference between the impact of cash and in-kind transfers on expenditures on temptation goods. The first two studies also include a pure comparison group and are included in the analysis above (and in Tables 3 and 4).

Qualitative Results

While the impact estimates suggest zero average effect, and the level estimates suggest only tiny fractions of beneficiaries using transfer resources to purchase temptation goods, qualitative reports sometimes tell a different story. Consider the following examples:

- In Malawi, researchers reported from focus groups that “In our village, there were certain men who wasted their money even though they had families and children” and “We heard of four men who received their rations on a Thursday. They all went to a nearby popular drinking bar” (Devereux, Mvula and Solomon 2006).
- In Bolivia, “Of the 35 subjects interviewed, 20 admitted they knew people who misspent the cash transfers.” However, “Many mentioned the media as their main source of information regarding any misspending” (Vaughan 2010).

- In Kenya, “Cases of misuse of funds were reported in the two sites: according to key informants, in some cases, male recipients have used some of the cash to buy alcohol, although this is relatively rare (only three cases reported, with the majority of the cash being used for consumption and investment)” (Onyango-Ouma and Samuel 2012).
- In Swaziland, a focus group participant reported that “Men don’t return home on pay-days; some have found other women to spend the money with” (Devereux and Jere, 2008).
- In Uganda, participants and informants observed that “Some beneficiaries – especially men – have used the cash transfer in over-drinking alcohol” and “Some older men especially drink all the money” (Bukuluki and Watson 2012).

How do we reconcile these anecdotes with the extremely insignificant or even negative effects we observed earlier? First, the results previously discussed do not indicate that no single beneficiary uses his or her transfer on alcohol. For example, the Malawi anecdote above comes from a study that measured the proportion of transfers that were spent on alcohol; the proportion was 0.1%. So although interviewees had “heard of four men” or knew “certain men”, these numbers seem very small. What the quantitative results earlier claim is that, *on average*, there is no positive impact of transfers on alcohol expenditures.

Second, most of these reports are not with reference to one’s own household, but rather to other individuals who respondents may know who spend the money on alcohol and tobacco. However, multiple respondents may well know the same person in the community who has a reputation for high levels of alcohol or tobacco consumption. These anecdotes can be subject to “saliency bias”, in which individuals pay attention to highly noticeable factors and dramatic events: A village drunkard stands out and is likely to come up disproportionately in discussions.

An alternative possibility is that the respondents in household surveys are unaware of how their household resources are spent. For example, if a husband takes household resources and spends them on alcohol without the wife’s knowledge and the wife is the survey respondent, then such spending might show up in qualitative reports from other households but be missing in the impact estimates. However, it seems unlikely both that (1) the surveys consistently interview the non-drinking member of the household, and (2) this member is consistently ignorant of these expenditures, particularly in low-income households with limited liquid income.

These results underline the importance of complementing qualitative reports with quantitative data and are reconcilable with the earlier quantitative finding that, on average, there is no increase in the consumption of temptation goods.

Conclusion

We have investigated evidence from around the developing world, including Latin America, Africa, and Asia. There is clear evidence that transfers are not consistently used for alcohol or tobacco in any of these environments. This is particularly true when relying on the randomized trials. For all studies, the only evidence for a positive, significant effect is inconsistent across estimates within the studies themselves; and in those cases, the size of the impact is trivial. Thus, it seems that the flypaper effect and the effect of women controlling more resources (the household bargaining effect) likely compensate for the income effect, leading to no significant net change in alcohol and tobacco consumption. We see no difference between conditional and unconditional cash transfer programs, so this does not seem to be a function of conditions. We also observe no difference depending on the region of the transfer program.

These results provide strong evidence that concerns that transfers will be used on alcohol and tobacco are unfounded. We do have estimates from Peru that beneficiaries are more likely to purchase a roasted chicken at a restaurant or some chocolates soon after receiving their transfer (Dasso and Fernandez 2013), but hopefully even the most puritanical policymaker would not begrudge the poor a piece of chocolate.

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Tables

Table 1: Consumption of Alcohol and Tobacco as a Share of Total Consumption

		Household living on less than…		
		$1 per day	$2 per day	Ratio ($2/$1)
Rural	Côte d'Ivoire	2.7%	2.2%	81.5%
	Guatemala	0.4%	0.5%	125.0%
	India - UP/Bihar	3.1%	3.0%	96.8%
	Indonesia	6.0%	6.8%	113.3%
	Mexico	8.1%	6.5%	80.2%
	Nicaragua	0.1%	0.6%	600.0%
	Pakistan	3.1%	2.9%	93.5%
	Papua New Guinea	4.1%	5.1%	124.4%
	Peru	1.0%	1.3%	130.0%
	South Africa	2.5%	3.4%	136.0%
	Timor-Leste	0.0%	0.0%	100.0%
Urban	Côte d'Ivoire	3.5%	3.3%	94.3%
	India - Hyderabad	2.5%	2.7%	108.0%
	Indonesia	5.5%	6.3%	114.5%
	Mexico	3.6%	4.2%	116.7%
	Nicaragua	1.0%	0.7%	70.0%
	Pakistan	3.0%	2.9%	96.7%
	Papua New Guinea	0.6%	4.4%	733.3%
	Peru	0.2%	0.8%	400.0%
	South Africa	5.0%	5.1%	102.0%
	Timor-Leste	0.0%	0.0%	100.0%

Note: Adapted from Banerjee & Duflo (2006).

Table 2: Steps used to select papers in the systematic review

Review Phase	Procedures Used	Number of Papers
1	Google Scholar search	4,290
2	Review titles and eliminate irrelevant papers	434
3	Eliminate 23 duplicate papers	411
4	Review abstracts and conduct word search and remove papers that do not seem to look at the impact of income on consumption of temptation goods	232
5	Add 7 papers recommended by colleagues and 12 papers referenced in bibliographies of papers identified in previous phases	251
6	Read papers and remove those without impact estimates, level estimates, or qualitative reports of the impact of cash transfers on consumption of temptation goods	42
7	Categorize papers into 3 groups:	
	i) Papers with impact estimates	19
	ii) Papers with level estimates	11
	iii) Qualitative reports	12

Table 3: Studies with estimated impact of transfer on alcohol or tobacco expenditures

Country	Program name	Temptation good	Impact	Detail on impact	Methodology	CCT/UCT	Reference
Report total expenditures (presented in 2012 PPP)							
Brazil	Bolsa Alimentaria & Bolsa Escola	Alcohol, tobacco, and gambling	-1.961 (1.86)		Difference in differences	CCT	Braido, Olinto, & Perrone 2012
Colombia	Familias en Acción	Alcohol and tobacco	2.822 (4.64) -1.536 (3.31)	Urban Rural	Difference in differences	CCT	Attanasio & Mesnard 2005
India	Unconditional Cash Transfer Pilot	Alcohol Tobacco	-0.001 -0.001‡		Before-after	UCT	Bhowmik, Gartenberg, & Sarker 2009
India	Unconditional Cash Transfer Pilot	Alcohol	0.080 (0.53) -0.455 (0.53)	Impact of transfer Impact of transfer & bank account	Difference in differences	UCT	Gangopadhyay, Lensink, & Yadav 2013
Indonesia	Unconditional cash transfer	Alcohol and tobacco	-0.0001*** (0.00) 0.0001* (0.00) 0.0000 (0.00)	First disbursement Second disbursement Average across both	Difference in differences	UCT	Bazzi, Sumarto, & Suryahadi 2012
Kenya	The GiveDirectly Unconditional Cash Transfer Program	Alcohol Tobacco	-0.017 (0.02) -0.003 (0.00)		RCT	UCT	Haushofer & Shapiro 2013
Kenya	The Kenya Cash Transfer Program for Orphans and Vulnerable Children	Alcohol Tobacco	-0.024‡ 0.000		Difference in differences	Conditionalities in 3/7 districts	Kenya CT-OVC Evaluation Team 2012
Mexico	Programa de Apoyo Alimentario	Alcohol Tobacco	0.336 (0.40) -0.218 (0.14)		RCT	UCT	Cunha 2012
Mexico	PROGRESA	Tobacco	-0.029 (0.26) -0.001 (0.00)	Benefit (dummy) Benefit (level)	RCT	CCT	Schluter & Wahba 2004
Nicaragua	Red de Protección Social	Alcohol and tobacco	-0.010* (0.01) -0.001 (0.01)	First year Second year	Difference in differences	CCT	Gitter 2006
Nicaragua	Red de Protección Social	Alcohol and tobacco	4.251		RCT	CCT	Maluccio & Flores 2005
Peru	Juntos	Alcohol	-0.113** (0.05) 0.210* (0.12)		Propensity score matching Instrumental variables	CCT	Perova 2011
Peru	Juntos	Alcohol: beer, whisky, rum, pisco	-0.002 (0.00) 0.005 (0.00)	2009 estimate 2010 estimate	Compare recently paid to less recently paid	CCT	Dasso & Fernandez 2013
Tanzania	TASAF CCT Pilot Program	Cigarettes, tobacco & snuff	-3.322 (3.16) -3.098 (4.24) -2.386 (3.16) -2.312 (4.31)	ETT midline ITT midline ETT endline ITT endline	RCT	CCT	Evans, Hausladen, Kosec, & Reese 2014

Notes: * denotes statistical significance at the 10% level, ** denotes statistical significance at the 5% level, *** denotes statistical significance at the 1 % level, ǂ denotes that statistical significance is reported but not a standard error, and ~ denotes that statistical significance is not reported. CCT is Conditional cash transfer; UCT is unconditional cash transfer. ETT is estimate of treatment on the treated. ITT is the intent-to-treat estimator. RCT is randomized control trial. TASAF is the Tanzania Social Action Fund. The reported impacts on total expenditures (and corresponding standard errors) presented in 2012 PPP are calculated by inflating the impact in local currency in the various base years (the year the data were collected, or as close to that as could be inferred) to their 2012 values using the inflation GDP deflator (annual %), before dividing by the 2012 PPP conversion factors for private consumption (LCU per international $). Both indicators used in the PPP conversion come from the World Development Indicators database available at http://data.worldbank.org/data-catalog/world-development-indicators

Table 4: Studies with alternative estimated impact of transfer on alcohol or tobacco consumption

Country	Program name	Temptation good	Impact	Detail on impact	Methodology	CCT/UCT	Reference
Report proportion of expenditures							
Brazil	Bolsa Alimentaria & Bolsa Escola	Alcohol, tobacco, and gambling	−0.003 (0.002)		Difference in differences	CCT	Braido, Olinto, & Perrone 2012
Mexico	Oportunidades	Alcohol and tobacco	-0.0025 (0.0018)		RCT	CCT	Rubalcava, Teruel, & Thomas 2002
Mexico	PROGRESA	Tobacco	-0.02 (0.09) -0.51 (0.398)	Benefit (dummy) Benefit (level)	RCT	CCT	Schluter & Wahba 2004
Nicaragua	Red de Protección Social	Alcohol and tobacco	0.1		RCT	CCT	Maluccio & Flores 2005
Report probability of alcohol abuse in household							
Mexico	Oportunidades	Alcohol abuse	-0.042*** (0.016)		RCT	CCT	Angelucci 2008
Report probability of consumption (for adolescents only)							
Mexico	Oportunidades	Alcohol	-11%*** (0.026)	Rural, 10 - 21 year olds incorporated in 1998	Propensity score matching	CCT	Gutiérrez, Bautista, Gertler, Hernández, & Bertozzi 2004
			-13%***(0.029)	Rural, 10 - 21 year olds incorporated in 2000			
			-4%***(0.015)	Urban, 15 - 21 year olds			
		Tobacco	-15%***(0.029)	Rural, 10 - 21 year olds incorporated in 1998			
			-13%***(0.024)	Rural, 10 - 21 year olds incorporated in 2000			
			-2%**(0.007)	Urban, 15 - 21 year olds			
Mexico	Oportunidades	Alcohol Tobacco	-40%~ -46%~	Females Males	Instrumental variables	CCT	Galárraga & Gertler 2009
Report number of days consumed in past week (for children 1-7 only)							
Uganda	WFP Cash Transfers to UNICEF-supported ECD centers	Beer	-0.198 (0.198)	ITT	RCT	CCT	Gilligan & Roy 2012

Notes: * denotes statistical significance at the 10% level, ** denotes statistical significance at the 5% level, *** denotes statistical significance at the 1 % level, ǂ denotes that statistical significance is reported but not a standard error, and ~ denotes that statistical significance is not reported. CCT is Conditional cash transfer; UCT is unconditional cash transfer. ETT is estimate of treatment on the treated. ITT is the intent-to-treat estimator. RCT is randomized control trial. TASAF is the Tanzania Social Action Fund. The reported impacts on total expenditures (and corresponding standard errors) presented in 2012 PPP are calculated by inflating the impact in local currency in the various base years (the year the data were collected, or as close to that as could be inferred) to their 2012 values using the inflation GDP deflator (annual %), before dividing by the 2012 PPP conversion factors for private consumption (LCU per international $). Both indicators used in the PPP conversion come from the World Development Indicators database available at http://data.worldbank.org/data-catalog/world-development-indicators

Table 5: Distribution of Estimates of the Impact of Cash Transfers on Temptation Goods

	Negative & significant	Negative (or 0) & insignificant	Positive & insignificant	Positive & significant	Total
Panel A: All estimates					
Estimates	12	24	6	2	44
From [--] studies	6	14	5	2	19
From [--] interventions	6	12	5	2	13
Panel B: Only expenditure levels					
Estimates	5	17	5	2	29
From [--] studies	5	11	5	2	14
From [--] interventions	5	10	5	2	11
Panel C: All estimates - RCTs only					
Estimates	1	13	3	0	17
From [--] studies	1	6	2	0	8
From [--] interventions	1	5	2	0	7
Panel D: Only expenditure levels - RCTs only					
Estimates	0	9	2	0	11
From [--] studies	0	4	2	0	5
From [--] interventions	0	4	2	0	5

Table 6: Percentage distribution of Estimates of the Impact of Cash Transfers on Temptation Goods

	Negative & significant	Negative (or 0) & insignificant	Positive & insignificant	Positive & significant	Total
All estimates	27%	55%	14%	5%	100%
Only expenditure levels	17%	59%	17%	7%	100%
All estimates - RCTs only	6%	76%	18%	0%	100%
Only expenditure levels - RCTs only	0%	82%	18%	0%	100%

Table 7: Percentage distribution of Estimates of the Impact of Cash Transfers on Temptation Goods – Conditional Cash Transfers (CCTs) versus Unconditional Cash Transfers (UCTs)

	Negative & significant	Negative (or 0) & insignificant	Positive & insignificant	Positive & significant	Total
All estimates, CCTs	29%	55%	13%	3%	100%
All estimates, UCTs	18%	55%	18%	9%	100%
All estimates, CCTs - RCTs only	8%	77%	15%	0%	100%
All estimates, UCTs - RCTs only	0%	75%	25%	0%	100%

Notes: This table excludes the evaluation of The Kenya Cash Transfer Program for Orphans and Vulnerable Children, which imposed conditions in 3 of the 7 districts in which it was implemented.

Table 8: Percentage distribution of Estimates of the Impact of Cash Transfers on Temptation Goods by Region

	Negative & significant	Negative (or 0) & insignificant	Positive & insignificant	Positive & significant	Total
All estimates, Latin America	32%	46%	18%	4%	100%
All estimates, other regions	19%	69%	6%	6%	100%
All estimates, Latin America - RCTs only	10%	60%	30%	0%	100%
All estimates, other regions - RCTs only	0%	100%	0%	0%	100%

Table 9: Studies with estimated survey or focus group levels of transfer on alcohol or tobacco expenditure

Country	Program name	Temptation good	Impact	Reference
Democratic Republic of Congo		Doughnuts and beer	<1% of households	Aker 2013
Jordan	UNHCR cash grants	Alcohol, tobacco, and medicines	1.3% of households	Biron 2012
Kenya	Kerio Valley Cash Transfer Pilot	General	No reports of use on temptation goods	Brewin 2008
Lesotho	World Vision Cash and Food Transfers Pilot Project	Alcohol & tobacco	No significant increase	Slater & Mphale 2008
Lesotho	The Cash and Food Transfers Pilot Project	Alcohol and cigarettes	6.4% of recipients	Devereux & Mhlanga 2008
Malawi	Mchinji Social Cash Transfer Pilot Scheme	Alcohol	1.1% of recipients	Miller, Tsoka & Reichert 2008
Malawi	Food & Cash Transfers	Alcohol, cigarettes, entertainment	0.1% of transfer	Devereux, Mvula & Solomon 2006
Malawi & Zambia	Oxfam's cash transfers	Alcohol	No reports of use on temptation goods.	Harvey & Savage 2006
Vietnam	Non-emergency cash grants in An Loc commune	Alcohol and gambling	No reports of use on temptation goods.	Humphreys 2008
Zimbabwe	Government of Zimbabwe Harmonised Social Cash Transfer	Alcohol	Marginal increase in consumption	Phiri 2012
Zimbabwe	Zimbabwe Emergency Cash Transfer (ZECT) Pilot Program	Alcohol & tobacco	<0.5% of transfer used on temptation goods	Román 2010

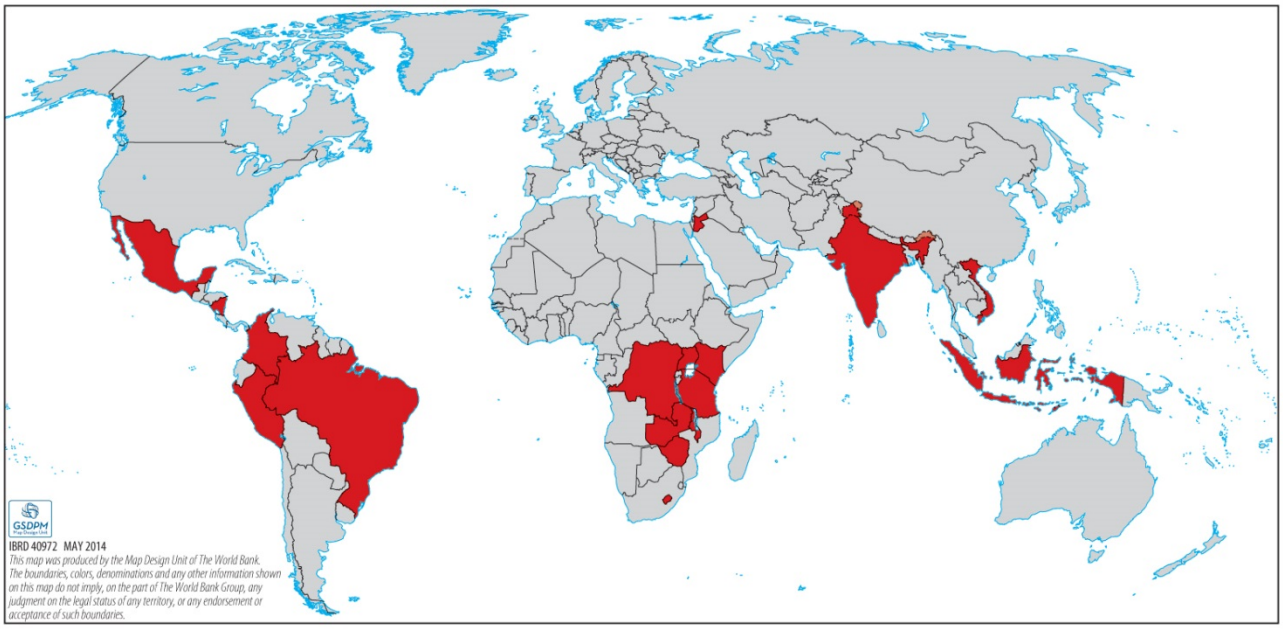
Table 10: Overall Consumption Impacts for Studies with Positive and Insignificant Estimates on Temptation Goods

Country	Program name	Significant impact on total consumption	Number of significant disaggregated consumption estimates / total disaggregated consumption estimates	Percentage of disaggregated consumption estimates that are significant	Reference
Report total expenditures					
Colombia	Familias en Acción	x	17/34	50%	Attanasio & Mesnard 2005
India	Unconditional Cash Transfer Pilot	x	4/6	67%	Gangopadhyay 2013
Mexico	Programa de Apoyo Alimentario	x	7/32	22%	Cunha 2012
Nicaragua	Red de Protección Social	x	9/16	56%	Maluccio and Flores 2005
Peru	Juntos	x	4/14	29%	Dasso & Fernandez 2013
Report proportion of expenditures					
Nicaragua	Red de Protección Social	x	9/16	56%	Maluccio and Flores 2005

Notes: This table presents an analysis of the statistical power of evaluations to identify significant impacts on consumption, for those studies which find positive insignificant impact estimates on the consumption of temptation goods. To do this, we present both whether or not these studies find significant impacts on total consumption, as well as the number and percentage of significant estimates they find for disaggregated consumption items. We are conservative in our calculations of the latter, counting only the most disaggregated estimates in a given study (for example, we exclude the estimates for grains in studies which further disagreggate this into estimates for rice, pasta, and cereal). When considering disaggregated consumption estimates, we exclude estimates on alcohol and tobacco in these calculations so as to compare the statistical power of the evaluations to identify non-temptation good consumption estimates with that for identifying temptation good estimates.

Figures

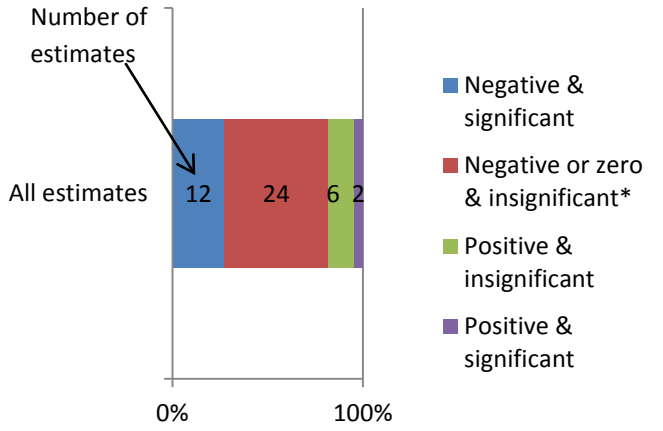
Figure 1: Countries with Estimates of the Impact of Cash Transfers on Temptation Goods or with Estimates of the Level of Consumption of Temptation Goods from Transfer Income



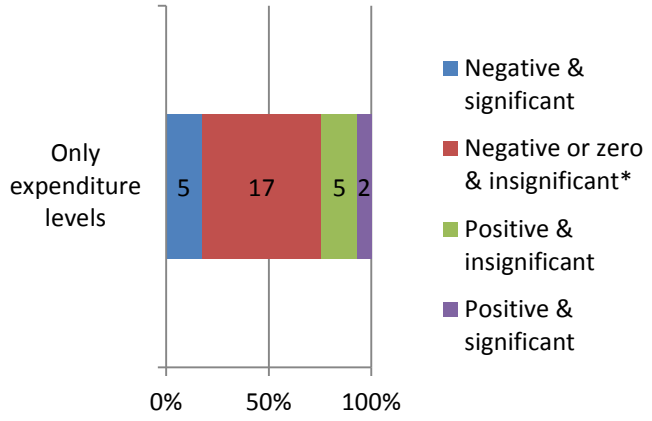
Note: Areas in red are countries covered (in part or entirely) in our impact and level estimates.

Figure 2: Distribution of Estimates of the Impact of Cash Transfers on Temptation Goods

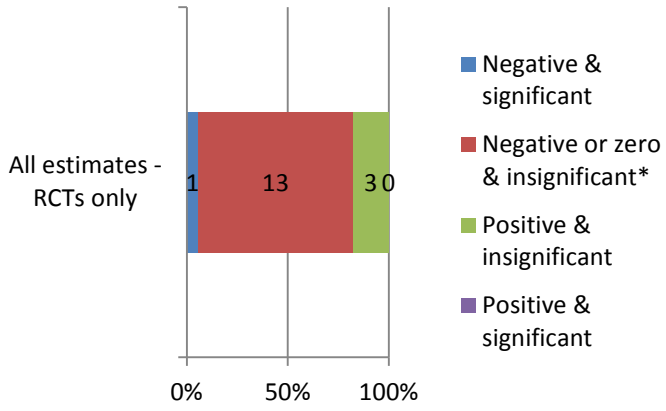
Panel A: All estimates



Panel B: Only expenditure levels



Panel C: All estimates - RCTs only



Panel D: Only expenditure levels - RCTs only

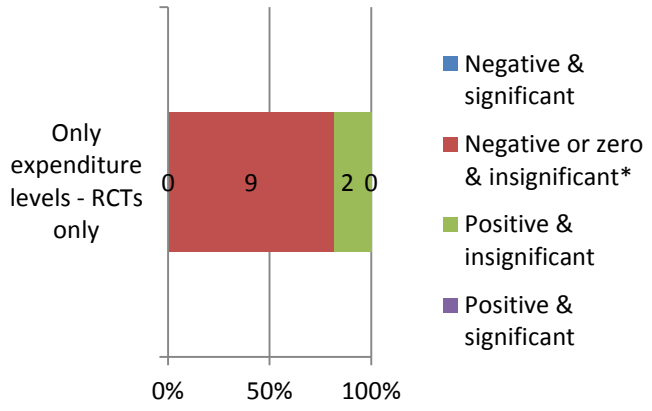
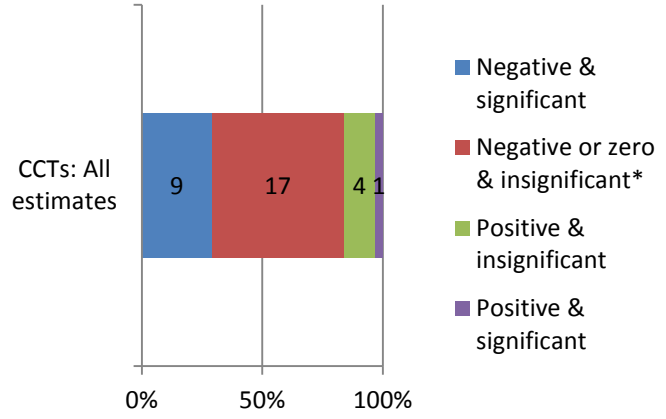


Figure 3: Distribution of Estimates of the Impact of Cash Transfers on Temptation Goods by Program Type

Panel A: Conditional cash transfers – All estimates



Panel B: Unconditional cash transfers – All estimates

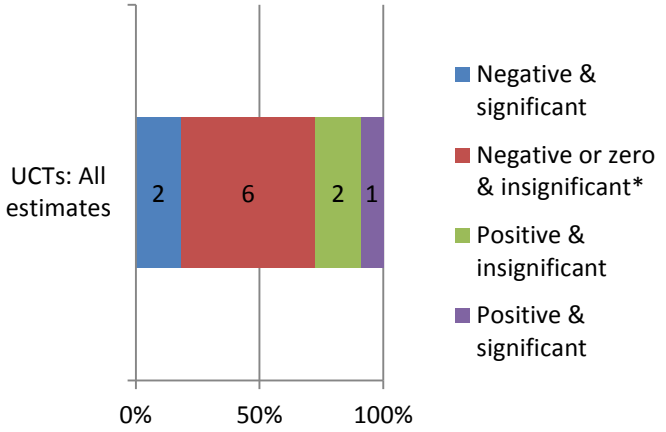
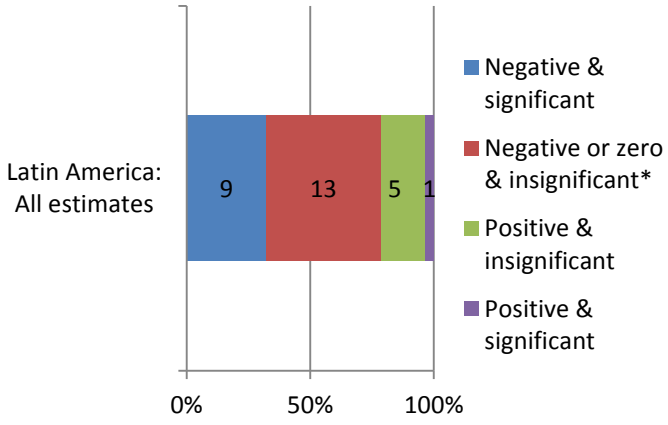
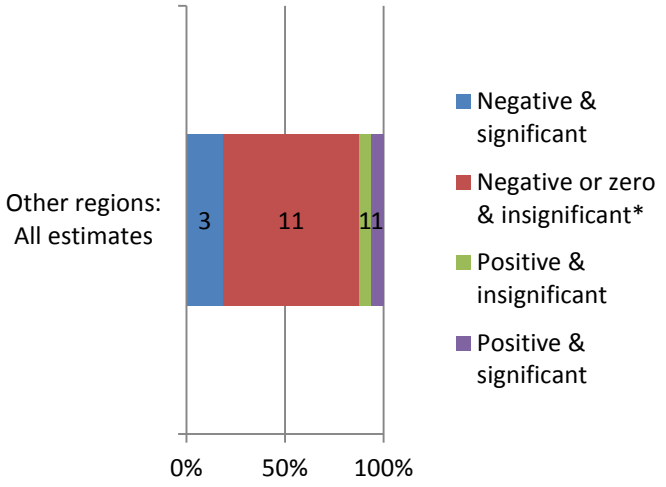


Figure 4: Distribution of Estimates of the Impact of Cash Transfers on Temptation Goods by Region

Panel A: Latin America - All estimates



Panel B: Other regions – All estimates



Annex 1: Studies Included in the Systematic Review

Impact Estimates

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