Income Hiding and Informal Redistribution: A Lab-in-the-Field Experiment in Senegal

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Abstract

We estimate the hidden cost of social obligations to redistribute exploiting data from a controlled setting in urban Senegal, which combines lab-in-the-field measures and out-of-lab follow-up data. We estimate a social tax of about 9 percent. When given the opportunity to get hidden income, individuals decrease by 26 percent the share of gains they transfer to kin — mostly outside the household — and increase health and personal expenses. We expand on prior literature by both identifying the individual cost of informal redistribution and then relating it to postexperiment resource-allocation decisions, and by disentangling intra- and interhousehold redistributive pressure.

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1. Introduction

In developing countries, especially in sub-Saharan Africa, social norms of redistribution are particularly prevalent. Individuals frequently transfer a substantial share of their income to members of their social networks, i.e., members of the household or extended family, friends, and neighbors (Baland et al., 2016). This informal redistribution shapes the social and economic lives of individuals: people make resource-allocation choices accounting not only for their personal socioeconomic condition but also for the well-being of members of their social networks (Platteau, 2000, 2006, 2014).

The economic literature has long focused on the risk-sharing dimension of informal redistribution in economies where people have limited access to financial markets and to formal redistribution, and are structurally vulnerable to income shocks.[1] Informal insurance mechanisms help people protect against certain risks, in particular idiosyncratic ones, although full risk-sharing is almost never achieved due to moral hazard and limited-commitment issues (e.g., Kimball, 1988; Fafchamps, 1992; Coate and Ravallion, 1993; Dercon and Krishnan, 2000). However, interpersonal transfers are also linked to other motives, according to anthropological and sociological literature: they can be driven by traditions, social prestige seeking, pure altruism, or well-internalized norms (e.g., Wright, 1994).[2]

Lately, economists have become more interested in the potential adverse effects of this informal redistribution. Akin to a taxation system, informal redistribution can lead to distortions in economic decisions. This kin tax can induce direct disincentive effects on resource-accumulation decisions, such as labor supply or investment (Squires, 2017; Grimm et al., 2017; Jakiela and Ozier, 2015; Hadness et al., 2013; Dupas and Robinson, 2013b), and indirect distortions in resource allocation choices (Boltz, 2017; Goldberg, 2017; di Falco and Bulte, 2011; Baland et al., 2011). The latter studies describe resource-allocation strategies people adopt to escape the pressure to redistribute, often

[1] For a review, see Cox and Fafchamps (2007).

[2] See Ligon and Schechter (2012) for experimental evidence on how much sharing behavior depends on innate preferences, and how much it responds to economic incentives.

at a high cost: namely favoring non-easily-sharable assets, hastening some spending, and hiding income sources and easily shared resources.

We aim to measure the individual costs of social pressure to redistribute.[3] We hence tackle the following three questions. First, how much do individuals value being able to relax social obligations to redistribute? Second, how does it change people's resource allocation choices when they are offered the opportunity to escape this redistributive pressure? Third, from whom are people hiding — their household members, their kin outside the household, or their neighbors? We conducted a controlled experiment to answer these questions in the context of urban Senegal.[4]

Only a few papers in the economic literature have attempted to use a controlled experiment to identify the distortive role of social norms of redistribution on resource-allocation decisions. Using data from a lab-in-the-field experiment, Jakiela and Ozier (2015) and Beekman et al. (2015), respectively, explore how income observability among participants from the same community affects investment decisions in rural Kenya and willingness to pay to hide in rural Liberia. Jakiela and Ozier (2015) show that women with kin participating in the experiment were more likely to forgo profitable investment opportunities to keep income secret. Beekman et al. (2015) show that participants in the experiment with more kin in the community are more willing to pay to hide a share of their lottery gains. In a randomized field experiment, Goldberg (2017) investigates how redistributive pressure hastens consumption, as spending money quickly may be a strategy for reducing obligatory transfers. She conducted two lotteries among agriculture clubs in Malawi, one private and one public. She shows that public recipients anticipate spending more of their prize money in the week immediately following the transfer than private recipients do.

[3]We refer here to *gross* costs. Our paper does not allow for a net-welfare analysis, as we are not able to measure the potential benefits from this informal redistribution, such as the potential scope for informal insurance, as stressed above.

[4]The question of the adverse effects of redistributive obligations is not specific to Senegal. Platteau (2014) provided numerous references from the sociological and anthropological literature describing the prevalence of redistributive norms and of coping strategies — the strategy of hiding income we analyze being one of the most widespread — throughout Africa and, more broadly, in developing countries.

Our work also relates to the literature on intrahousehold noncooperative behaviors, which underlines a propensity to hide resources *within* the household. For instance, using data from a lab-in-the-field experiment with married couples in the Philippines, Ashraf (2009) finds that husbands allocate more money to their private accounts when their decisions are secret.[5] Combining experimental variations in lottery-gain observability with information from an expenditure survey collected following the experiment in Ghana, Castilla and Walker (2013) find also that spouses have a propensity to hide resources from each other.

Our controlled experiment combines different features of the experiments mentioned above. These features allow us to investigate the effect of the redistributive pressure, measured in the lab through participants' willingness to pay to hide income, on their spending patterns recorded in a postlab survey, and to test whether people fear pressure more from household members than from other kin members. To estimate the effect of redistributive pressure on individual resource-allocation decisions, we exploit the random variation of participants' opportunity to have a share of their lottery gain hidden during the lab, their preference for income unobservability, and information on how they spent their lottery gain collected a week after the lab experiment.[6] We draw a link between the literature on intrahousehold noncooperative behavior and the literature on the role of redistribution beyond the household, within social networks, thanks to two other features of our experiment. First, in our postlab expenditure survey, we distinguish between transfers made to individuals within or outside the household. Second, we exogenously selected either one or two individuals per household to participate in the survey and the experiment. The combination of these features enables us to identify the extent to which the overall results are affected by redistribution between household members or across households.

We conducted the lab-in-the-field experiment in May and June 2014 in poor, densely

[5]Participants were given money and asked to choose one of three options: deposit it in a private account, deposit it in a joint account, or get gift certificates for either apparel or food.

[6]We thus did not impose any structure of transfer or investment decisions in the lab setting; rather, we left the participants free to choose how to allocate their gains outside the lab.

populated urban communities in Senegal's Dakar region, on a sample of 814 individuals.

We draw three main results from this experiment. First, we estimate a social tax of about 9%, with women facing a lower rate than men. Second, we find evidence of strong distortions in resource-allocation decisions outside the lab due to redistributive pressure. Having the opportunity to have hidden income sharply decreases the income share spent on transfers to kin. People fearing redistributive pressure, when they get the opportunity to escape it by hiding their income, transfer 26% less to kin than people who get everything in public. They spend this extra money on healthcare and private goods. Third, we find that people fear redistributive pressure from extended family members, but not from within the household or from friends and neighbors.

By analyzing the linkages between social networks and resource-allocation decisions in economies with prevalent redistributive norms and limited access to formal financial markets, we highlight possible causes of poverty traps. We point to the existence of large distortions induced by redistributive pressure. Helping people gain more control over their own resources appears crucial for avoiding such costs. Our study provides strong evidence on how informal institutions shape economic behaviors in the absence of formal financial markets and public redistribution.

The rest of this paper is organized as follows: Section 2 describes the experiment protocol and the experiment sample. Section 3 presents the results for the estimation of the cost of informal redistribution, and it discusses the correlations between willingness to pay to hide income and variations in the pool of participants. Section 4 presents the central results of the impact of income hiding on resource allocation outside the lab. Section 5 discusses alternative mechanisms and explores the heterogeneity of the effects across wealth and gender. Section 6 concludes.

2. Experiment Protocol

2.1. General setting

We conducted our experiment in May and June 2014, in seven poor, densely populated urban communities in the department of Pikine, in Senegal's Dakar region.[7]. Figure B.1 in the Online Appendix presents a timeline of activities in our experiment. The experiment covered approximately two weeks in each community. In the first week, we selected the sample and administered the household and individual baseline questionnaires. The lab took place on the Sunday of the same week. One week later, the enumerators went back to administer a short follow-up questionnaire.

2.2. Prelab sample selection

The baseline sample consisted of 920 individuals selected using a random-walk sampling method.[8] One household was selected in every other dwelling. Not all streets of the neighborhood were covered. A household was selected if at least two members satisfied the eligibility criteria: being between 18 and 60 years old and having ever earned some labor income.[9] Within selected households, participants were randomly selected among the pool of eligible household members.[10]

We introduced an additional layer of heterogeneity in our study by randomly varying the number of individuals selected per household: in every second household, only one

[7]We selected communities far enough apart so as to prevent any learning or overlap in the participant populations.

[8]Each enumerator was assigned one or two blocks of dwellings and a starting point; he or she had to follow a strict rule: only every other dwelling was preselected. If this dwelling had only one floor, and if more than one household was living there, the enumerator would move on to the household to the right of the entrance of the preselected dwelling. If a dwelling had several floors, first the floor was randomly selected, and then the right-hand-side household rule was followed.

[9]These two criteria were added to ensure that people were accustomed to managing some resources and to making resource-allocation decisions. If these selection criteria were not satisfied, the enumerator left the dwelling and resumed the random-walk procedure.

[10]In order to guarantee no *ex ante* manipulation in the selection of participants, the enumerator would not mention any lottery gain and would not proceed to the random draw of the participants before having established the complete roster of household members.

participant was selected, while two participants were selected in the next household.[11] This enabled us to introduce some exogenous variation in the intrahousehold pressure for redistribution.

The household survey includes information on the household composition and household expenditures. The individual questionnaire provides us with data on socioeconomic and demographic characteristics, social capital held in one's kinship and community network, and personal assets and expenditures for all participants.

2.3. Design of the lab-in-the-field experiment

The lab phase took place in a local primary school that was less than a five-minute walk from each selected participant's dwelling. In each community, there were four sessions, at 9 a.m., 11 a.m., 1 p.m., and 3 p.m. Individuals from the same or nearby dwelling blocks were assigned to the same sessions. On average, 30 individuals were invited to the same session.

Each session was split into three stages (see point 2 in Figure B.1). First, all participants from the same session were gathered in a large room where the rules were explained. Second, participants were invited into separate small rooms for a private interview followed by a lottery (see point 3 in Figure B.1). In this lottery, participants chose cards at random from a box; the cards determined their income from the experiment and to what extent some of their income was announced publicly to other attendees. Before the lottery took place, to reveal their preference for income unobservability, participants were asked to state their preferences about payoffs associated with certain cards. These cards, referred to as *option cards*, gave them a choice between receiving a larger amount in public or a smaller amount in private, as opposed to the *no-option cards* that were also placed in the lottery box and that did not rely on people's preference for hidden income. These elicited choices would be enforced if an *option card* was drawn in the lottery. Private gains were distributed at the very end of the private interview, and after

[11] As indicated above, to be eligible, a household had to contain at least two eligible members so that one-participant households and two-participant households were comparable.

the lottery. Third, after all the private interviews, all participants were gathered again in a large room, where the public payoffs were distributed in front of all participants.

Elicitation of preferences for income unobservability

During the private interview, the enumerator started by reading the informed consent script in French or in Wolof, the dominant local language.[12,13] The participant learned that she would receive at least 1,000 FCFA in public. She was told she might receive more in public or in private — up to 9,000 FCFA in total.[14] First, a few questions were asked to elicit the relationships shared with other participants at the session. Then, the enumerator carefully explained the two types of cards that could be drawn from the lottery box (Point 4 in Figure B.1): the *option cards* and the *no-option cards*. The gains associated with the latter were independent of the participant's preferences: each of the three cards specified receiving respectively 1,000 FCFA in public and nothing in private, 9,000 FCFA in public and nothing in private, or 1,000 FCFA in public and 8,000 FCFA in private. Conversely, the gains associated with the *option* cards would follow the choices participants were about to make about their preferences for income privacy. The *no-option* card with only 1,000 FCFA in public and nothing in private ensured that it was impossible to infer who chose to hide to protect the privacy of participants' choices.[15] To elicit preferences for income unobservability, we relied on a multiple-price-list method. Each participant was asked to make a series of choices illustrated by the *option* cards, as shown in Table A.1. Each card presented two options: option A corresponds to receiving 9,000 FCFA in public, while option B means receiving 1,000 FCFA in public and 8,000 FCFA, minus some price, in private. The price of the income-hiding option p was equal to 0, 200, 500, 700, or 1,000 FCFA in the

[12]For the ease of presentation, we refer to an enumerator as a man — although half of the enumerators were women — and a participant as a woman.

[13]The French and Wolof consents are available upon request.

[14]To put these amounts in context, in this sample, 527 FCFA was the average daily per capita food expenditure, and the average household comprised 11 members. According to the "Poverty and Family Structure" survey, a nationally representative survey of Senegal collected in 2006 (DeVreyer et al., 2008), the average per capita food expenditure for one day in the department of Pikine was 465 FCFA, and the average household size was 13.

[15]Enumerators took care to make this point clear; however, had a participant not understood this, the estimated willingness-to-pay to hide would be downward-biased.

different choices that were presented in ascending order and asked no matter the response to the previous choice. The payoffs for option B thus amounted to 9,000 FCFA minus p. The enumerator made clear that some of these cards were in the ballot box, meaning that each choice the participant made would potentially be implemented after the lottery.[16] Choosing A for the first choice when $p = 0$ indicates a strong preference for income *observability*.

Lottery and payoffs distribution

The different cards included in the ballot box are presented in Table A.2. Only two *option* cards were actually put in the box, the ones with $p = 200$ and $p = 700$. However, participants did not know which *option* cards were in the lottery box. Nor did they know about the actual distribution of cards — they could not infer how many people had actually chosen to hide when the public payoffs were distributed.

The *ex ante* distribution of cards in the lottery box was fixed.[17] In each session, there were five no-option cards with 1,000 FCFA in public, seven no-option cards with 9,000 FCFA in public, eight no-option cards with 1,000 FCFA in public and 8,000 FCFA in private, nine option cards with the hiding price p set at 200 FCFA, and eight option cards with the hiding price p set at 700 FCFA.[18]

After the rules were explained and choices made, the participant drew a card from the lottery box.[19] The private gains were distributed in the private room in a separate enve-

[16]Before the lottery draw, participants showing multiple switches were reexplained the questions and the stakes of the choices made; if they changed their initial choices, the revised choices in addition to the initial ones were recorded.

[17]However, since participation varied from one location to another and from one session to another, the final distribution of drawn cards is slightly different from the distribution in the lottery box. This difference is nevertheless totally random. Moreover, since the private interviews took place simultaneously in eight rooms, the 37 cards were distributed randomly in eight small lottery boxes in front of all participants when they were all gathered in the large room prior to the private interviews.

[18]Note that the number of no-option cards with 1,000 FCFA in public is smaller than the one of other cards since its primary role was to make sure that people could not infer whether participants chose to hide or truly only received 1,000 FCFA.

[19]If it was an *option* card, the enumerator recalled the participant's previous choice and asked her whether she still agreed with her previous choice. If the participant changed her mind *after* the lottery draw, she could step out of the experiment and get 500 FCFA in public.

lope. Once each interviewee had played, public gains were disclosed to all participants and distributed publicly. No instruction was given about how the money should be used, so as not to influence their answers in the lab or their choices out of the lab.

2.4. Postlab survey

Our experimental design is novel in that we surveyed participants on both their lottery-gain allocation decisions and expenditures made one week after the lab session. This information allows us to measure the impact of the observability of personal gains by other participants on transfers and resource-allocation decisions.

One week after the lab-in-the-field experiment, we visited the participants to administer a short follow-up questionnaire in which we asked for the labor income earned and the amounts of the five largest transfers received and sent during the previous seven days. These questions were asked at the beginning of the questionnaire, with no reference to the lottery gains. At the end of the survey, we asked an open question about how participants allocated the payoffs of their gains.[20] Whenever a participant mentioned a transfer, we made sure we identified the recipient of the transfer, in particular if he or she was a household member, a relative living in the community, or a non-relative. Our main results are drawn from the lottery-gains allocation data. To test the fungibility of the lottery gains (see Section 5.1), we also conduct a similar analysis using the measure of total earnings and of the main transfers made in the previous week.[21]

2.5. Sample description

Table A.3 in the Appendix describes the sample of 814 individuals who attended the experiment phase and tests whether baseline characteristics are balanced across the

[20]Enumerators wrote the answer to this question literally; they were specifically instructed and trained not to influence any answer from the respondent. We personally took care of the coding of the answers to this question after the survey.

[21]As shown in Karlan et al. (2016), collecting spending data on both treatment and control participants shortly after an exogenous liquidity shock could help to better assess the short-term impact of a liquidity increase on spending by avoiding (strategic) misreporting issues, which could arise when relying on direct-elicitation questions about use of the additional income.

cards giving the opportunity to get hidden income, *private cards*, and cards with no opportunity to have hidden income *public cards*.

In the sample, two-thirds of the participants were women.[22] The average age was 37 years. Household heads accounted for 20% of the sample, while their spouses and children each represented a quarter of the distribution. Two-thirds of the participants were married, including 18% in polygamous unions. One-fifth of the sample had no education, and 40% contributed to the food expenditures of their households. The informal sector represented 86% of the last or current jobs held. Overall, most variables were not significantly different across groups, but some differences remained — ethnicity, marital status, having a responsibility in the community — which we control for in the subsequent empirical analysis.

Attrition was relatively low: 11.5% between baseline and the lab phase and 2.8% between the lab and the follow-up survey. Tables B.1 and B.2 in the Online Appendix describe the attrition at each step. We control for the variables driving attrition in the analysis.

Table A.4 in the Appendix presents the final distribution of drawn cards: 362 of 814 participants, i.e., 44.5% of participants received a share of their payoffs in private, either based on their previously elicited preferences ($Private_{p200,O}$, $Private_{p700,O}$) or not ($Private_{free,\ NO}$).[23,24]

[22]Great care was given to including both men and women in the sample. This is why all the experimental sessions took place on Sundays, and enumerators were flexible about when to fill out the baseline questionnaire — coming back when people, mostly men, were returning home from work, or very early in the morning, before they left the house.

[23]Of the participants who drew a card with the possibility to hide for $p = 200$ FCFA 57.7% had expressed a willingness-to-pay equal or larger than 200 FCFA, meaning that they agreed to pay this price to hide; 49.5% of participants for $p = 700$ FCFA (see Table A.5).

[24]In the subsequent tables and analyses, we removed 26 inconsistent observations, in terms of preferences. Results are robust to including these 26 observations and are available upon request.

3. Estimation of the willingness-to-pay to hide income

3.1. Conceptual framework

We posit that the utility, U_{ik}, of participant i for choosing option $k = A$ or B takes the form of an additive random utility model : $U_{ik} = V_{ik} + \varepsilon_{ik}$, where ε_{ik} is an i.i.d. type 1 extreme-value distributed-preference shock, with variance $\sigma_\varepsilon^2 = \pi^2/6$. V_{ik} is the deterministic utility of choosing option k that, for the sake of simplicity, we assume to be linear. Therefore, the probability that participant i chooses option A over B — and vice versa — takes a standard logit form. We follow Jakiela and Ozier (2015) by assuming a proportional kin tax τ_i, such as $\tau_i \geq 0$, and which only applies on observable income. We add a new feature by considering a fixed cost c_i for hiding income, which can be seen as a distaste for hiding income from peers. When c_i is high, it translates into a strong preference for income *observability*. Therefore, the deterministic utility derived from option A of our experiment is simply $V_{i,A} = (1-\tau_i)9,000$, whereas the one derived from B is $V_{i,B} = (1-\tau_i)1,000 + 8,000 - p - c_i$.

As $\varepsilon_{iB} - \varepsilon_{iA}$ follows a logistic distribution, $\mathbb{P}(U_{iA} > U_{iB}) = \mathbb{P}(V_{iA} - V_{iB} > \varepsilon_{iB} - \varepsilon_{iA}) = \frac{exp(p+c-8,000\tau_i)}{1+exp(p+c-8,000\tau_i)}$.[25] At a given price p, the participant i is indifferent between A and B whenever $U_{iA} = U_{iB}$, inducing that $\tau - \frac{c}{8,000} = \frac{p}{,8,000}$, and in that case $\mathbb{P}(U_{iA} > U_{iB}) = 1/2$. Following the same reasoning, we find that i strictly prefers A over B if $\tau - \frac{c}{8,000} < \frac{p}{8,000}$ and that i strictly prefers B over A if $\tau - \frac{c}{8,000} > \frac{p}{8,000}$. In summary,

$$\begin{cases} B \succ A \leftrightarrow \tau - \frac{c}{8,000} > \frac{p}{8,000} & \text{(case 1)} \\ A \succ B \leftrightarrow \tau - \frac{c}{8,000} < \frac{p}{8,000} & \text{(case 2)} \\ A \sim B \leftrightarrow \tau - \frac{c}{8,000} = \frac{p}{8,000} & \text{(case 3).} \end{cases}$$

Under the assumption of preference stability, the price p for which i is indifferent between A and B reflects her absolute maximum willingness-to-pay (WTP) to hide

[25] As in Jakiela and Ozier (2015), we assume that participants do not anticipate the ε_{ik} component of their decisions about whether to pay to hide income.

income. In economic terms, this means that the net social tax (net of the idiosyncratic distaste for income hiding) is exactly equal to the maximum relative price of the hiding option. Therefore, the multiple-price list allows us to estimate the interval in which the individual's WTP lies, by looking at the price at which the participant chooses option A, conditional on having chosen option B at the previous price. Moreover, for a null price, we observe that individuals chose option A for two reasons: either because they are indifferent between option A and option B and they picked A randomly (case 3), or because their kin tax is smaller than the individual cost of hiding income (case 2).

3.2. Estimations of the WTP

In Figure 1, we plot the proportion of individuals choosing to pay to hide income, by ratio of the price over observed income levels.[26] The analysis is split by gender because women and men generally have separate social networks, and so the pressure to redistribute may thus come from different groups.[27] Moreover, the literature shows that it is harder for women than men in poor communities to accumulate savings (Dupas and Robinson, 2013a), making it interesting to explore the gender difference in exposure to redistributive pressure.

When the choice is costless, 65% of individuals prefer hidden income over public income, a rate that is similar for men and women. Demand for unobservability decreases with the ratio of the price over the observable income, the decrease being sharper for women than for men.

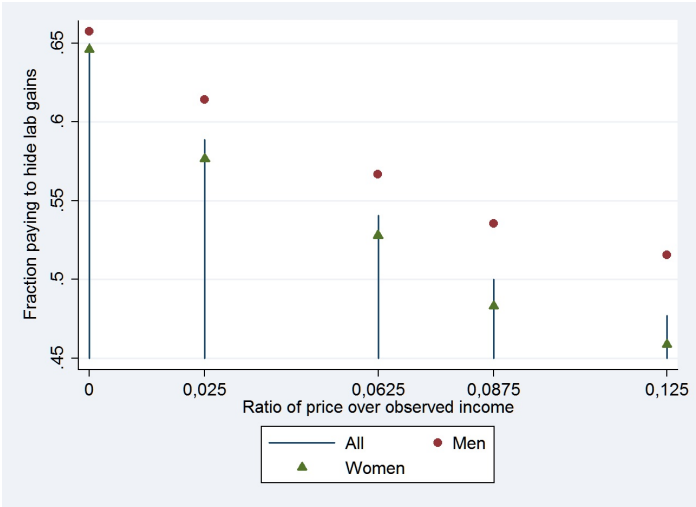
Our model predicts that the probability of paying to avoid the public announcement will be greater than one-half when $\tau - \frac{c}{8{,}000} > \frac{p}{8{,}000}$. In Figure 1, the horizontal line indicating that the probability of paying to avoid the public announcement is 0.5 corresponds to an observable payout ratio of approximately 700/8,000, or 0.0875. This

[26]The sample comprises 788 individuals, the 814 who attended the experiment phase minus the 26 who had inconsistent decisions, in terms of preference.

[27]For qualitative evidence in Senegal, see Moya (2004) and Guerin (2008); for quantitative evidence in Ghana and Madagascar, see Castilla and Walker (2013) and Nordman and Vaillant (2014), respectively.

implies that we find a τ net of the individual cost to hide of around 9%. This net social tax is smaller for women (around 8%) and significantly larger for men (above 13%).

Figure 1: Paying to hide income, plotted against the ratio of price over observed income



Another method to recover some WTP statistics is to choose a point within the WTP interval. To be conservative, we chose the lower bound of the interval as the reference point, but for negative WTP to hide income, the value is fixed as 0. Table A.6 in the Appendix displays some WTP statistics. The average WTP to hide is 523 FCFA for the whole sample, 508 FCFA for women and 555 FCFA for men (the difference is statistically not significant at any conventional level of confidence). Conditional on a positive WTP to hide, the WTP is 805 FCFA on average, i.e., people are ready to forgo 10% of the gains that could be hidden. This share is smaller for women (9.8%) than for men (10.5%) (the difference is statistically significant at 10%).

3.3. WTP and experimental variations in the pool of observers of the gains

To back up the idea that our measure of the WTP to hide income does indeed capture social pressure to redistribute resources, we investigate in this subsection how our measure of WTP to hide income correlates with three experimental variations in the pool of observers: whether a household member is present, the number of other kin

members living in the community who are present, and whether a non-kin known community member is present. Accounting for these variations in one single framework is motivated by recent findings in the literature showing their relevance, one by one. For instance, Ashraf (2009) and Castilla and Walker (2012, 2013) have shown that spouses seek to hide income from each other.[28] Jakiela and Ozier (2015) and Beekman et al. (2015) suggest that individuals seek to hide income from their relatives. According to Goldberg (2017), acquaintances in the pool of observers may suffice to drive strategic behaviors to hide income. Finally, Boltz and Villar (2013) provide qualitative evidence of people trying to avoid redistributive pressure from both neighbors and kin in the context of Senegal.

Whether another member of the household was selected for the experiment is exogenous by design. However, although individuals were selected randomly, from the participant's viewpoint the effect of having nonhousehold kin participating in the experiment is not exogenous, for at least two reasons. First, individuals with more eligible kin living in the community may end up with a higher probability of having a kin in the same session. To avoid any correlation driven by this, we need to control our regressions for the number of eligible kin living in the neighborhood at baseline. Unfortunately, our design does not allow us to measure the *exact* number of kin living in the community. Instead, we use a close proxy, the *minimum* number of kin living in the neighborhood.[29] (We use it in this section, as well as in the subsequent analyses conducted in this paper.) Second, not all participants attended the experiment, thus some selection bias through attrition could affect our results. Ideally, we would like to look at the effect of the "number of eligible kin invited to the session conditional on the number of eligible kin living in the neighborhood", but this would have required eliciting all family links between participants at baseline, which would not have been

[28] We did not restrict household pairs to spouses, since pressure to redistribute may well come from other household members, given the extended structure of Senegalese households.

[29] For each of the following categories, we asked whether the individual has a related kin living in the neighborhood: parents, children, siblings, cousins, nephews/nieces, uncles/aunts, and other kin. Hence, the measure here is computed as the sum of dummies for each category and accounts for a lower bound of the number of kin living in the neighborhood.

feasible and could have affected how people perceived the experiment. However, we can use the "number of kin attending the session" controlling for the lower bound of the number of kin living in the neighborhood at baseline, acknowledging that our results do not reflect perfect causal impacts but rather correlations for which we control for many dimensions.[30] Moreover, we check whether there is any selective attrition in the lab participation along the kin dimensions between the baseline and lab samples using the measures available of the minimal number of kin and types of family ties in Table B.1 in the Online Appendix. This allows us to verify, for instance, whether individuals with larger extended families in the communities were more or less likely to attend the experiment. Reassuringly, we do not find any evidence for it.

To investigate the correlations between experimental variations (in the pool of observers) of the gains and the level of WTP, we, first, use an interval-censored-data regression model, since we observe only the *interval* in which the WTP lies.[31] Regarding the extensive margin of preference for hidden income, we next estimate a logit model. The dependent variable is thus a dummy equal to 1 if the individual is willing to hide, i.e., has a positive WTP, and to 0 otherwise. We cluster the standard errors at the session level in both specifications and we include additional baseline controls. The idea is to test whether the extensive margin is predicting most of the correlation between experimental variations and the WTP to hide. This will be important to back up the empirical strategy developed in Section 4, in which we explore the differential impact of hidden income on resource allocation between individuals with and without preference for hidden income.

Table 1 presents the results of the interval-censored-data regression model in Panel

[30] For men, we do not look at the *number* of kin present in the session but rather at a dummy variable taking the value 1 if at least one kin is attending the session, 0 otherwise. The reason for this change in the explanatory variable is that the sample of men is smaller and only seven men had more than two relatives present in the session.

[31] This model is similar to an ordered probit, except that the interval boundaries are known; see Cameron and Trivedi (2010), pages 548–550. The dependent variable is thus the WTP intervals implied by each question in the experiment, namely $]-\infty;0[;[0;200[;[200;500[;[500;700[;[700;1,000];[1,000;+\infty[$. For participants who prefer having their payoffs observable even at a null price, we assume that they have a preference for income observability, namely a WTP $\in [-\infty,0[$. Symmetrically, for individuals who are willing to pay more than 1,000 FCFA, we consider that their WTP is in $[1,000;+\infty[$.

A and of the logit model in Panel B. Column (1) is estimated on the whole sample, columns (1w) and (1m) on the respective subsamples of female and male participants.[32] The first main result concerns the effect of the number of kin present in the same session on the WTP to hide. We do find a significant effect in the female sample (Column 1w): one additional extended family member attending the lab increases the WTP by 955 FCFA. We also find that, at the extensive margin (Panel B) and for the female sample, the presence of one more extended family member in the same session increases the probability to be willing to hide income by 17 percentage points. Concerning men (Column 1m), we find no effect of having a kin in the same session. Looking at the effect of the presence of acquaintances, we find that men tend to be more willing to hide (13%) when they have a non-kin acquaintance in their session (Panel B), while we find no effect for women along this dimension. A second important result is that the effect of being selected along with another household member is never significant, neither for men nor for women. This means that on average, being selected with another household member does not affect the WTP to hide gains.

In sum, we find a social tax of 9%, more than twice as high as the one found by Jakiela and Ozier (2015) in the context of rural Kenya. In both contexts, pressure to redistribute seem to arise mainly from extended family members, especially for women.

4. The impact of income hiding on resource-allocation decisions

In this section, we estimate the distortions in resource-allocation choices induced by redistributive obligations. To do so, we test whether individuals whose gains might have a hidden component make different postexperiment choices of transfers, consumption, and investment than individuals with observable gains.

[32] The whole sample is made of 788 individuals, the 814 who attended the experiment phase minus the 26 who had inconsistent decisions, in terms of preference. The model is run on a slightly lower number of observations due to missing data on some controls.

Table 1: WTP to hide income and experimental group composition
Interval-censored and Logit regressions

	All (1)	**Women** (1w)	**Men** (1m)
Panel A: Interval-censored estimation on the WTP to hide (in FCFA)[†]			
Experimental variations			
Selected in household pair	−51.628	−133.597	−171.332
	(198.395)	(213.629)	(449.436)
	[0.795]	[0.532]	[0.703]
# kin in the session (excl. household pairs)[⋆]	379.619	955.468	−146.518
	(270.907)	(288.631)	(701.471)
	[0.161]	[0.001]	[0.835]
Any known non-kin in the session	165.336	−123.449	844.612
	(254.913)	(277.849)	(567.562)
	[0.517]	[0.657]	[0.137]
Mean of the WTP to hide (in FCFA)[*]	523.1	508.1	554.7
Number of observations	771	524	247
Panel B: Logit estimation on the dummy, willing to hide (Yes/No)[‡]			
Experimental variations			
Selected in household pair	−0.007	−0.002	−0.061
	(0.040)	(0.045)	(0.072)
	[0.862]	[0.964]	[0.396]
# kin in the session (excl. household pairs)[⋆]	0.039	0.173	−0.055
	(0.043)	(0.043)	(0.085)
	[0.368]	[0.000]	[0.515]
Any known non-kin in the session	0.028	−0.014	0.131
	(0.042)	(0.057)	(0.080)
	[0.502]	[0.810]	[0.101]
Mean of the dummy, willing to hide	0.65	0.65	0.66
Number of observations	771	524	247

Standard errors are clustered at the session level in parentheses; pvalue are in brackets. *Panel A:* Interval-censored-data regression model; [†] Dependent variable: WTP to hide, observed in intervals : $p \leq 1000$ FCFA: $\{\ ]-\infty;0[\,;[0;200[\,;[200;500[\,;[500;700[\,;[700;1000[\,;[1000;+\infty[\}$. [*] In line with a conservative approach, those means are computed taking the lower bound of the interval, except for observations lying in $]-\infty;0[$ for which we set the value of the WTP at 0. *Panel B:* Logit model (average marginal effects); [‡] Dependent variable: dummy equal to 1 if the WTP is positive. [⋆] For men, the variable is different, it takes 1 if at least one kin was present in the session (excluding household pairs) and 0 otherwise. Only seven men had more than one kin present which does not allow us to exploit variation in the number of kin present in the session. *Controls:* Age, ethnicity wolof, Muslim, French/Arabic education, Koranic schooling, dummy equal to 1 if knows how to read, marital status, dummy equal to 1 if individual is working in the formal sector, log of the average income in the last three months, dummy equal to 1 if the individual has some savings, dummies for positions within the household (household head, spouse or child of the head), dummy equal to 1 if the individual contributes to household food expenditures, dummies equal to 1 if the individual has always lived in the community and has a responsibility within the community, minimum number of kin in the community, household size, share of dependent household members, log of daily per capita household food consumption, and a dummy equal to 1 if the house is rented.

4.1. Empirical model and identification conditions

We estimate the following system of equations for each commodity type g on the sample of participants, excluding those who got only 1,000 FCFA in public and nothing in private:

$$Y_{ig} = \alpha_g + \beta_g \; PrivateCard_i \; + \theta_{0,g} Kin_{0,i} + \theta_{1,g} Kin_{1,i} + X'_{ig} \; \gamma + \mu_c + \mu_s + u_{ig} \quad (4.1)$$

where Y_{ig} represents the share of the lottery gains dedicated to good g by individual i as reported by the individual one week after the lottery (we discuss the outcomes below). Our key variable of interest, $PrivateCard$, takes the value one when the participant had the possibility to have hidden income, either because she drew an *option* card or the *no-option 1,000 public-8,000 private* card. X_{ig} is a set of controls including sociodemographic and economic characteristics of the individual and his/her household, as well as some measure of his/her position in the kinship and social networks in the community.[33] Following the discussion in Subsection 3.3 about the experimental variation of the number of kin, we control for Kin_0, which corresponds to the minimal number of kin living in the neighborhood as recorded at baseline and for Kin_1 which is the number of kin in the same session as the participant.[34] μ_c and μ_s correspond, respectively, to fixed effects of the community and of the hour of the attended session. As these expenditure shares are correlated at the individual level (each share can be written as one minus the sum of all other shares), the error terms, u_{ig} in the regression equations are correlated across shares, and we estimate the system through a seemingly unrelated OLS regression (SUR) system.

[33] The full set of controls is listed in Table 3.

[34] Our result are not altered if we vary the definition of the controls for the kinship at baseline, including either a simple dummy "has any kin in the neighborhood" or the whole of set of dummies for all categories of kin. Results are available upon request.

Identification

The coefficient of interest is the one on *PrivateCard*, β_g. It represents the intention-to-treat (ITT) effect for commodity type g, of having hidden income, either by being forced to hide or by having the opportunity to hide. Its identification relies on the randomness of the opportunity to have hidden income in our experiment.

The ITT effect is expected to be low since the opportunity to hide income does not translate into hidden income for all participants. Indeed, individuals with a higher WTP to hide should be more likely to seize the opportunity offered. Therefore, we also look at the effect of income observability on resource-allocation decisions focusing on people with a preference for income privacy. We thus estimate equation (4.1) on the subsample of individuals with positive WTP to hide income.[35] The identification of the effect on this subsample relies on the exogeneity of the opportunity to get unobservable income in the lottery draw for a given preference. In other words, we posit that, conditional on a given *ex ante* stated preference, the likelihood to pick a private card is random. In Table A.3 in the Appendix, we show that the elicited preferences for hiding income are balanced between individuals who drew private and public cards.

By excluding individuals who got only 1,000 FCFA in public and nothing in private from the estimation, the possible lottery gains are 8,300, 8,700, and 9,000 FCFA. Therefore, participants have approximately the same income from the experiment, and we can analyze differences in spending patterns without worrying about wealth effects.[36] Specifically, we assume that the *shares* of the lottery gains allocated to the various commodities are not directly affected by the windfall-income-level differences

[35]Table C.1 in the Online Appendix presents the results looking at different levels of prices, 0, 200, and 700 FCFA — the prices that were on the cards in the lottery box. We see that the effect (in absolute value) of the opportunity to get hidden income on transfers to kin is globally increasing between a WTP to hide at 0 and at 700 FCFA, though the coefficient decreases slightly between 0 and 200 FCFA. However, globally the different coefficients are not statistically different from each other. We observe a similar pattern on the personal expenditures. Therefore, for the sake of simplicity, we focus on the dichotomy between negative and positive WTP to hide income in the remaining results, which also guarantees the largest samples.

[36]We do not control for the lottery windfall income as certain values — 8,300 and 8,700 FCFA — are obtained only when the WTP to hide income is positive.

— at most 700 FCFA — but are directly affected by preferences for hidden income and the random opportunity to get hidden income. We test for this assumption by restricting the analysis to the subsample of participants who randomly won exactly 9,000 FCFA, and we find that results remain unchanged.[37]

Outcome variables: lottery-gains allocation choices

We rely here on the response given to the open question raised at the end of the follow-up survey about how participants used the money gained during the lottery.[38]

Transfers are defined as money given by the lottery winner to another individual. Moreover, results of Section 3.3 lead us to investigating differences in transfers targeted to kin — within and outside the household — and to non-kin. Therefore, we separate transfers made to kin and non-kin; in some tables, we refine this definition and explore the differences between transfers to kin within and outside the household.

Besides transfers, we define seven types of commodities. *Private goods* encompass personal expenses that exclusively concern the lottery winner, such as personal care or clothes. *Health expenditures* account for all health expenditures made by the individual — both for himself/herself and for someone else. We also consider expenditures that benefit part or all of the household, distinguishing between *food expenses* (contribution to the usual food pot or purchase of some extras, e.g., candies, fruits, juices) and *non-*

[37] All of these individuals earned 9,000 FCFA, but some were randomly awarded 8,000 FCFA in private while others were not, all regardless of their *ex ante* stated preferences. Hence, the comparison of these two groups is not affected by the issue raised above, and the difference will capture only the effect of opportunity to have hidden income. Table C.2 in the Online Appendix presents the results, which closely mirror those found in Table 3, in both sign and magnitude. We find that the opportunity to have hidden income decreases by 5.2 percentage points, with a p-value of 0.12 the share of the gains devoted to transfers to kin for individuals with a positive WTP to hide income in Panel B (the coefficient is –6.45 and significant at the 5% level in Table 3).

[38] An inherent limitation of our experiment is the nature of the windfall gains, as opposed to effort-based income. True, a number of experimental studies have shown that people are less generous in dictator games when they first need to earn their income, rather than when they receive a windfall payment (among others, Hoffman et al., 1994; Cherry et al., 2002; Cappelen et al., 2013). An important answer to this concern is that, in this paper, we are not so much interested in the *level* of redistribution but rather in the *difference* in the level of redistribution between private and public gain earners. Therefore, under the assumption that the pure windfall income effect is the same for private and public gains, the fact that gains are not earned should not bias our results.

food expenses (e.g., electricity bill and detergent). *Productive investment* accounts for any purchase made for an economic activity, be it for direct resale or as an input for any income-earning activity; for instance, for women it will often concern inputs they need for some homemade preparations that they will sell on the street or in the market. Finally, *saved gains* correspond to gains that are not used yet, and *other expenses* are those that we were not able to categorize.

4.2. Main results

Tables 2 and 3 present the main results of the impact of income hiding on transfers and resource-allocation choices for all participants. In Panel A of both tables, we show the results of model (4.1) estimating on the whole sample, the ITT effect of having drawn a *private card*, namely a card giving the opportunity to have hidden income. In Panel B, we estimate the same model, restricting it to the subsample of individuals with positive WTP to hide. Lastly, in Panel C we present the unconditional means for individuals with *public cards*, and with public cards and a positive WTP to hide income.

4.2.1. Transfers

The central finding of our paper is the effect of the opportunity to have unobservable income on transfers, as shown in Table 2.[39] A first observation is the large share of the gains spent on transfers (Panel C): on average, individuals who received the lottery money in public spent one-quarter of it on transfers, 21% being specifically intended for kin. In Panel A, we consider all individuals and find a negative but not significant effect on the share transferred to kin (Column 2). However, distinguishing between transfers within the household and transfers to kin outside the household, we find that the opportunity to have hidden gains decreases by 2 percentage points the share of transfers to kin outside the household, accounting for 45% less spent on transfers to other kin relative to public card winners.

[39]The table is based on the estimation of the system of equation for all different commodity shares. Columns (1) and (2) correspond, respectively, to Columns (6) and (5) in Table 3 and Columns (3) and (4) correspond to Columns (5) and (6) in Table C.3 in the Online Appendix, in which the distinction is made between transfers within the household and transfers to other kin.

Table 2: Effect of the opportunity to have hidden lottery gains on transfers
Sample: all individuals

Share of gains devoted to	Non-kin	Kin		
Transfers sent to:		All	HH members	Other kin
	(1)	(2)	(3)	(4)
Panel A (N=654): All				
Card with opportunity to hide	0.454	−2.749	−0.183	−2.144
	(1.397)	(2.274)	(2.026)	(1.158)
	[0.745]	[0.227]	[0.928]	[0.064]
R^2	0.04	0.10	0.13	0.06
Chi-2 (p-value)	0.51	0.00	0.00	0.12
Panel B (N=433): subsample with WTP to hide$^{\dagger} \geq 0$				
Card with opportunity to hide	2.639	−6.442	−2.309	−3.136
	(1.804)	(2.802)	(2.459)	(1.572)
	[0.143]	[0.021]	[0.348]	[0.046]
R^2	0.07	0.13	0.15	0.09
Chi-2 (p-value)	0.30	0.00	0.00	0.04
Panel C: Unconditional means				
Public cards (N=164)	4.129	20.903	15.483	4.743
Public cards & WTP >=0 (N=104)	2.933	24.854	17.856	5.93

Standard errors are in parentheses; pvalue are in brackets. Panels A and B: System of linear equations estimated with a SUR model.
† WTP to hide = Willingness to pay to hide (as measured in the lab experiment).
Dependent variables: Share of lottery gains allocated to the various commodities. One column per commodity.
In all panels, individuals who drew the card 1000 FCFA in public are excluded. Panel A: whole sample. Panel B: individuals with positive WTP to hide income. Panel C: unconditional means.
Control variables common in all colums: sex, age, minimum number of kin in the neighborhood (counting the number of types of kin ties for which at least one kin lives in the neighborhood in the baseline), selected with another household member (baseline), number of kin present in the lab session (excluding household pair), household head, spouse of household head, religion, ethnicity, any Koranic education, any French or Arabic education, marital status, household size, share of household members below 15 and above 60 years old, sector of activity, formal or informal salaried worker (i.e., not self-employed), average income over previous three months (in log), contributes to household food expenditures, household food expenditures per day per capita (in log). *Additional control variables* in Column (4): holds a responsibility in the community. *Community and time-of-session fixed effects* included in all panels and for all outcomes.

In Panel B, we focus on people willing to hide. Notably, public card winners with preference for income privacy spend on average 4 percentage points more of their gains on transfers to kin than public card winners in general (24.9% versus 20.9% in Panel C): this indicates that people who were willing to hide but who received their gains in

public seem to face a higher redistributive pressure. We find that the opportunity to get hidden gains decreases by 26% this share devoted to transfers to kin for individuals who prefer income privacy. Indeed, we estimate a large decrease (6.4 percentage points) of total gains dedicated to transfers to kin, significant at the 5% level, for individuals with a positive WTP to hide. This accounts for a decrease of 580 FCFA for private card winners relative to the 2240 FCFA spent on transfers to kin by public card winners. As in Panel A, we find that this is mainly driven by a decrease in transfers to other kin — –3.1 percentage points significant at the 5% level — which represents a share lowered by 53% for private card winners relative to public card winners. We also observe a negative effect on transfers to household members with a coefficient of – 2.3, but this is not statistically significant.[40]

We can draw four main observations from these results. First, the WTP to hide income accurately captures the willingness to avoid redistributive pressure, since the individuals who are willing to pay to hide are also the ones who decrease transfers when they have hidden income. Second, we find a large effect of income privacy on transfers, suggesting that people face strong redistribution pressure that constraints their resource-allocation choices. Third, we find the same pattern as in the first step of our analysis, namely that people fear the pressure to redistribute from kin outside the household more than from within. Notably, transfers to non-kin are not affected by the opportunity to have hidden income and they represent a share more than five times lower. Fourth, even among individuals willing to hide and able to hide, we do not observe that they stop transferring totally; in fact they still transfer 18% of their gains, about 1,600 FCFA. This suggests that the social obligations to redistribute which people try to circumvent and for which they are ready to pay a high price concern a quarter of

[40]Table A.7 in Appendix D shows the results for the subsample of people who were not willing to hide (Panel C) and for the whole sample, looking at the interaction between being willing to hide and having the opportunity to receive hidden income (Panel D). We find that no significant result for the subsample with a negative WTP to hide; if anything the coefficient for transfers to kin is positive. This shows that people who were not willing to hide do not fear redistributive pressure — quite the opposite: they transferred more when they got their income in private. A possible interpretation is that they wanted to make salient that they are not hiding. In Panel D of this table, we observe that the two results in Panels B and C on transfers to kin are statistically different.

the value of transfers (26%). The fact that the transfers made by people willing and able to hide exceed by 600 FCFA the observed 1,000-FCFA gains suggests that people perform certain transfers out of pure altruism, or alternatively, as part of repetitive risk-sharing arrangements.

4.2.2. Private goods and other outcomes

Table 3 presents the complete results with all commodity shares.[41] Looking first at the unconditional means in Panel C, we observe that the share devoted to the family, namely household food and nonfood expenditures and transfers to kin, accounts for almost 60% of the gains for people with public cards (i.e., 5,310 out of 9,000 FCFA). Transfers to non-kin are marginal in comparison (4%). Hence, resources clearly appear to be redistributed within one's kinship networks and only marginally beyond. Private goods, or in other words personal expenditures, account for around one-tenth of the gains, while productive investment account for 17%.

Looking at Panel A, the whole sample, we find that the share devoted to private goods (Column 1) is 3.8 percentage points larger for participants who got the opportunity to receive hidden income, relative to public gain winners. For participants willing to hide (Panel B), it represents even a 4.9 increase significant at the 10% level, accounting for an increase of 45% in the share of private goods relative to public gain winners. We also find evidence of an effect of the opportunity to hold unobservable income for the individuals willing to hide on health expenditures.[42] Health expenses are 1.7 times larger when they can hide their lottery gains than when they get everything in public.

[41] Table C.4 in the Appendix shows the same results with only community and session fixed effects and no controls. The results do not change significantly.

[42] The Chi-2 test has a p-value of 0.28, which is far from any standard level of significance. However, the share devoted to health is small — 1.8% in the reference group — meaning that we may lack power to properly estimate this effect.

Table 3: Effect of the opportunity to hide lottery gains on allocation choices
Sample: all individuals

Dependent variables:	Private	Health	Household		Transfers to		Productive	Saved gains
Commodity shares	Goods	Care	Food	Nonfood	Kin	Non-kin	Investment	& Other
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Panel A (N=654): Whole sample								
Card with opportunity to hide	3.835	1.348	−0.703	−1.463	−2.749	0.454	−1.806	1.004
	(2.099)	(1.325)	(3.028)	(2.157)	(2.274)	(1.397)	(2.719)	(1.827)
	[0.068]	[0.309]	[0.816]	[0.498]	[0.227]	[0.745]	[0.506]	[0.582]
R^2	0.11	0.05	0.12	0.06	0.10	0.04	0.10	0.04
Chi-2 (p-value)	0.00	0.32	0.00	0.04	0.00	0.51	0.00	0.48
Panel B (N=433): WTP to hide† ≥ 0								
Card with opportunity to hide	4.913	3.120	1.375	−3.408	−6.442	2.639	−2.824	0.913
	(2.703)	(1.571)	(3.643)	(2.609)	(2.802)	(1.804)	(3.392)	(2.282)
	[0.069]	[0.047]	[0.706]	[0.191]	[0.021]	[0.143]	[0.405]	[0.689]
R^2	0.12	0.07	0.17	0.07	0.13	0.07	0.13	0.08
Chi-2 (p-value)	0.00	0.28	0.00	0.35	0.00	0.30	0.00	0.14
Panel C: Unconditional means								
Public cards (N=164)	10.952	2.724	26.589	11.607	20.903	4.129	17.388	6.047
Public cards & WTP >=0 (N=104)	11.111	1.784	24.188	12.16	24.854	2.933	17.361	5.823

Standard errors are in parentheses; pvalue are in brackets. Panels A and B: System of linear equations estimated with a SUR model.
† WTP to hide = Willingness to pay to hide (as measured in the lab experiment).
Dependent variables: Share of lottery gains allocated to the various commodities. One column per commodity. *Samples:* in all panels, individuals who drew the card 1000 FCFA in public are excluded. Panel A: whole sample. Panel B: sample with positive WTP to hide income. *Control variables common in all colums:* sex, age, minimum number of kin in the neighborhood (counting the number of types of kin ties for which at least one kin lives in the neighborhood in the baseline), selected with another household member (baseline), number of kin present in the lab session (excluding household pair), household head, spouse of household head, religion, ethnicity, any Koranic education, any French or Arabic education, marital status, household size, share of household members below 15 and above 60 years old, sector of activity, formal or informal salaried worker (i.e., not self-employed), average income over previous three months (in log), contributes to household food expenditures, household food expenditures per day per capita (in log). *Additional control variables* in column (2): suffers from an illness in baseline, amount of healthcare expenditures spent in the seven days before the baseline (in log). Column (6): holds a responsibility in the community. *Community and time-of-session fixed effects* included in all panels and for all outcomes.

In brief, the key result is that exogenously allowing people to hide their gains considerably decreases the share they dedicate to transfers to kin, notably to kin outside the household. This decrease in transfers allows individuals to free up some resources for private expenditures, potentially on health. The result on transfers concerns mainly participants who show *ex ante* preferences toward income privacy, meaning individuals more subject to redistributive pressure. While the literature has focused more on investment as an outcome (e.g., Jakiela and Ozier, 2015), we find that people turn first to expenditures with more immediate private returns when they are able to decrease redistributive pressure.

5. Discussion

The results presented so far are interpreted as the causal estimation of distortions due to income observability on resource allocations. We discuss in turn alternative mechanisms, showing that they are not driving our results, and we explore heterogenenous effects along gender and wealth dimensions.[43]

5.1. Testing the fungibility of the gains with other income sources

We conduct an additional test: are the lottery gains and other income earned by the participants fungible? Lottery gains are said not to be fungible in our context if an increase in the expenditures of an item using lottery gains is offset by a decrease in the expenses for this item using the other income sources. In presence of such substitution in the use of the two types of earnings, our previous results would hide general equilibrium effects that would cancel out our estimated effects.

To defang this threat, we rely on our postlab survey, in which we asked not only for the labor income earned during the past seven days but also the amounts of the five largest

[43] An additional competing story might be an aversion to public attention: whether fear or distaste of being publicly exposed, regardless of their income from the experiment. We think that our experiment does not suffer from this. Indeed, an important feature of our experiment is that everybody was publicly exposed in the lab, and this was public information since the beginning of the session. Each participant was named and given at least 1,000 FCFA in public even when they received some gains in private.

Table 4: Testing the fungibility of the gains: effect of the opportunity to hide on the share of total income devoted to transfers
Sample: all individuals

Commodity shares	*Nontransfer consumption*	*Transfers to kin*	*Transfers to non-kin*
Panel A (N=667): Whole sample			
Card with opportunity to hide	3.924	−4.297	0.240
	(2.156)	(1.931)	(1.025)
	[0.069]	[0.026]	[0.815]
R^2	0.07	0.09	0.04
Chi-2 (p-value)	0.00	0.00	0.47
Panel B (N=438): WTP to hide$^{\dagger} \geq 0$			
Card with opportunity to hide	4.124	−5.902	1.997
	(2.594)	(2.288)	(1.327)
	[0.112]	[0.010]	[0.132]
R^2	0.07	0.09	0.06
Chi-2 (p-value)	0.21	0.01	0.62
Panel C: Unconditional means			
Public cards (N=164)	78.705	17.516	4.033
Public cards & WTP >=0 (N=104)	78.923	17.803	3.274

Standard errors are in parentheses; pvalue are in brackets. Panels A and B: System of linear equations estimated with a SUR model.
Dependent variables: Share of total postlab income — labor income, received transfers, and lottery gains — allocated to the various commodities. One column per commodity. *Sample:* in all panels, individuals who drew the card 1000 FCFA in public are excluded. Panel A: whole sample, Panel B: sample with positive WTP to hide income. *Control variables:* see Table 3 for the full list of regressors. *Community and time-of-session fixed effects* included in all panels and for all outcomes.

transfers received and sent during this timeframe.[44] We compute the total earnings received over the past seven days by summing the declared labor income, the received transfers, and the lottery gains.[45] We thus compare our main results on the effect of the opportunity to have hidden income on the share of lottery gains allocated to transfers to kin and non-kin in Table 3, with the results on the share of total earnings on the same types of transfers in Table 4.[46] If the lottery gains are fully fungible, we should find

[44]These questions were asked at the beginning of the questionnaire, with no reference to the lottery gains. The questions about the use of the lottery gains were asked only at the very end of the survey.

[45]For individuals who did not perceive their income in the past seven days (e.g., monthly earned income), we compute it from the baseline survey.

[46]We have the information about only the amounts of the five most important transfers made during those seven days and not about other types of expenditures. Since our main results focus on transfers, we think that this comparison provides a convincing test for the fungibility issue.

close results between these two tables. In the opposite scenario, under nonfungibility of the gains, we should find no effect or an effect of the opposite sign, driven by the compensation mechanism highlighted above.

We find comparable effects of the opportunity to have hidden income: this opportunity decreases the resources allocated to transfers to kin in both cases. The magnitude is even remarkably similar for participants with a positive WTP to hide (Panel B): drawing the card allowing the participant to have hidden income decreases the share allocated to transfers to kin by –5.9 percentage points here in Table 4, versus by –6.44 percentage points in the main Table 3. Results in transfers to non-kin are also close in magnitude but are not significant. Moreover, the shares allocated to transfers (Panel C) are very similar between the two tables.

This test has strong implications: it suggests that the difference in allocation choices of public and private resource is not affected by the nature of the windfall nature of the gains, since the same pattern is observed for total income.

5.2. Labor and income received in the week after the experiment

Another possible channel is whether receiving the gains in private or in public induced different responses in the labor supply and in the income received in the week after the experiment. The windfall nature of the gains and the possibility to hide could imply adverse effects on the labor supply in the following week. We investigate this question in Table C.5 in the Online Appendix. We look at whether the individual worked or not during the seven days after the experiment — with both OLS and logit specifications — and how much he or she earned — with both OLS and tobit regressions. We find no effect on either in the labor supply or the income earned for both Panel A, the whole sample, and Panel B, the subsample of people willing to hide.

5.3. Gender analysis

Our results relative to the WTP indicate that preferences for income privacy differ along the gender dimension. Here, we explore gender specificities in how men and women

allocate their resources when given the opportunity to have hidden income. Also, we focus on the distinction between transfers made to individuals within the household and transfers made to kin in the community, since previous results so far show that people seem to fear more pressure from kin outside the household than within the household.

We explore the heterogeneity by gender in Table C.6 in the Online Appendix by interacting the variable "Card with opportunity to hide" with being a female. There are two main takeaways from this table: one concerns the differential effect across gender on transfers, and the second concerns the effect on investment. Regarding the first outcome, we find that on one hand, men increase their transfers to other kin more than women do when they cannot evade the family tax, but on the other hand, they also decrease transfers more than women when they can hide — the difference being significant at 10%. The second interesting result is in the difference in investment decisions across gender. Women increase the share of their gains they devote to investment drastically more when they are not able to hide, relative to men. Moreover, women when they got the opportunity to have hidden income decrease their investment more than men. This strongly suggests that women use investment decision as a way to avoid redistributive pressure when they do not have the possibility to hide, and that this strategy is not salient for men.

5.4. Wealth heterogeneity among women

Finally, to identify whether vulnerable people react differently when facing redistributive pressure, we explore the impact of hiding, distinguishing between women below and above the median of household consumption in Table C.7 in the Online Appendix.[47]

We find that the transfer behaviors strongly depend on whether women are living in a poorer or richer household. Women of households below median daily food consumption transfer less to their kin living outside the household when they can hide their

[47]The smaller size of the sample of men does not allow us to conduct this analysis on men.

resources, while women in richer households do not react to the treatment. Finally, we observe that the decrease in the investment share when having the possibility to hide is significant only for poorer women, while the coefficient for richer women is also large but not significant.

Hence, we see that the poorer women are more responsive to the strategy to hide income: they try to escape the pressure to redistribute from kin living in the community so as to spend more on themselves and their households. Alternatively, when not offered the opportunity to have hidden income, women from both poorer and richer households invest a larger share of their income, suggestive of an alternative strategy to avoid redistributive pressure.

6. Conclusion

This paper contributes to the growing but still scarce literature on the potential costs of informal redistribution in developing economies and sheds light on the possible causes of poverty traps in sub-Saharan Africa. We rely on data from an original experiment we conducted in urban Senegal that enables us to evaluate demand for income privacy and to estimate the consequences of informal redistribution on resource-allocation decisions. While the first measure is obtained in a lab setting, the second exploits the random allocation of private income and relies on data collected a week after the lab on how lab participants used their lottery gains. First, we find that two-thirds of the experiment participants were willing to escape from redistributive pressure, and we estimate a social tax of around 9%. Interestingly, we exogenously varied the presence of household members and kin, and we find that redistributive pressure essentially comes from the extended family, especially from kin living in the community, rather than from household members.

Second, we show that people who got the opportunity to have hidden gains reduce by one-fourth the share of income they transfer to kin outside their household. Symmetrically, they increase personal and health expenditures. Another important result is that women in the poorest households are willing to pay more to hide income and further de-

crease their transfers when they were able to hide relative to richer women. Moreover, when given the opportunity to have hidden income, women in the poorest households drastically decrease their share devoted to the purchase of productive assets. This suggests that for these women investing in small inputs represents an alternative strategy for gaining more control over their resources.

These results show the important distortions induced by kinship taxation and point to the importance of designing adequate financial products such as savings or insurance, especially when they would protect individuals' secrecy from other kin members and offer more control over their resources. This is all the more important since the population at stake is the most vulnerable group: poor women. Further research is needed to capture the general-equilibrium effects, taking into account both the benefits of social redistribution in terms of risk-sharing and the distortionary costs of redistributive pressure we have identified here. Understanding the linkages between formal and informal institutions would help to assess the effects of introducing a large-scale insurance scheme in economies with predominantly family-provided insurance.

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7. Appendix

Table A.1: Elicitation of preference for income unobservability: "option cards"

	Option A				**Option B**		
	Public	Private	Total	p	Public	Private	Total
Choice 1	9000	0	9000	0	1000	8000	9000
Choice 2	9000	0	9000	200	1000	7800	8800
Choice 3	9000	0	9000	500	1000	7500	8500
Choice 4	9000	0	9000	700	1000	7300	8300
Choice 5	9000	0	9000	1000	1000	7000	8000

Table A.2: Cards in the ballot box and their associated payoffs

Type of cards	Cards	Option	Public gain	Private gain	Total
Option cards	$Private_{p200,O}$	A: Public	9000	0	9000
		B: Private	1000	7800	8800
	$Private_{p700,O}$	A: Public	9000	0	9000
		B: Private	1000	7300	8300
No-option cards	$Private_{free,NO}$	-	1000	8000	9000
	$LowPublic_{NO}$	-	1000	0	1000
	$HighPublic_{NO}$	-	9000	0	9000

All gains are given in FCFA. 1000 FCFA $\approx$ 1.5 EUR.
"*O*" stands for option card (i.e., based on the choices made *ex ante*) and "*NO*" stands for no-option card (i.e., not based on the choices made *ex ante*).
A *Private* card gives the *opportunity* to have hidden income, either because the participant drew an option card and was willing to pay the corresponding price to hide $p200$ or $p700$ (200 and 700 FCFA, respectively) or she drew the *1000 public-8000 private* card which is $free$ and independent of the previous choices. A *Public* card gives all the gains in public.
Low refers to small gains, 1000 FCFA. $High$ refers to high gains, 9000 FCFA. All $Private$ cards are high gains.

Table A.3: Full lottery sample, *Private* and *Public* lottery card subsamples

	Full sample		Private card		Public card		Diff.
	N	Mean	N	Mean	N	Mean	P-val.
	(0)		(1)		(2)		(1)-(2)
Preferences for hidden income							
Positive WTP	814	0.65	536	0.66	278	0.62	0.18
Experimental variations							
Selected with another household member	814	0.65	536	0.67	278	0.63	0.27
# kin in the same session	814	0.12	536	0.12	278	0.12	0.80
# friends in the same session	810	0.11	532	0.09	278	0.13	0.16
# neighbors in the same session	810	2.40	532	2.40	278	2.40	0.97
Min # kin in the neighborhood	814	0.53	536	0.50	278	0.57	0.22
Any kin living in the neighborhood	814	0.39	536	0.38	278	0.42	0.24
Any sibling/nephew in the neighborhood	814	0.10	536	0.09	278	0.13	0.04
Any aunt/uncle in the neighborhood	814	0.15	536	0.15	278	0.14	0.73
Any cousin in the neighborhood	814	0.11	536	0.10	278	0.13	0.29
Any parent in the neighborhood	814	0.06	536	0.06	278	0.06	0.93
Any offspring in the neighborhood	814	0.06	536	0.06	278	0.06	0.93
Any other kin in the neighborhood	814	0.04	536	0.04	278	0.05	0.80
Individual sociodemographic characteristics							
Male	814	0.04	536	0.04	278	0.05	0.80
Age	814	37.38	536	37.71	278	36.74	0.25
Muslim	814	0.96	536	0.97	278	0.94	0.11
Wolof	814	0.46	536	0.48	278	0.41	0.06
No education	814	0.23	536	0.23	278	0.21	0.50
Koranic School	814	0.36	536	0.36	278	0.36	0.91
French/Arabic education	814	0.61	536	0.59	278	0.65	0.12
In a monogamous union	814	0.48	536	0.44	278	0.56	0.00
In a polygamous union	814	0.18	536	0.18	278	0.17	0.50
Single	814	0.23	536	0.26	278	0.19	0.05
Other marital status	814	0.10	536	0.12	278	0.07	0.02
Individual economic characteristics							
Informal sector	814	0.86	536	0.85	278	0.87	0.45
Monthly earnings (in log)	808	6.58	530	6.51	278	6.70	0.65
Contributes to household's food expenses	809	0.41	533	0.43	276	0.38	0.21
Individual position in the household							
Household head	813	0.19	535	0.21	278	0.17	0.21
Spouse of household head	813	0.25	535	0.24	278	0.25	0.92
Son or daughter of household head	813	0.29	535	0.28	278	0.29	0.91
Individual position in the community and extended family							
Has always lived in the community	814	0.35	536	0.37	278	0.32	0.22
Has a responsibility in the community	814	0.09	536	0.10	278	0.07	0.09
Can rely on someone in household	814	0.65	536	0.64	278	0.67	0.30
Can rely on someone in neighborhood	814	0.14	536	0.15	278	0.14	0.95
Can rely on someone outside neighborhood	814	0.49	536	0.47	278	0.51	0.32
Anyone in household can rely on him/her	814	0.63	536	0.64	278	0.61	0.40
Anyone in neighborhood can rely on him/her	814	0.21	536	0.21	278	0.23	0.41
Anyone outside neighborhood can rely on him/her	814	0.34	536	0.35	278	0.34	0.80
Household characteristics							
Household size	813	11.76	536	11.88	277	11.54	0.47
Share of dependent household members (%)	813	41.19	536	40.97	277	41.61	0.62
Household daily food consumption p.c. (log)	810	6.09	535	6.09	275	6.11	0.56
House is rented	814	0.33	536	0.35	278	0.29	0.13

Table A.4: Distribution of cards in the lottery

	Public cards		Private cards			Total
	$LowPublic_{NO}$	$HighPublic_{NO}$	$Private_{free,NO}$	$Private_{p200,O}$	$Private_{p700,O}$	
Option cards (O)	No	No	No	Yes	Yes	
Draws from lotery:						
Frequency	107	171	161	189	186	814
Percentage	13.1%	21.0%	19.8 %	23.2%	22.9%	100%

NO stands for "no-option" cards, *O* stands for "option" cards.

The sample considered includes the 26 observations that presented incoherent choices in the preference elicitation phase.

Table A.5: Distribution of gains for option cards

		Choice made at given price		
Card	Price	Option A (All public)	Option B (Partly private)	Total
$Private_{p200,O}$	200 FCFA			
Frequency		80	109	189
Percentage*		42.3%	57.7%	100%
$Private_{p700,O}$	700 FCFA			
Frequency		94	92	186
Percentage*		50.5%	49.5%	100%

* It corresponds to the percentage of individuals having chosen option A (respectively B) for a given card and at the corresponding price level. The difference between the takeups for price=200 and p=700 is not significantly different from zero at the 5% level (the p-value is equal to 0.11).

O stands for "option" cards.

The sample considered includes the 26 observations that presented incoherent choices in the preference elicitation phase.

Table A.6: Measures of the willingness-to-pay (WTP) to hide income

	Whole sample			Sample with WTP $\geq$ 0		
	All players (1)	Women (2)	Men (3)	All players (4)	Women (5)	Men (6)
Number of observations	788	534	254	512	345	167
Mean (in FCFA)	523	508	555	805	786	844
Median (in FCFA)	600	500	1000	1000	1000	1000
Std. Dev.	476	476	478	350	362	320

1000 FCFA $\simeq$ 1.5 EUR $\simeq$ 1.7 USD

Taking a conservative approach, the WTP statistics are computed at the lower bound of the WTP interval. For example if a participant is ready to pay 200 FCFA but not 500 FCFA, her maximum WTP is registered as being equal to 200 FCFA. For individuals with a negative WTP, the value is fixed at 0.

The difference of the average WTP between men and women is not significant at the 5% level in the whole sample, but is significant at the 10% level in the sample with WTP $\geq$ 0.

Table A.7: Effect of the opportunity to hide lottery gains on allocation choices
Sample: all individuals

Dependent variables:	Private	Health	Household		**Transfers to**		Productive	Saved gains
Commodity shares	Goods	Care	Food	Non-food	Kin	Non-kin	Investment	& Other
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Panel A (N=654): Whole sample								
Card with opportunity to hide	3.835	1.348	−0.703	−1.463	−2.749	0.454	−1.806	1.004
	(2.099)	(1.325)	(3.028)	(2.157)	(2.274)	(1.397)	(2.719)	(1.827)
	[0.068]	[0.309]	[0.816]	[0.498]	[0.227]	[0.745]	[0.506]	[0.582]
R^2	0.11	0.05	0.12	0.06	0.10	0.04	0.10	0.04
Chi-2 (p-value)	0.00	0.32	0.00	0.04	0.00	0.51	0.00	0.48
Panel B (N=433): WTP to hide$^{\dagger} \geq 0$								
Card with opportunity to hide	4.913	3.120	1.375	−3.408	−6.442	2.639	−2.824	0.913
	(2.703)	(1.571)	(3.643)	(2.609)	(2.802)	(1.804)	(3.392)	(2.282)
	[0.069]	[0.047]	[0.706]	[0.191]	[0.021]	[0.143]	[0.405]	[0.689]
R^2	0.12	0.07	0.17	0.07	0.13	0.07	0.13	0.08
Chi-2 (p-value)	0.00	0.28	0.00	0.35	0.00	0.30	0.00	0.14
Panel C (N=221): WTP to hide$^{\dagger} < 0$								
Card with opportunity to hide	1.681	−0.987	−3.537	0.890	4.939	−3.477	1.569	−1.785
	(3.471)	(2.555)	(5.631)	(3.999)	(3.981)	(2.247)	(4.727)	(3.198)
	[0.628]	[0.699]	[0.530]	[0.824]	[0.215]	[0.122]	[0.740]	[0.577]
R^2	0.17	0.11	0.15	0.17	0.20	0.11	0.19	0.09
Chi-2 (p-value)	0.02	0.53	0.12	0.03	0.00	0.51	0.01	0.81
Panel D (N=654): Testing heterogeneity across WTP to hide†								
Card opportunity to hide × WTP to hide $\geq 0^{\ddagger}$	4.149	4.217	3.636	−4.140	−10.491	6.003	−3.071	0.539
	(4.462)	(2.816)	(6.441)	(4.591)	(4.825)	(2.964)	(5.788)	(3.890)
	[0.352]	[0.134]	[0.572]	[0.367]	[0.030]	[0.043]	[0.596]	[0.890]
R^2	0.11	0.05	0.12	0.06	0.10	0.05	0.10	0.04
Chi-2 (p-value)	0.00	0.31	0.00	0.05	0.00	0.37	0.00	0.58
Panel E: Unconditional means								
Public cards (N=164)	10.952	2.724	26.589	11.607	20.903	4.129	17.388	6.047
Public cards & WTP >=0 (N=104)	11.111	1.784	24.188	12.16	24.854	2.933	17.361	5.823

Standard errors are in parentheses; pvalue are in brackets. Panels A, B, C and D: System of linear equations estimated with a SUR model.
† WTP to hide = Willingness to pay to hide (as measured in the lab experiment).
‡ Panel D controls for main effects: WTP to hide and card with opportunity to hide lottery gains. The significant interaction term for transfers to kin is identified on the reference group of 29 individuals who did not get the card with the opportunity to hide, were not willing to hide *and* did send transfers to kin.
Dependent variables: Share of lottery gains allocated to the various commodities. One column per commodity.
Samples: in all panels, individuals who drew the card 1000 FCFA in public are excluded. Panel A and D: whole sample. Panel B (respectively C): sample with positive (respectively negative) WTP to hide income.
Control variables common in all colums in Panels A to D: sex, age, minimum number of kin in the neighborhood (counting the number of types of kin ties for which at least one kin lives in the neighborhood in the baseline), selected with another household member (baseline), number of kin present in the lab session (excluding household pair), household head, spouse of household head, religion, ethnicity, any Koranic education, any French or Arabic education, marital status, household size, share of household members below 15 and above 60 years old, sector of activity, formal or informal salaried worker (i.e., not self-employed), average income over previous three months (in log), contributes to household food expenditures, household food expenditures per day per capita (in log).
Additional control variables in column (2): suffers from an illness in baseline, amount of health care expenditures spent in the seven days before the baseline (in log). Column (6): holds a responsibility in the community.
Community and time-of-sessions fixed effects included in all panels and for all outcomes.

8. Online Appendix

8.1. Protocol

8.1.1. Attrition between the prelab interview and the lab phase

Table B.1 describes the attrition between the baseline and the lottery sample. The attrition rate is 11.5%. Individuals who did not come to the lottery lived in smaller and richer households (in terms of daily food expenditure), with a relatively larger share of working-age members. They were more likely to be single men who were not selected with another member of the household.[48] They were more educated and more likely to work in the formal sector. We account for these differences throughout the rest of the analysis.

8.1.2. Attrition between the lab phase and postlab interview

Attrition between the lab phase and the postlab survey was very low: only 26 individuals were lost, representing 3.2% of the lottery sample. The main reason (16 observations) is that those people were traveling out of the Dakar region the week after the lab phase and not reachable for a face-to-face interview. Table B.2 compares the characteristics of the attrited participants (column 2) and the nonattrited ones (column 3). The two groups are similar.[49]

[48]Part of this attrition among pairs comes from the fact that no delay or report to the next session was tolerated for paired individuals in order to be sure to have the two paired individuals attending the same session.

[49]Participants who earned only 1,000 FCFA publicly were, however, less likely to be reinterviewed. This is not worrisome to our study since as mentioned above, this group mainly served in the lab phase to protect people choosing to keep a share of their income unobservable from being identified as doing so by other participants.

Figure B.1: Schema of the experiment in four steps

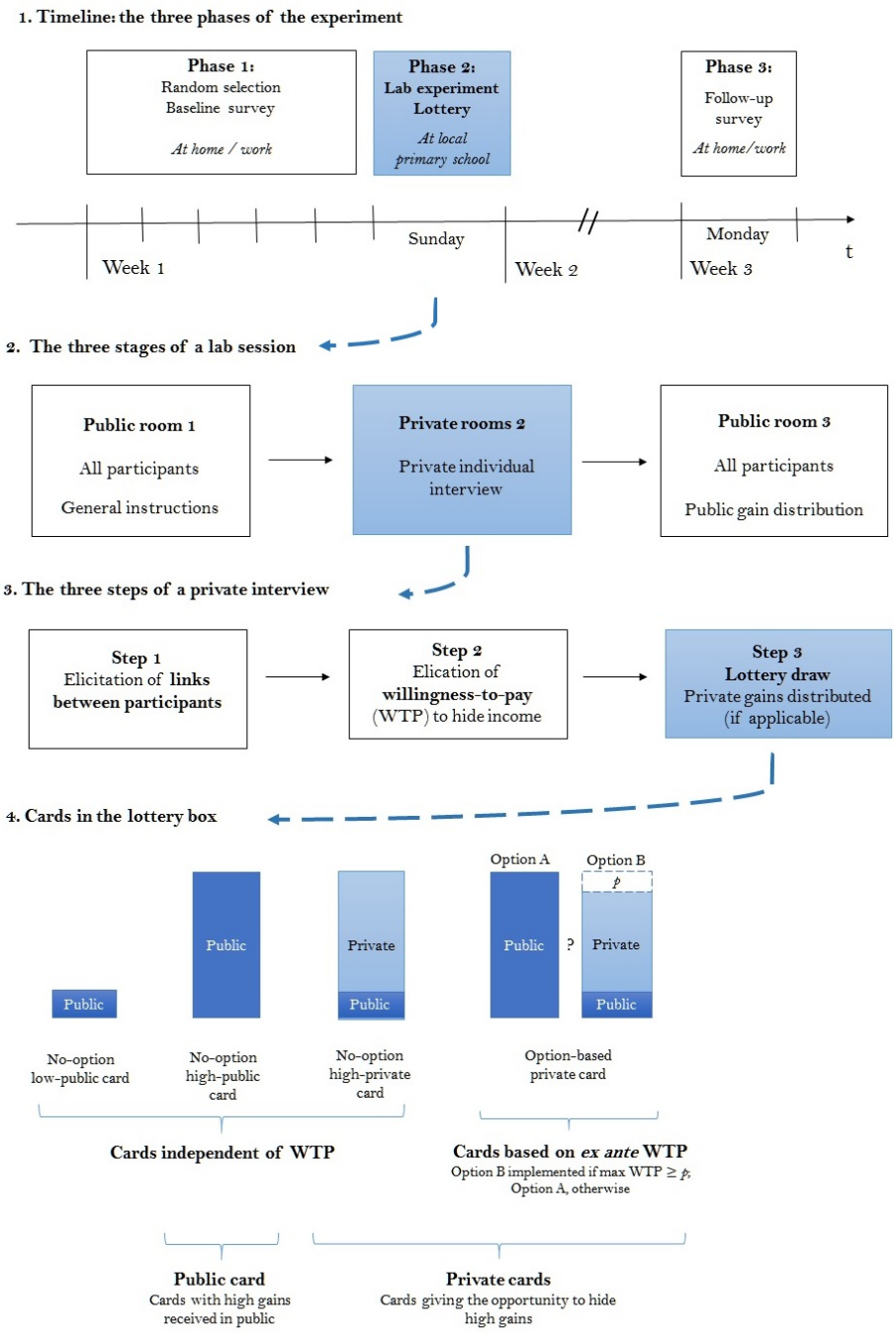

Table B.1: Attrition between baseline and lab phase

Samples	Baseline		Lab		Attrited		Diff.
	N	Mean	N	Mean	N	Mean	P-values
	(1a)	(1b)	(2a)	(2b)	(3a)	(3b)	(2)-(3)
Experimental variations							
Selected with another household member	920	0.64	814	0.65	106	0.55	0.03
Min # kin in the neighborhood	920	0.53	814	0.53	106	0.55	0.80
Any kin living in the neighborhood	920	0.39	814	0.39	106	0.37	0.67
Any parent in the neighborhood	920	0.06	814	0.06	106	0.05	0.69
Any offspring in the neighborhood	920	0.06	814	0.06	106	0.06	0.88
Any sibling/nephew in the neighborhood	920	0.10	814	0.10	106	0.11	0.75
Any aunt/uncle in the neighborhood	920	0.15	814	0.15	106	0.15	0.98
Any cousin in the neighborhood	920	0.11	814	0.11	106	0.12	0.77
Any other kin in the neighborhood	920	0.05	814	0.04	106	0.06	0.57
Individual sociodemographic characteristics							
Male	920	0.35	814	0.33	106	0.48	0.00
Age	920	37.01	814	37.38	106	34.15	0.01
Muslim	920	0.96	814	0.96	106	0.95	0.80
Wolof	920	0.46	814	0.46	106	0.48	0.67
No education	920	0.22	814	0.23	106	0.17	0.19
Koranic schooling	920	0.37	814	0.36	106	0.42	0.29
French/Arabic education	920	0.62	814	0.61	106	0.68	0.17
In a monogamous union	920	0.48	814	0.48	106	0.49	0.84
In a polygamous union	920	0.17	814	0.18	106	0.08	0.02
Single	920	0.25	814	0.23	106	0.38	0.00
Other marital status	920	0.10	814	0.10	106	0.05	0.07
Individual economic characteristics							
Informal sector	920	0.84	814	0.86	106	0.74	0.00
Monthly revenues (in log)	913	6.56	808	6.58	105	6.45	0.82
Contributes to household's food expenses	912	0.41	809	0.41	103	0.37	0.38
Individual position in the household							
Household head	919	0.19	813	0.19	106	0.18	0.73
Spouse of household head	919	0.24	813	0.25	106	0.20	0.28
Son or daughter of household head	919	0.29	813	0.29	106	0.33	0.34
Individual position in the community and extended family							
Has always lived in the community	920	0.35	814	0.35	106	0.32	0.52
Has a responsibility in the community	920	0.09	814	0.09	106	0.06	0.23
Can rely on someone in household	920	0.63	814	0.65	106	0.51	0.01
Can rely on someone in neighborhood	920	0.14	814	0.14	106	0.14	0.92
Can rely on someone out of neighborhood	920	0.48	814	0.49	106	0.44	0.40
Anyone in household can rely on him/her	920	0.63	814	0.63	106	0.66	0.51
Anyone in neighborhood can rely on him/her	920	0.22	814	0.21	106	0.25	0.34
Anyone outside neighborhood can rely on him/her	920	0.36	814	0.34	106	0.44	0.04
Household characteristics							
Household size	918	11.51	813	11.76	105	9.60	0.00
Share of dependent household members	917	40.63	813	41.19	104	36.32	0.01
Household daily food consumption p.c. (log)	914	6.11	810	6.09	104	6.28	0.00
House is rented	920	0.33	814	0.33	106	0.29	0.45

Table B.2: Attrition between lab phase and postlab interviews

Samples	Lab N (1a)	Lab Mean (1b)	Postlab N (2a)	Postlab Mean (2b)	Attrited N (3a)	Attrited Mean (3b)	Diff. P-values (2)-(3)
Experimental dimensions							
Positive WTP to hide	814	0.65	788	0.65	26	0.54	0.24
Private gain cards	814	0.66	788	0.66	26	0.54	0.19
$Public_{O,A}$	814	0.21	788	0.22	26	0.08	0.08
$Private_{O,B}$	814	0.25	788	0.24	26	0.31	0.47
$HighPublic_{NO}$	814	0.21	788	0.21	26	0.19	0.82
$LowPublic_{NO}$	814	0.13	788	0.13	26	0.27	0.03
$Private_{free,NO}$	814	0.20	788	0.20	26	0.15	0.57
Selected with another household member	814	0.65	788	0.66	26	0.58	0.40
# kin in the same session	814	0.12	788	0.12	26	0.08	0.60
# friends in the same session	810	0.11	784	0.10	26	0.15	0.53
# neighbors in the same session	810	2.40	784	2.39	26	2.65	0.54
Min # kin in the neighborhood	814	0.53	788	0.53	26	0.54	0.94
Any kin living in the neighborhood	814	0.39	788	0.39	26	0.42	0.72
Any sibling/nephew in the neighborhood	814	0.10	788	0.11	26	0.04	0.27
Any aunt/uncle in the neighborhood	814	0.15	788	0.15	26	0.08	0.29
Any cousin in the neighborhood	814	0.11	788	0.11	26	0.12	0.97
Any parent in the neighborhood	814	0.06	788	0.06	26	0.08	0.65
Any offspring in the neighborhood	814	0.06	788	0.06	26	0.08	0.72
Any other kin in the neighborhood	814	0.04	788	0.04	26	0.15	0.01
Individual socio- demographic characteristics							
Male	814	0.33	788	0.32	26	0.50	0.06
Age	814	37.38	788	37.27	26	40.81	0.12
Muslim	814	0.96	788	0.96	26	0.96	0.93
Wolof	814	0.46	788	0.46	26	0.50	0.67
No education	814	0.23	788	0.23	26	0.15	0.37
Koranic schooling	814	0.36	788	0.36	26	0.54	0.06
French/Arabic education	814	0.61	788	0.61	26	0.69	0.39
In a monogamous union	814	0.48	788	0.48	26	0.46	0.85
In a polygamous union	814	0.18	788	0.18	26	0.23	0.48
Single	814	0.23	788	0.24	26	0.19	0.61
Other marital status	814	0.10	788	0.10	26	0.12	0.82
Individual economic characteristics							
Informal sector	814	0.86	788	0.86	26	0.85	0.87
Monthly revenues (in log)	808	6.58	783	6.55	25	7.37	0.46
Contributes to household's food expenses	809	0.41	783	0.41	26	0.50	0.37
Individual position in the household							
Household head	813	0.19	787	0.19	26	0.23	0.62
Spouse of household head	813	0.25	787	0.25	26	0.23	0.85
Son or daughter of household head	813	0.29	787	0.29	26	0.27	0.85
Individual position in the community and extended family							
Has always lived in the community	814	0.35	788	0.35	26	0.35	0.94
Has a responsibility in the community	814	0.09	788	0.09	26	0.12	0.68
Can rely on someone in household	814	0.65	788	0.65	26	0.54	0.23
Can rely on someone in neighborhood	814	0.14	788	0.14	26	0.19	0.49
Can rely on someone out of neighborhood	814	0.49	788	0.49	26	0.38	0.29
Anyone in household can rely on him/her	814	0.63	788	0.62	26	0.73	0.27
Anyone in neighborhood can rely on him/her	814	0.21	788	0.21	26	0.27	0.48
Anyone outside neighborhood can rely on him/her	814	0.34	788	0.34	26	0.35	0.98
Household characteristics							
Household size	813	11.76	787	11.75	26	12.12	0.77
Share of dependent household members	813	41.19	787	41.26	26	39.07	0.53
Household daily food consumption p.c. (log)	810	6.09	785	6.09	25	6.08	0.87
House is rented	814	0.33	788	0.33	26	0.38	0.54

The sample considered includes the 26 observations that presented incoherent choices in the preference elicitation phase.

8.2. *Results on the effect of hidden income*

Table C.1: Effect of the opportunity to hide for different levels of the WTP to hide
Sample: all individuals

Dependent variables:	Private	Health	Household		**Transfers to**		Productive	Saved gains
Commodity shares	Goods	Care	Food	Non-food	Kin	Non-kin	Investment	& Other
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Panel A (N=433): WTP to hide$^{\dagger} \geq 0$								
Card with opportunity to hide	4.913	3.120	1.375	–3.408	–6.442	2.639	–2.824	0.913
	(2.703)	(1.571)	(3.643)	(2.609)	(2.802)	(1.804)	(3.392)	(2.282)
	[0.069]	[0.047]	[0.706]	[0.191]	[0.021]	[0.143]	[0.405]	[0.689]
R^2	0.12	0.07	0.17	0.07	0.13	0.07	0.13	0.08
Chi-2 (p-value)	0.00	0.28	0.00	0.35	0.00	0.30	0.00	0.14
Panel B (N=389): WTP to hide$^{\dagger} \geq 200$								
Card with opportunity to hide	4.118	2.752	1.284	–4.406	–5.462	2.183	–1.543	1.155
	(2.757)	(1.536)	(3.811)	(2.705)	(2.978)	(1.769)	(3.543)	(2.446)
	[0.135]	[0.073]	[0.736]	[0.103]	[0.067]	[0.217]	[0.663]	[0.637]
R^2	0.13	0.07	0.18	0.07	0.12	0.09	0.12	0.09
Chi-2 (p-value)	0.00	0.34	0.00	0.51	0.00	0.15	0.00	0.11
Panel C (N=333): WTP to hide$^{\dagger} \geq 700$								
Card with opportunity to hide	5.205	2.628	0.301	–4.174	–7.996	1.923	–1.634	3.789
	(3.113)	(1.573)	(4.052)	(2.772)	(3.306)	(2.008)	(3.957)	(2.595)
	[0.095]	[0.095]	[0.941]	[0.132]	[0.016]	[0.338]	[0.680]	[0.144]
R^2	0.14	0.08	0.20	0.08	0.13	0.09	0.15	0.13
Chi-2 (p-value)	0.00	0.46	0.00	0.39	0.01	0.33	0.00	0.01
Panel D: Unconditional means								
Public cards (N=164)	10.952	2.724	26.589	11.607	20.903	4.129	17.388	6.047
Public cards & WTP >=0 (N=104)	11.111	1.784	24.188	12.16	24.854	2.933	17.361	5.823

Standard errors are in parentheses; pvalue are in brackets. $^{+}$ $p \leq 0.12$, * $p \leq 0.1$, ** $p \leq 0.05$, *** $p \leq 0.01$. Panels A, B, & C: System of linear equations estimated with a SUR model.
† WTP to hide = Willingness to pay to hide (as measured in the lab experiment).
dependent variables: Share of lottery gains allocated to the various commodities. One column per commodity.
Samples: in all panels, individuals who drew the card 1000 FCFA in public are excluded. Panel A and D: whole sample. Panel B (respectively C): sample with positive (respectively negative) WTP to hide income.
Control variables: see Table 3 for the full list of regressors.
Community and time-of-sessions fixed effects included in all panels and for all outcomes.

Table C.2: Testing the income effect: effect of hidden income among 9000-FCFA-gain winners
Sample of no-option cards: 9000F in public vs 1000F in public & 8000F in private

Dependent variables:	Private	Healthcare	Household		**Transfers to**		Productive	Saved gains
Commodity shares	Goods		Food	Nonfood	Kin	Non-kin	Investment	& Other
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Panel A (N=304): Whole sample								
Card with opportunity to hide	3.626	1.163	−3.422	−0.460	−1.837	1.080	−1.646	1.284
	(2.531)	(1.488)	(3.788)	(2.743)	(2.787)	(1.806)	(3.494)	(2.225)
	[0.152]	[0.435]	[0.366]	[0.867]	[0.510]	[0.550]	[0.638]	[0.564]
R^2	0.13	0.07	0.16	0.13	0.18	0.11	0.11	0.09
Chi-2 (p-value)	0.04	0.77	0.00	0.03	0.00	0.14	0.10	0.33
Panel B (N=210): WTP to hide$^{\dagger} \geq 0$								
Card with opportunity to hide	5.047	1.696	−0.729	−1.948	−5.178	3.106	−2.750	0.507
	(3.144)	(1.560)	(4.450)	(3.318)	(3.334)	(1.998)	(4.100)	(2.503)
	[0.108]	[0.277]	[0.870]	[0.557]	[0.120]	[0.120]	[0.502]	[0.840]
R^2	0.16	0.10	0.22	0.14	0.27	0.17	0.18	0.12
Chi-2 (p-value)	0.11	0.78	0.00	0.27	0.00	0.04	0.02	0.44
Panel C: Unconditional means								
Public cards (N=164)	10.952	2.724	26.589	11.607	20.903	4.129	17.388	6.047
Public cards & WTP >=0 (N=104)	11.111	1.784	24.188	12.16	24.854	2.933	17.361	5.823

Standard errors are in parentheses; pvalue are in brackets. Panels A and B: System of linear equations estimated with a SUR model.
† WTP to hide = Willingness to pay to hide (as measured in the lab experiment).
Samples: in all panels, individuals who drew the no-option card 9000 FCFA in public or the no-option card 1000 FCFA in public and 8000 FCFA in private. Panel A: whole sample. Panel B: sample with positive WTP to hide income. *Dependent variables:* Share of lottery gains allocated to the various commodities. One column per commodity. *Control variables:* see Table 3 for the full list of regressors. Community and time-of-session fixed effects included in all panels and for all outcomes.

Table C.3: Effect of the opportunity to hide lottery gains on transfers and allocation choices
Sample: all individuals

dependent variables:	Private	Healthcare	Household		**Transfers to**			Productive	Saved gains
Commodity shares	Goods		Food	Nonfood	HH members	Other kin	Non-kin	Investment	& Other
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Panel A: All individuals									
Panel A1 (N=654): All									
Card with opportunity to hide	3.835	1.378	−0.703	−1.463	−0.183	−2.144	0.427	−1.806	1.004
	(2.099)	(1.325)	(3.028)	(2.157)	(2.026)	(1.158)	(1.398)	(2.719)	(1.827)
	[0.068]	[0.299]	[0.816]	[0.498]	[0.928]	[0.064]	[0.760]	[0.506]	[0.582]
R^2	0.11	0.05	0.12	0.06	0.13	0.06	0.04	0.10	0.04
Chi-2 (p-value)	0.00	0.23	0.00	0.04	0.00	0.12	0.47	0.00	0.48
Panel A2 (N=433): sub-sample with WTP to hide$^{\dagger} \geq 0$									
Card with opportunity to hide	4.913	3.167	1.375	−3.408	−2.309	−3.136	2.622	−2.824	0.913
	(2.703)	(1.571)	(3.643)	(2.609)	(2.459)	(1.572)	(1.804)	(3.392)	(2.282)
	[0.069]	[0.044]	[0.706]	[0.191]	[0.348]	[0.046]	[0.146]	[0.405]	[0.689]
R^2	0.12	0.07	0.17	0.07	0.15	0.09	0.07	0.13	0.08
Chi-2 (p-value)	0.00	0.27	0.00	0.35	0.00	0.04	0.31	0.00	0.14
Panel A3 (N=433): Unconditional means									
Public cards (N=164)	10.952	2.724	26.589	11.607	15.483	4.743	4.129	17.388	6.047
Public cards & WTP >=0 (N=104)	11.111	1.784	24.188	12.16	17.856	5.93	2.933	17.361	5.823

Standard errors are in parentheses; pvalue are in brackets. $^{+}$ $p \leq 0.12$, * $p \leq 0.1$, ** $p \leq 0.05$, *** $p \leq 0.01$. Panels A, B, and C: System of linear equations estimated with a SUR model.
† WTP to hide = Willingness to pay to hide (as measured in the lab experiment).
Dependent variables: Share of lottery gains allocated to the various commodities. One column per commodity.
Samples: all individuals. In all panels, individuals who drew the card 1000 FCFA in public are excluded. Panels B (respectively C) correspond to individuals below or equal (respectively strictly above) to the median of household daily food consumption. Subpanels A1, B1, and C1: whole sample considered in the corresponding panel. Subpanels A2, B2, and C2: sub-sample of women with positive WTP to hide income. Subpanels A3, B3, and C3: unconditional means.
Control variables: see Table 3 for the full list of regressors. Community and time-of-sessions fixed effects included in all panels and for all outcomes.

Table C.4: Effect of the opportunity to hide lottery gains on allocation choices
Sample: all individuals — Without control variable

Dependent variables:	Private	Healthcare	Household		**Transfers to**		Productive	Saved gains
Commodity shares	Goods		Food	Nonfood	Kin	Non-kin	Investment	& Other
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Panel A (N=682): Whole sample								
Card with opportunity to hide	2.949	1.238	−0.339	−1.878	−2.268	0.803	−1.441	0.818
	(2.118)	(1.272)	(3.086)	(2.092)	(2.305)	(1.338)	(2.724)	(1.804)
	[0.164]	[0.330]	[0.912]	[0.369]	[0.325]	[0.549]	[0.597]	[0.650]
R^2	0.02	0.01	0.02	0.04	0.02	0.01	0.02	0.01
Chi-2 (p-value)	0.29	0.41	0.38	0.01	0.21	0.60	0.11	0.42
Panel B (N=448): WTP to hide$^{\dagger} \geq 0$								
Card with opportunity to hide	4.343	2.284	1.680	−3.176	−6.314	2.785	−2.122	0.602
	(2.691)	(1.511)	(3.779)	(2.501)	(2.915)	(1.730)	(3.418)	(2.199)
	[0.107]	[0.131]	[0.657]	[0.204]	[0.030]	[0.107]	[0.535]	[0.784]
R^2	0.03	0.03	0.03	0.03	0.02	0.03	0.03	0.03
Chi-2 (p-value)	0.15	0.14	0.19	0.14	0.67	0.14	0.13	0.12
Panel C (N=234): WTP to hide$^{\dagger} < 0$								
Card with opportunity to hide	1.083	−0.415	−2.646	0.384	4.346	−3.068	−1.314	1.194
	(3.415)	(2.328)	(5.341)	(3.797)	(3.724)	(2.060)	(4.474)	(3.149)
	[0.751]	[0.859]	[0.620]	[0.919]	[0.243]	[0.136]	[0.769]	[0.705]
R^2	0.03	0.01	0.03	0.06	0.08	0.02	0.06	0.02
Chi-2 (p-value)	0.79	0.98	0.74	0.13	0.04	0.84	0.12	0.86
Panel D (N=682): Testing heterogeneity across WTP to hide†								
Card opportunity to hide × WTP to hide $\geq 0^{\ddagger}$	3.881	2.858	4.468	−3.812	−11.146	5.644	−0.819	−0.515
	(4.441)	(2.668)	(6.472)	(4.387)	(4.815)	(2.800)	(5.721)	(3.788)
	[0.382]	[0.284]	[0.490]	[0.385]	[0.021]	[0.044]	[0.886]	[0.892]
R^2	0.02	0.02	0.02	0.04	0.03	0.02	0.02	0.02
Chi-2 (p-value)	0.28	0.45	0.39	0.01	0.06	0.34	0.20	0.56
Panel E: Unconditional means								
Public cards (N=164)	10.952	2.724	26.589	11.607	20.903	4.129	17.388	6.047
Public cards & WTP >=0 (N=104)	11.111	1.784	24.188	12.16	24.854	2.933	17.361	5.823

Standard errors are in parentheses; pvalue are in brackets. Panels A, B, C and D: System of linear equations estimated with a SUR model.
† WTP to hide = Willingness to pay to hide (as measured in the lab experiment).
‡ Panel D controls for main effects: WTP to hide and card with opportunity to hide lottery gains. The significant interaction term for transfers to kin is identified on the reference group of 29 individuals who did not get the card with the opportunity to hide, were not willing to hide, *and* did send transfers to kin.
Dependent variables: Share of lottery gains allocated to the various commodities. One column per commodity.
Samples: in all panels, individuals who drew the card 1000 FCFA in public are excluded. Panel A and D: whole sample. Panel B (respectively C): sample with positive (respectively negative) WTP to hide income.
No control variable.
Additional control variables in column (2): suffers from an illness in baseline, amount of healthcare expenditures spent in the seven days before the baseline (in log). Column (6): holds a responsibility in the community.
Community and time-of-sessions fixed effects included in all panels and for all outcomes.

Table C.5: Effect of the opportunity to hide on labor supply and income
Sample: all individuals

Labor outcomes over past seven days	*Worked (Dummy)*		*Income (in log)*	
	OLS	Logit	OLS	Tobit
Panel A (N=659): Whole sample				
Card with opportunity to hide	0.171	1.131	1.312	2.016
	(0.063)	(0.414)	(0.589)	(0.883)
	[0.007]	[0.006]	[0.026]	[0.023]
R^2	0.32		0.35	
Chi-2 (p-value)	0.00	0.00	0.00	0.00
Panel B (N=433): WTP to hide$^{\dagger} \geq 0$				
Card with opportunity to hide	−0.063	−0.447	−0.544	−0.845
	(0.047)	(0.304)	(0.455)	(0.668)
	[0.184]	[0.142]	[0.233]	[0.207]
R^2	0.31		0.33	
Chi-2 (p-value)	0.00	0.00	0.00	0.00
Panel C: Unconditional means				
Public cards (N=161)	.634	12683.05		
Public cards & WTP >=0 (N=103)	.66	12316.71		

Standard errors are in parentheses; pvalue are in brackets. $^{+}$ $p \leq 0.12$, * $p \leq 0.1$, ** $p \leq 0.05$, *** $p \leq 0.01$
Dependent var: Columns (1) and (2), worked in past 7 days (dummy), columns (3) and (4), total income earned in past seven days (in log). Columns (1) and (3) estimated in a linear regression model, column (2) estimated with a logitistic regression, column (4) estimated with a Tobit regression.
Sample: in all panels, individuals who drew the card 1000 FCFA in public are excluded. Panel A: whole sample, Panel B: sample with positive WTP to hide income.
Control variables: see Table 3 for the full list of regressors. Community and time-of-session fixed effects included in all specifications.

Table C.6: Gender heterogeneity: Effect of the opportunity to hide lottery gains on transfers within and outside the household and allocation choices
Sample: All individuals

Dependent variables:	Private	Healthcare	Household		**Transfers to**			Productive	Saved gains
Commodity shares	Goods		Food	Nonfood	HH members	Other kin	Non-kin	Investment	& Other
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Panel A (N=654): All individuals									
Female	1.524	0.403	−8.952	−2.630	−0.452	−2.775	−0.707	18.853	−6.389
	(4.245)	(2.681)	(6.123)	(4.363)	(4.098)	(2.341)	(2.827)	(5.494)	(3.692)
	[0.720]	[0.881]	[0.144]	[0.547]	[0.912]	[0.236]	[0.803]	[0.001]	[0.084]
Card with opportunity to hide	5.946	1.956	−2.935	−2.506	1.152	−4.165	−0.026	2.745	−1.928
	(3.819)	(2.412)	(5.509)	(3.926)	(3.688)	(2.106)	(2.544)	(4.943)	(3.322)
	[0.120]	[0.417]	[0.594]	[0.523]	[0.755]	[0.048]	[0.992]	[0.579]	[0.562]
Card opportunity to hide × Female	−3.036	−0.831	3.209	1.499	−1.920	2.906	0.650	−6.545	4.216
	(4.589)	(2.897)	(6.619)	(4.717)	(4.431)	(2.530)	(3.056)	(5.940)	(3.991)
	[0.508]	[0.774]	[0.628]	[0.751]	[0.665]	[0.251]	[0.832]	[0.270]	[0.291]
R^2	0.11	0.05	0.12	0.06	0.13	0.06	0.04	0.11	0.04
Chi-2 (p-value)	0.00	0.27	0.00	0.05	0.00	0.11	0.52	0.00	0.47
Panel B (N=433): sub-sample with WTP to hide$^{\dagger} \geq 0$									
Female	1.722	−1.248	−11.588	−0.948	−4.442	−6.757	−3.653	25.489	−0.293
	(5.436)	(3.160)	(7.317)	(5.249)	(4.947)	(3.151)	(3.626)	(6.797)	(4.590)
	[0.751]	[0.693]	[0.113]	[0.857]	[0.369]	[0.032]	[0.314]	[0.000]	[0.949]
Card with opportunity to hide	6.562	2.584	−4.576	−2.149	−3.492	−7.264	0.632	6.281	2.020
	(4.734)	(2.752)	(6.373)	(4.571)	(4.309)	(2.744)	(3.158)	(5.920)	(3.997)
	[0.166]	[0.348]	[0.473]	[0.638]	[0.418]	[0.008]	[0.841]	[0.289]	[0.613]
Card opportunity to hide × Female	−2.475	0.875	8.927	−1.889	1.775	6.193	2.982	−13.660	−1.661
	(5.832)	(3.390)	(7.850)	(5.631)	(5.308)	(3.380)	(3.889)	(7.293)	(4.924)
	[0.671]	[0.796]	[0.255]	[0.737]	[0.738]	[0.067]	[0.443]	[0.061]	[0.736]
R^2	0.12	0.07	0.17	0.07	0.15	0.10	0.07	0.14	0.08
Chi-2 (p-value)	0.00	0.32	0.00	0.40	0.00	0.02	0.33	0.00	0.16
Panel C: Unconditional means									
Public cards (N=164)	10.952	2.724	26.589	11.607	15.483	4.743	4.129	17.388	3.371
Public cards & WTP >=0 (N=104)	11.111	1.784	24.188	12.16	17.856	5.93	2.933	17.361	3.846

Standard errors are in parentheses; pvalue are in brackets. $^{+}$ $p \leq 0.12$, * $p \leq 0.1$, ** $p \leq 0.05$, *** $p \leq 0.01$. Panels A, B, and C: System of linear equations estimated with a SUR model.
† WTP to hide = Willingness to pay to hide (as measured in the lab experiment).
Dependent variables: Share of lottery gains allocated to the various commodities. One column per commodity.
Samples: All individuals. In all panels, individuals who drew the card 1000 FCFA in public are excluded. Panel B correspond to individuals with positive WTP to hide income. Panel C: unconditional means.
Control variables: see Table 3 for the full list of regressors. Community and time-of-sessions fixed effects included in all panels and for all outcomes.

Table C.7: Effect of the opportunity to hide lottery gains on transfers and allocation choices
Sample: Women — Below/above median of household food consumption per capita

dependent variables:	Private	Healthacare	Household		**Transfers to**			Productive	Saved gains
Commodity shares	Goods		Food	Nonfood	HH members	Other kin	Non-kin	Investment	& Other
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Panel A: All women									
Panel A1 (N=450): All									
Card with opportunity to hide	3.192	1.297	0.748	−0.834	−0.826	−1.428	0.463	−4.453	2.201
	(2.431)	(1.576)	(3.497)	(2.529)	(2.330)	(1.251)	(1.741)	(3.585)	(2.086)
	[0.189]	[0.411]	[0.831]	[0.742]	[0.723]	[0.254]	[0.790]	[0.214]	[0.291]
R^2	0.13	0.09	0.12	0.06	0.12	0.06	0.05	0.09	0.05
Chi-2 (p-value)	0.00	0.02	0.00	0.35	0.00	0.31	0.76	0.03	0.65
Panel A2 (N=293): subsample with WTP to hide$^{\dagger} \geq 0$									
Card with opportunity to hide	4.630	3.593	5.238	−4.270	−1.175	−1.315	3.080	−9.055	0.913
	(3.315)	(1.886)	(4.345)	(3.027)	(2.875)	(1.718)	(2.261)	(4.655)	(2.729)
	[0.162]	[0.057]	[0.228]	[0.158]	[0.683]	[0.444]	[0.173]	[0.052]	[0.738]
R^2	0.13	0.11	0.20	0.10	0.15	0.10	0.08	0.12	0.09
Chi-2 (p-value)	0.02	0.10	0.00	0.30	0.01	0.25	0.71	0.05	0.39
Panel A3 (N=293): Unconditional means									
Public cards (N=113)	10.782	3.461	24.066	10.934	15.049	3.982	4.056	22.729	2.925
Public cards & WTP >=0 (N=69)	11.755	1.884	20	11.868	16.047	4.187	1.973	25.443	3.543
Panel B: Below median of household daily food consumption									
Panel B1 (N=242): All									
Card with opportunity to hide	2.009	3.252	1.786	−1.665	0.044	−3.383	2.556	−6.445	2.605
	(3.266)	(2.175)	(4.818)	(3.288)	(3.119)	(1.519)	(2.340)	(4.205)	(2.955)
	[0.538]	[0.135]	[0.711]	[0.613]	[0.989]	[0.026]	[0.275]	[0.125]	[0.378]
R^2	0.19	0.12	0.16	0.08	0.21	0.15	0.09	0.17	0.10
Chi-2 (p-value)	0.00	0.14	0.02	0.82	0.00	0.05	0.67	0.01	0.47
Panel B2 (N=156): subsample with WTP to hide$^{\dagger} \geq 0$									
Card with opportunity to hide	5.166	4.619	5.435	0.108	1.871	−4.659	2.835	−11.899	−1.671
	(4.365)	(2.939)	(5.763)	(3.776)	(3.804)	(2.108)	(3.160)	(5.536)	(3.466)
	[0.237]	[0.116]	[0.346]	[0.977]	[0.623]	[0.027]	[0.370]	[0.032]	[0.630]
R^2	0.18	0.20	0.27	0.15	0.30	0.21	0.14	0.24	0.19
Chi-2 (p-value)	0.21	0.08	0.00	0.50	0.00	0.04	0.67	0.01	0.16
Panel B3: Unconditional means									
Public cards (N=61)	12.778	1.73	25.401	11.02	15.146	4.554	2.231	21.539	3.689
Public cards & WTP >=0 (N=39)	12.65	1.567	20.855	10.142	15.883	5.271	1.496	24.587	4.558
Panel C: Above median of household daily food consumption									
Panel C1 (N=208): All									
Card with opportunity to hide	5.835	−2.081	−0.854	1.881	−2.172	0.784	−2.745	−2.737	2.800
	(3.324)	(2.299)	(4.973)	(3.886)	(3.362)	(1.934)	(2.618)	(5.469)	(2.780)
	[0.079]	[0.365]	[0.864]	[0.628]	[0.518]	[0.685]	[0.294]	[0.617]	[0.314]
R^2	0.29	0.14	0.19	0.15	0.15	0.18	0.08	0.26	0.17
Chi-2 (p-value)	0.00	0.17	0.01	0.11	0.12	0.02	0.89	0.00	0.05
Panel C2 (N=137): subsample with WTP to hide$^{\dagger} \geq 0$									
Card with opportunity to hide	6.558	0.580	1.467	−4.364	−2.871	2.087	2.175	−9.492	6.028
	(4.817)	(2.165)	(6.628)	(4.760)	(4.050)	(2.589)	(3.260)	(6.940)	(4.248)
	[0.173]	[0.789]	[0.825]	[0.359]	[0.478]	[0.420]	[0.505]	[0.171]	[0.156]
R^2	0.33	0.15	0.28	0.25	0.19	0.28	0.16	0.35	0.21
Chi-2 (p-value)	0.00	0.64	0.00	0.02	0.27	0.00	0.61	0.00	0.13
Panel C3: Unconditional means									
Public cards (N=52)	8.44	5.491	22.5	10.833	14.936	3.312	6.197	24.124	2.03
Public cards & WTP >=0 (N=30)	10.593	2.296	18.889	14.111	16.259	2.778	2.593	26.556	2.222

Standard errors are in parentheses; pvalue are in brackets. $^{+}$ $p \leq 0.12$, * $p \leq 0.1$, ** $p \leq 0.05$, *** $p \leq 0.01$. Panels A, B, and C: System of linear equations estimated with a SUR model.
† WTP to hide = Willingness to pay to hide (as measured in the lab experiment).
Dependent variables: Share of lottery gains allocated to the various commodities. One column per commodity.
Samples: Women. In all panels, women who drew the card 1000 FCFA in public are excluded. Panels B (respectively C) correspond to individuals below or equal (respectively strictly above) to the median of household daily food consumption. Subpanels A1, B1, and C1: whole sample considered in the corresponding panel. Subpanels A2, B2, and C2: subsample of women with positive WTP to hide income. Subpanels A3, B3, and C3: unconditional means.
Control variables: see Table 3 for the full list of regressors. Community and time-of-sessions fixed effects included in all panels and for all outcomes.