

# The Impact of Financial Education for Youth in Ghana

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## Abstract

We evaluate a program intended to teach financial literacy and life skills to children in government-run middle schools in Ghana. The randomized evaluation includes two treatment groups (financial literacy and life skills program and just financial literacy program) and a control group. Both programs had significant impacts on savings behavior, but few other outcomes shifted. We do, however, find that the financial literacy, when unaccompanied by the life skills curriculum, led children to work more, whereas no such effect was found for the full treatment; although, the difference for child labor between the two treatment effects is not statistically significant.

Keywords: financial literacy; youth finance; savings

JEL Codes: D12, J22, J24, O12

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# 1 Introduction

Governments and donors often put forward policies to promote financial literacy, with the aim of improving households' financial decisions. Financial literacy is defined as one's ability to understand financial concepts, plan one's finances, and understand financial services and products. Financial literacy is indeed correlated with more prudent financial decisions and use of formal savings and insurance products (Xu and Zia 2012), but of course this does not imply that teaching financial literacy will lead to more prudent financial decisions. Perhaps as a result of a presumed causal relationship, a multitude of financial literacy programs have emerged over the past several decades, with a variety of content and delivery mechanisms.

Many financial literacy programs target youth. For example, the Banking on Our Future program in South Africa promotes financial literacy, entrepreneurship, and youth empowerment through programs in schools (Operation HOPE 2014). In Peru, the Financial Education Program for Secondary Students focuses on training teachers so they are able to disseminate knowledge of financial services to their students who subsequently transmit that knowledge to their families at home (OECD International Gateway for Financial Education 2013). In Somalia, financial literacy programs targeting youth rely on mass media, soap opera broadcasts, and mobile phones to teach children about saving and other aspects of finance (Xu and Zia 2012).

Even though children are under the financial umbrella of their parents, teaching financial literacy to children may have important long-run effects. During these formative years it may be easier to improve financial literacy skills and habits, both of which are important correlates of financial decision making (Xu and Zia 2012). If gains in these areas during childhood persist during adulthood, investing in financial literacy for children may be a cost-effective way to achieve long-lasting impacts on financial decision making. There is, however, also a potential downside of introducing children too early to the world of finance: by encouraging children to think more about money, they may focus on income generating activities at the expense of schooling (Varcoe et al. 2005).

Despite the policy interest in youth financial education, little is known about the impacts of youth financial education, particularly in developing countries, and particularly with a design that tests alternative approaches to mitigating the potential unintended consequence of reduced school attendance. We address this knowledge gap by testing the impact of two school-based financial literacy programs in Ghana. The first program follows a curriculum developed by Aflatoun. Aflatoun is a large, international NGO that has developed school based curricula for financial literacy training and provides technical assistance to local partners, usually NGOs or ministries of education, to implement these curricula.<sup>2</sup> Its program has been implemented in over 100 countries to date. The Aflatoun program is a package of financial literacy training, a school savings club, and training in social skills and children's rights. The latter is included to increase children's sense of rights and responsibilities and increase their self-esteem. This section of the curriculum also uses storytelling to highlight the pitfalls of youth labor. The stories emphasize the loss of future income from dropping out of school to work, as well as stories of work conditions dangerous for children.

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<sup>2</sup> See <http://aflatoun.org/>.

We compare the impact of Aflatoun's program against a second program, the Honest Money Box (HMB), which is the Aflatoun program stripped of its social components. This program thus focuses strictly on increasing financial skills and behavioral skills related to savings. This allows us to evaluate the marginal benefits of the social components of the Aflatoun program, over and beyond the financial literacy component.

We conducted the study during the 2010-2011 school year in 135 primary and junior high schools in southern Ghana. Schools were randomly assigned to receive either the full Aflatoun program (45 schools), the Honest Money Box program (45 schools), or control (45 schools). We measured a variety of outcomes, including financial decision making, labor, social skills, risk and time preferences, and consumption decisions.

Both programs had positive and significant impacts on savings behavior. However, few other outcomes shifted. Critically, we find that the HMB program, but not the Aflatoun program led youth to work more. There was no change in attendance at school, suggesting a shift away from leisure or home production, but not away from schooling. We do not have direct evidence of a reduction in leisure activities, however. We find no evidence for impacts on financial literacy, risk aversion, time preference, expenditure patterns, confidence, or academic performance.

This paper contributes to the limited evidence on the effectiveness of youth financial literacy training. Bruhn et al. (2013) evaluate the impact of the introduction of a financial education program in Brazilian public high schools, consisting of 72 case studies that can be integrated into the regular curriculum. Each case study involved about 1 to 2 hours of teaching and was delivered over the course of three semesters. The authors find positive effects on financial proficiency (around 0.2 standard deviations), savings and planning when making purchases in data collected 4 and 16 months after the start of program implementation. Becchetti, Caiazza, and Coviello (2013) and Becchetti and Pisani (2012) evaluate a financial literacy program for high school students in Italy. The authors find some evidence that the program increased financial literacy, although the analysis is complicated by large improvements in financial literacy in the control group and by pre-existing differences between treatment and control students. In the US, Cole and Shastry (2010) use variation in state-mandated programs to identify the effects of financial literacy education in high school. They find no evidence that exposure to financial literacy education affects later savings. Other studies have found mixed evidence on the effects of youth financial literacy training, but lacked experimental identification strategies that to identify a counterfactual, and instead employed either comparisons of participants from before to after the intervention, or comparisons of participants to observably similar non-participants (Carlin and Robinson 2010; Mandell and Klein 2009; Varcoe et al. 2005; Walstad, Rebeck, and MacDonald 2010).

More broadly, our results contribute to the growing literature on the effects of financial literacy training for adults in developing countries. Cole et al. (2011) conduct a field experiment in Indonesia designed to test whether financial literacy education increases use of bank accounts. The authors find no significant impacts of financial literacy training on the likelihood of opening an account.

## 2 Program description and evaluation design

### 2.1 Program Description

As described in the introduction, the evaluation included two treatment arms. Both were based on the Aflatoun youth financial literacy and life skills program. The Honest Money Box program included only the components of the Aflatoun program that taught financial skills and savings. The standard Aflatoun program also provided training that focused on personal development, social skills and child's rights and responsibilities. Both programs consisted of once- or twice- weekly meetings after school for about an hour during the intervention period. Below we provide more details on the content of each of the programs.

The Honest Money Box program derived its name from the money box which was used to safeguard the savings deposits of the clubs members. The program is a subset of the Aflatoun program, and was developed by local partners and Innovations for Poverty Actions (IPA) local staff for the purpose of this study. The program started off with eight structured one-hour sessions conducted by teachers who acted as facilitators for the club. The content and objectives of the sessions are provided in Table 1. Children were first encouraged to participate in the club and, once recruited, were introduced to the importance of money, savings and spending, the possibility to deposit savings at the school, planning and budgeting, personal finances, and entrepreneurship.

The Aflatoun program included all the elements of the Honest Money Box program. In addition, the Aflatoun program included sessions on personal exploration, children's rights and responsibilities, and life skills.<sup>3</sup> The additional sessions are listed in Table 2. For example, the Aflatoun curriculum teaches children the rights described in the United Nations Convention on the Rights of the Child: "Children (under the age of 16 years) are entitled to be protected from social or economic exploitation and shall not be employed in or required to perform work that is likely to be hazardous or to interfere with their education or to be harmful to their health or physical, mental, spiritual, moral or social development." It also includes several stories where the children worked to earn a living (so they had to drop out of school) or had dangerous work conditions, including some pictures depicting these situations. Compared with the HMB program, more sessions were used to cover the elements of the Aflatoun curriculum.

After the initial sessions, both programs continued to operate as savings clubs. Clubs usually met once a week for a session at which children could deposit or collect their savings into the money box. Both programs provided the schools with a metal padlocked savings box which was used to safeguard children's deposits. Each deposit and withdrawal was recorded by the teacher responsible for the club ledger book, along with the date, member name, amount of money in or out, balance, and signatures of the club member, club president, and teacher. Each deposit and withdrawal was also noted in the member's passbook with identical information and signatures to the club ledger. The proper use of these tools was monitored by local organizations throughout the study period.

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<sup>3</sup> The curriculum was taught at different levels for primary and junior secondary students but covered the same set of core concepts. In program schools that contained both primary and junior secondary grades, children were typically divided into separate clubs by age.

Both programs were implemented by the same Ghanaian organizations (Aflatoun always works through local partners).<sup>4</sup> The local organizations and international NGOs involved in the study coordinated closely with Ghana Education Services within the government as well. The responsibility for monitoring program implementation was usually divided by region.

The interventions started with training of teachers in October 2010, which was conducted by IPA and local organizations implementing the programs. The local implementing organizations monitored and supervised implementation throughout the study period, which lasted through July 2011. Timing of implementation varied across schools. Out of the 83 program schools for which monitoring data were compiled by the implementing partners, the majority established clubs in December 2010 and January 2011. By the end of February 2011, 72 schools (87%) had established a club,

## 2.2 Evaluation design

We exploited the intended phase-in of the Aflatoun program to employ an experimental design for this study.<sup>5</sup> Out of a list of 200 eligible schools in the program districts provided by district officials and implementing partners, 135 were randomly selected to be included in the program. The sample includes primary, junior secondary, and “basic” (combined primary and junior secondary) schools in three regions: 36 in Nkwanta, 30 in Greater Accra East, and 69 in Sekondi Takoradi Metropolitan Area. Within each region, sample schools were grouped into triplets of enrollment within grade and educational track (“stream”), and within these triplets, schools were randomly assigned to the Aflatoun intervention, the HMB intervention, or a control group.<sup>6</sup> There were thus 45 strata in the randomization.

Baseline data were collected in September 2010, and the endline was conducted in July 2011.<sup>7</sup> The results presented in this paper are thus short-term effects, i.e., impacts from nine months of the program.

We sampled 40 students from each school in the study. Although the programs included children earlier in primary school, our surveys targeted children in grades 5 and 7 because these children presumably have more access to finances and money than their younger peers. In primary and secondary schools, 40 students were randomly selected from grades 5 and 7, respectively. In basic (combined) schools, 20 students were randomly selected grade 5, and 20 were selected from grade 7. When schools contained fewer than the target number of students in a given grade, additional students were selected in adjacent grades. The final sample contains 45% from grade 5, 46% from grade 7, and 9% from adjacent grades.<sup>8</sup>

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<sup>4</sup> The contracting partner was the Netherlands Development Organization who in turn partnered with Women and Development Project, the Ask Mama Development Organization, Berea Social Foundation, and Support for Community Mobilization Projects and Programs.

<sup>5</sup> The intended phase-in did not materialize. As a result of budget issues, the program was not extended to control group schools.

<sup>6</sup> The randomized assignment was implemented correctly in all but two schools: one school assigned to the Aflatoun treatment implemented the HMB treatment, and one school assigned to the HMB treatment implemented the Aflatoun treatment. The analysis is based on the original randomized assignment.

<sup>7</sup> Surveys are available online at <http://poverty-action.org/project/0465>.

<sup>8</sup> The main results are robust to restricting the sample to only 5<sup>th</sup> and 7<sup>th</sup> graders.

Attrition rates for the follow-up survey were low: we re-interviewed 99 percent of the children included in the baseline.<sup>9</sup> In the analysis, we analyze outcomes for all children for whom we have baseline and endline data as a function of the treatment their school received. To structure the analysis of outcomes, we have grouped the outcome indicators in 11 groups. The list of variables is provided along with the results in Appendix Tables A1 to A11.

The first three groups relate to savings. The variables included in the savings behavior group capture whether the child regularly saves, how much he saves, and where he saves. The variables in the saving attitudes group capture the importance the child attaches to savings. The saving environment group measures the student's perception of attitudes towards savings within the household. We expect the programs to increase savings and saving attitudes. We also expect a positive effect on the saving environment variables if the students positively influence attitudes towards savings in their homes.

The work group includes variables related the time the student works and earnings from work. None of the programs encouraged children to seek paid work, but the Aflatoun program explicitly discouraged child work. For the Aflatoun program do not have a clear hypothesis on the direction in which this variable may move. On the one hand, the emphasis the Aflatoun program put on planning for the future and child self-esteem may lead to children to prioritize education over work. On the other hand, the emphasis on savings could result in the student focusing more on the money he has at his disposal, leading to an increase in work. Because the HMB program did not include the social component, we hypothesize that the HMB program will increase work through the second mechanism.

We next include two groups measuring risk and time preferences. The risk preference indicators measure risk preferences in a standard hypothetical risk game, where the students are asked to choose between a certain outcome, and an uncertain outcome with a higher expected return. The time preference indicators are also based on a hypothetical game, where the student is asked to make trade-offs between income now and in the future. Both groups contain some variables that try to assess risk and time preferences by direct questioning. We do not have an immediate prior on how the programs are expected to influence the risk variables. The entrepreneurship components may encourage the students to take more risks. On the other hand, the encouragement of long term planning and savings may encourage taking fewer risks. We expect a positive influence on the time variables, with the children putting greater value on future outcomes.

Three groups measure financial literacy and spending patterns. The financial literacy variables relate to the money, planning, and budgeting components of the training. These variables are primarily based on an exercise where the student is asked to make a hypothetical spending decision in a shop. The variables measure how whether the student is able to allocate the funds provided across different items. As the required concepts were included in both interventions, we would expect the interventions to impact these variables positively. The temptation goods variables capture whether the student makes impulsive spending decisions on goods that provide immediate gratitude. The expenditure group includes two measures of child spending. The programs' emphasis on savings could decrease expenditure by increasing savings. Alternatively, the programs could increase interest in money and spending in addition to savings and thereby increase expenditure.

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<sup>9</sup> The attrition rates are also very similar across treatments. The attrition rate in the control group was 1.4%, in the Aflatoun schools 1.4% and in the Honest Money Box schools 1.3%.

We next include a set of variables measuring child confidence. The Aflatoun program includes a component that aims to improve child self-esteem, but the HMB program does not. We therefore expect impacts on confidence in the Aflatoun schools but not in the HMB schools.

Finally, we measure academic performance through self-reports of school attendance and through scores on a basic English and math test. The interventions could affect academic performance through several mechanisms. First, the interventions could encourage students to work rather than attend school, or, by putting an extra burden on the teachers, the programs could reduce learning in school. Alternatively, the interventions could increase interest in school or complement learning through the practical aspects of the curriculum.

For each of the groups of variables we created an index, following the method suggested by Kling, Liebman and Katz (2007). For a group, the summary index for child  $i$  over the set of  $N_d$  outcome variables in group  $D$  is defined as the mean of the z scores of the outcome variables in a group. Each variable is constructed such that it contributes positively to the header or overall concept used for the index.

$$\tilde{y}_{id} = \frac{1}{N_d} \sum_{d=1}^{N_d} \frac{y_{id} - \bar{y}_d}{\sigma_d} \quad (2)$$

Where  $\bar{y}_d$  and  $\sigma_d$  are the mean and standard deviations of variable  $y_{jd}$  estimated from the control group schools. The resulting index  $\tilde{y}_{id}$  is then normalized by subtracting the mean and dividing by the standard deviation from the control group. The final summary index provides an equal weight to each component variable and has a mean of 0 and a standard deviation of 1.

For some outcome variables, baseline data were not collected. When we do not have a full set of baseline values for components of an index, we construct the baseline index using only the components included in the baseline survey.

Table 3 presents summary statistics, including verification of orthogonality of treatment assignment with baseline values of the outcome indices and attrition.<sup>10</sup> One out of the 11 indices is not balanced at the 5 percent level, and 2 are not balanced using a 10 percent level of significance. Significant differences are found for the temptation index at a 5 percent level significance, and for the savings behavior and work index at the 10 percent level of significance. All impact specifications include controls for the stratification variables.

To obtain the impact estimates we employ a regression model

$$y_{ijk, \text{endline}} = \alpha_k + \beta_1(\text{aflatoun}_{jk}) + \beta_2(\text{HMB}_{jk}) + \gamma y_{ijk, \text{baseline}} + \varepsilon_{ij} \quad (1)$$

where  $y_{ijk}$  denotes the outcome of student  $i$  in school  $j$  in strata  $k$ . All variables on which we stratified are included in the strata dummies  $\alpha_k$ . Standard errors have been corrected for clustering at the school level. When outcome variables were not included in the baseline survey, the baseline values are omitted from the regression.

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<sup>10</sup> Variables for a baseline confidence index were not collected.

The impact estimates are intent-to-treat effects, and do not take account of whether the child participated in the savings club or not. An instrumental variable approach, to estimate the treatment on the treated, would require assuming no spillovers to non-participants in treatment schools. We cannot substantiate such an assumption. In addition, we do not have precise measures of participation in the savings clubs. Thus we are only estimating the average treatment effects over all children in treatment schools.<sup>11</sup>

### 3 Results

Table 4 presents the impact of the programs on each of the 10 summary endline indices. Appendix Tables A1 through A11 show the results for the individual variables which were used to construct the indices.

#### 3.1 Savings

The savings behavior index includes 8 variables that measure savings rates, amounts saved, savings inside and outside school, and regularity of savings. As shown in Table 4, we find positive impacts on the index for both programs, with HMB leading to an increase of 0.16 standard deviations, and Aflatoun producing a 0.12 standard deviation increase. The difference between the Aflatoun and HMB program is not statistically significant.

Appendix Table A1 shows the effects of the programs on each component of the savings behavior index. Both programs show positive effects on the proportion of children that save at school and the amount of money children have saved at school. For HMB the proportion increases by 9 percent while for Aflatoun it increases by 5 percentage points. We do not find any impact on the variables relating to the total savings. The program seems thus to have mostly led to students moving their savings to the school accounts. This is consistent with the fact that we do find any impact on the expenditure variables.

The savings attitude index captures children's viewpoints on the importance of savings, and whether children should save along with their parents. The index is constructed from 10 questions on the surveys. Nine of these are Likert-style questions where the respondent indicates agreement with a statement, where responses range from 1 (strongly disagree) to 4 (strongly agree). Four statements relate to the students' general view of savings, 4 relate to whether students should save in addition to adults, and 1 question measures whether the student saves whenever possible. The final component of the index is the student's allocation to savings if he were hypothetically given 5 cedis. As shown in Table 4 and Appendix Table 2, there is no evidence that either program influenced this index or any of its component variables.

The savings environment index reflects how the student's family perceives the student's savings, as well as access to savings at home. The 5 component variables measure whether the student talks to relatives about savings, how adults in the household view child savings, perceived safety of savings with family, and the number of household bank accounts. As shown in Table 4 and Appendix Table 3, we find little evidence that either program changed the home savings environment for the students. The only statistically

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<sup>11</sup> We were able to collect membership data of the savings clubs in 9 Aflatoun schools and 7 HMB schools. In this subgroup, 20 percent of the children had joined the club in the Aflatoun schools, while 30 percent of the children had joined the club in the Honest Money Box schools. Characteristics of club members in these schools are analyzed in Appendix A.

significant result in the table is an increase in the perception that parents would be proud of the child for saving among the HMB group (significant at the 10 percent level).

### **3.2 Work**

The work index includes 11 variables measuring incidence of work, intensity of work, and earnings. As shown in Table 4, we find that the HMB program led to a 0.10 standard deviation increase in this index, an estimate statistically significant at the 10 percent level. The estimate for the Aflatoun program is 0.03 standard deviations and is not statistically significant. However the t-test comparing Aflatoun and HMB fails to reject equality (p-value = 0.213).

Appendix Table A4 disaggregates the effects on the different components of the work index. To put the results in context, it is important to first note that many children work. In the control group, 24 percent of children report to have worked for money in the past 4 months. The HMB program leads to a 4 percentage point increase in likelihood of engaging in any work. The same pattern is found when looking at the fraction of children working separately for each month. The increase for the HMB program was statistically significant in 2 out of the 4 months, whereas the change for the Aflatoun was not significant in any month. However, the increased work participation in the HMB group did not appear to lead to extra earnings. On the contrary, the results indicate that average earnings in the 30 days before the endline went up as a result of the Aflatoun program, while no impact is observed for the HMB program. The effect is rather large: the Aflatoun program increased earnings by 18.14 Cedis (about \$11.15 in July, 2011) relative to the control group mean of 31.68 Cedis. However, these results appear to be driven by outliers: after censoring the top 5% of the observations (i.e., “winsorizing” at 95%), the effect size is considerably smaller and no longer statistically significant.

### **3.3 Risk and Time Preferences**

Our risk aversion index is constructed from three hypothetical choices across risky and safe bets, a self-reported scale of the child’s willingness to take risks, and the child’s hypothetical preference to start a high-risk, high-return business over a low-risk, low-return business. For neither program do we observe statistically significant changes in the risk aversion index. However, in both Aflatoun and HMB schools we observe statistically significant decreases in one component: children’s self-reported willingness to take risks. This question asked students, “Are you generally very prepared to take risks or do you try to avoid taking risks?” Students answered on a scale of 1 to 10. Students in both the Aflatoun and HMB schools had responses 0.03 points lower than control-group students.

We measure time preference through two hypothetical intertemporal choices, as well as one question on whether the child would prefer waiting for a medicine that heals completely rather than taking a medication now that doesn’t completely heal. As shown in Table 4 and Appendix Table 6, there is no evidence that the Aflatoun or HMB programs changed children’s time preferences.

### **3.4 Financial Literacy and Spending patterns**

We now turn to measures of financial literacy. Financial literacy was measured through a two of “shop games” in which the child was required to hypothetically allocate a fixed amount money across 3 different items in a shop. The respondent was required to allocate the entire amount to these items. The index includes

the amount of time taken on each game, whether there was any money left over after the allocation, and the amount of leftover money. We also include an indicator of whether the student makes a spending plan each week. The effects of the programs on the financial literacy index are small and not statistically significant. As shown in Appendix Table A7, none of the 7 individual components of the index show statistically significant effects.

Table 4 and Appendix Table A8 examine the student's propensity to spend on temptation goods, based on 3 variables measuring actual and hypothetical spending on snacks and entertainment. We find no evidence for treatment effects on the index. Only one individual result displays a treatment effect: The Aflatoun curriculum led to a decrease (significant at the 95% level) in the amount students would spend on fun if given five cedis.

Appendix Table A9 examines the student's current and expected expenditures. No treatment effects are observed on the composite index or the individual component outcomes.

### **3.5 Child Confidence**

Table 4 and A10 display the program impacts on measures of confidence. We include 5 Likert questions that measure self esteem and confidence at school. We find no evidence of impacts, though point estimates on the aggregate index are negative for both programs. Across all of the individual measures, the only measure that is significantly different in the treatment groups is an increased likelihood (10 percent level of significance) of agreeing with the statement "Teacher makes you feel you are not good enough" in Aflatoun schools. While this could reflect a lower sense of confidence among the Aflatoun group, this result should be interpreted tentatively, as no other indicator shows statistically significant impacts.

### **3.6 Academic Performance**

Finally, we examine program impacts on school attendance and achievement. Attendance was measured through self-reports of attendance over the past week. To measure aptitude, students were given 10-question tests in English and math. Separate tests were given to 5<sup>th</sup>- and 7<sup>th</sup>-graders, although the structure of the tests were similar. Test scores were normalized based on the baseline means and standard deviations in each grade. As shown in Table 4 and Appendix Table 11, we find no evidence of program effects on the combined academic performance index, or on either of its components.

## **4 Conclusion**

We evaluate two programs in Ghana that aimed to increase financial literacy and social skills among youths: the Aflatoun program, which offered both financial and social education, and the HMB program, which offered only financial education. We find that both programs positively influenced savings behavior, while the HMB program increased the child's likelihood of working as well. We find few significant impacts on measured financial literacy, risk preferences, spending patterns, social skills, or academic performance.

One interpretation for the results on savings and work between the Aflatoun and HMB treatments is that the social curriculum in the Aflatoun program counteracted an increased interest in working brought about by the financial education curriculum. However, the Aflatoun treatment group does lead to higher wages,

via outliers. This could be statistical noise, or could be that while on average the HMB leads to more work, the Aflatoun program empowers a few children to make considerable profits, but no change for the majority of students. We do not have the data or sample size to validate such a mechanism.

While our work provides a useful starting point for understanding the effects of youth financial education, more work is needed to both broaden the evidence base and understand the mechanisms behind the reduced-form program effects. The results, compared to typical financial literacy programs for adults show that financial literacy programs targeted to children can increase savings behavior, and child labor may increase if a life skills component is not included in the curriculum.

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**Table 1: Honest Money Box Curriculum**

<b>Core Elements</b>	<b>Objectives</b>
Form Club	Explain the function and operation of the money box club.  State rules for club functioning.  Identify leaders, elect President, Treasurer, and Secretary and assign roles and responsibilities.
What is money?	Explain money as a medium of exchange.  Identify honest ways of making money.
Saving and Spending	Understand:  The purpose of saving  How to save  Types of saving, including non-monetary resources  Responsible spending behavior
The money box	Understand:  features of the money box, procedures for depositing and withdrawing  how to record transactions
Planning and budgeting	Understand financial goals and develop their own financial goals  Create a budget plan
Entrepreneurship	Understand:  Business organization  Types of businesses  Skills necessary for running a business

**Table 2: Additional Elements of Aflatoun Curriculum**

Core Elements	Objectives
Character and Motto	<p>Orient children to the Aflatoun value framework, and enhance their creativity, problem-solving, and reasoning skills.</p> <p>Encourage children to learn more about Ghana and its unique cultural heritage.</p> <p>Facilitate an understanding among children that they can contribute to their environment, by teaching about the contributions made by different people and things.</p>
Personal Understanding and Exploration	<p>Enable children’s positive self-image through self-awareness and appreciation, and highlight the different factors which contribute towards building self-image.</p> <p>Provide children an opportunity to assess themselves and then discuss the experience of being their own judge.</p> <p>Allow children to express their likes and dislikes in a non-threatening environment, and facilitate an understanding of the differences and similarities among people.</p>
Rights and Responsibilities	<p>Teach children a sense of responsibility for their actions towards everything and everyone in their environment, and an understanding that everything and everyone needs to be treated with respect.</p> <p>Orient children to their rights as described in the United Nations Convention on the Rights of the Child.</p> <p>Create awareness of the various marginalized groups who do not get their rights in Ghana and around the world, and develop a sense of responsibility towards those whose rights are violated.</p> <p>Sensitize children to the issues of working children and provide children an opportunity to interact with working children, thereby facilitating a process of dispelling myths and stereotypes.</p> <p>Sensitize children to issues related to gender and create awareness on the different forms of gender discrimination.</p> <p>Identify social projects and campaigns that could improve children's communities.</p>

**Table 3: Baseline Orthogonality and Attrition**

	Means and Standard Deviations				F-stat (and p-value) of Afla=HMB=0	Found at Followup	Obs.
	Full Sample	Control group	Aflatoun	HMB			
	(1)	(2)	(3)	(4)			
Savings Behavior Index (higher = greater propensity to save)	-0.0599 (1.013)	0.00 (1.000)	-0.0957 (0.917)	-0.0829 (1.110)	2.074 0.130	0.0926 (0.117)	5364
Savings Attitude Index (higher = more positive attitude towards savings)	0.0266 (0.981)	0.00 (1.000)	0.0748 (0.959)	0.00442 (0.983)	0.987 0.375	0.0181 (0.120)	5362
Savings Environment Index (higher = home environment is more conducive to saving)	-0.00583 (0.996)	0.00 (1.000)	0.0181 (1.004)	-0.0357 (0.983)	0.624 0.537	0.219* (0.121)	5364
Work Index (higher = more likely to work, more hours, etc.)	-0.0287 (0.965)	0.00 (1.000)	-0.102 (0.918)	0.0165 (0.973)	2.746 0.0678	0.0667 (0.107)	5364
Risk Preference Index (higher = less risk averse)	0.0366 (1.027)	0.00 (1.000)	0.0372 (1.028)	0.0720 (1.051)	0.762 0.469	-0.0184 (0.122)	5354
Time Preference Index (higher = lower discount rate of the future)	0.00717 (0.998)	0.00 (1.000)	0.0130 (0.997)	0.00837 (0.998)	0.0252 0.975	0.0680 (0.124)	5355
Financial Literacy Index (higher = greater financial literacy)	0.0232 (0.922)	0.00 (1.000)	0.0528 (0.857)	0.0164 (0.906)	0.320 0.726	0.0979 (0.124)	5364
Temptation Goods Index (higher = less propensity to spend on temptation goods)	-0.0543 (0.970)	0.00 (1.000)	-0.114 (0.873)	-0.0474 (1.027)	2.920 0.0574	0.209*** (0.0571)	5364
Expenditure Index (higher = higher expenditures for student)	0.0178 (1.192)	0.00 (1.000)	-0.000732 (0.866)	0.0538 (1.585)	0.158 0.854	0.0789 (0.0583)	5352
Academic Index (higher = higher school attendance and performance)	-0.0167 (0.990)	0.00 (1.000)	0.0156 (0.943)	-0.0657 (1.023)	0.531 0.589	0.412*** (0.125)	5364
Followup survey completed (%)	0.986 0.116	0.986 0.116	0.986 0.117	0.987 0.115	0.00737 0.993		5364
Number of Observations	5352 - 5364	1759 - 1766	1800 - 1805	1790 - 1793			

In Columns (1) through (4), standard deviations in parentheses, and number of observations represented as a range. In Column (6), standard errors, clustered at the school level, in parentheses. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1.

**Table 4: Treatment Effects on Indices of Key Outcome Variables**

Outcome Variable	Aflatoun (1)	Honest Money Box (2)	p-value, Afla = HMB (3)	Pooled Effect (4)	Obs (5)
Savings Behavior Index (higher = greater propensity to save)	0.117** (0.0516)	0.163*** (0.0575)	0.472	0.140*** (0.0446)	5364
Savings Attitude Index (higher = more positive attitude towards savings)	0.0134 (0.0433)	0.0490 (0.0479)	0.468	0.0312 (0.0386)	5289
Savings Environment Index (higher = environment is more conducive to saving)	-0.0365 (0.0457)	0.0563 (0.0447)	0.0588	0.00982 (0.0384)	5291
Work Index (higher = more likely to work, more hours, etc.)	0.0381 (0.0487)	0.101* (0.0555)	0.263	0.0696 (0.0441)	5364
Risk Preference Index (higher = less risk averse)	-0.0639 (0.0546)	-0.0746 (0.0541)	0.822	-0.0692 (0.0488)	5282
Time Preference Index (higher = lower discount rate of the future)	0.0338 (0.0489)	0.0315 (0.0518)	0.965	0.0327 (0.0428)	5282
Financial Literacy Index (higher = greater financial literacy)	0.0154 (0.0554)	-0.00508 (0.0566)	0.714	0.00519 (0.0486)	5291
Temptation Goods Index (higher = less propensity to spend on temptation goods)	-0.0346 (0.0468)	-0.0209 (0.0435)	0.712	-0.0278 (0.0411)	5364
Expenditure Index (higher = higher expenditures for student)	-0.0154 (0.0504)	-0.0653 (0.0459)	0.276	-0.0403 (0.0425)	5279
Confidence Index (higher = more confident)	-0.0468 (0.0448)	-0.0108 (0.0445)	0.456	-0.0288 (0.0377)	5291
Academic Index (higher = higher school attendance and test score)	-0.0339 (0.0638)	-0.0463 (0.0642)	0.819	-0.0401 (0.0580)	5364

Columns (1) and (2) present individual regressions of each index on Aflatoun and HMB treatment dummies. Column (4) presents individual regressions of each index on a dummy for either HMB or Aflatoun treatment. Regressions control for stratification dummies (region and enrollment per stream). Indices are aggregated ignoring missing values in the individual variables. Standard errors clustered at the school level, in parentheses. \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$

## **A Appendix: Take-up**

This section analyzes take-up of Aflatoun and HMB programs, using data from the schools that kept records of club membership. As described in Section 2.2, 9 schools in the Aflatoun program and 7 schools in the HMB program provided this information. In the Aflatoun schools, 20 percent of the children surveyed were club members, while 30 percent of children surveyed were club members in HMB schools. Note that because we were able to collect this information only on a subset of schools, the results should be taken as suggestive.

Appendix Table 12 regresses an indicator for club membership on baseline values of our outcome indices as well as a set of 7 demographic and academic variables. Column 1 includes the Aflatoun schools. The explanatory variables in this regression have little predictive power. Out of the 16 variables in the regression, the only statistically significant variable is durables ownership (positive and significant at the 5 percent level). Column 2 repeats the analysis for the HMB schools. In this case, students who save more at baseline are significantly more likely to be members of the HMB clubs, as well as students who are more financially literate and those who spend more. This suggests that interest in the HMB clubs could depend on prior experience with savings and money.

**Appendix Table 1: Saving Behavior**

Dependent Variables:	Saving Behavior Index	Has money saved right now	Total money saved right now	Has money saved right now at school	Total money saved at school right now	Has money saved outside school right now	Total money saved outside school right now	Regularly saves money during the week	Amount saved last week
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
<b>Panel A: Individual Treatment Effects</b>									
Aflatoun	0.117** (0.0516)	0.0323 (0.0203)	-0.294 (1.288)	0.0497*** (0.0147)	0.426*** (0.163)	-0.00718 (0.0222)	-0.600 (1.371)	0.0202 (0.0201)	-0.274 (0.216)
HMB	0.163*** (0.0575)	0.0321 (0.0250)	-1.061 (1.247)	0.0907*** (0.0150)	0.464*** (0.139)	-0.00897 (0.0225)	-0.582 (1.342)	0.000943 (0.0206)	-0.261 (0.222)
Control group mean	0.000	0.519	8.997	0.0276	0.163	0.528	8.911	0.363	1.216
Control group stdev	1.000	0.500	38.30	0.164	2.524	0.499	36.25	0.481	6.495
Baseline mean of outcome variable	-0.060	0.452	4.613					0.410	0.916
Observations	5364	5289	5364	5291	5364	5291	5364	5278	5364
R-squared	0.0545	0.0443	0.0500	0.0212	0.00783	0.0101	0.00581	0.0745	0.0150
p-value for test of Aflatoun = HMB	0.472	0.993	0.514	0.0376	0.838	0.938	0.988	0.361	0.903
<b>Panel B: Pooled Treatment Effect</b>									
Aflatoun or HMB	0.140*** (0.0446)	0.0322* (0.0189)	-0.677 (1.125)	0.0702*** (0.0114)	0.444*** (0.119)	-0.00807 (0.0191)	-0.591 (1.205)	0.0106 (0.0175)	-0.268 (0.211)

Each column in Panel A presents the results of an OLS regression of the outcome variable on Aflatoun and HMB treatment dummies. Each column in Panel B presents the results of an OLS regression of the outcome variable on a dummy for either HMB or Aflatoun treatment. Savings amounts are in Cedis. Regressions control for stratification dummies (region and enrollment per stream). Standard errors clustered at the school level, in parentheses. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

**Appendix Table 2: Saving Attitude**

Dependent Variables:	Saving Attitude Index	Think that saving is good	They are happy if they save	Spending now is better than saving for the future †	Save every time they get money	Think that saving is for adults only †	Saving is for parents only †	Don't think they need to save bc parents buy them what they need †	Think that they don't need to save if they're living at home †	Proportion allocated to saving in hypothetical spending exercise
	(1)	(2)	(3)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
<b>Panel A: Individual Treatment Effects</b>										
Aflatoun	0.0134 (0.0433)	-0.00657 (0.0274)	-0.00346 (0.0232)	-0.0162 (0.0269)	0.0423 (0.0276)	0.00565 (0.0266)	0.00567 (0.0258)	-0.0207 (0.0253)	-0.00816 (0.0258)	-0.00846 (0.0173)
HMB	0.0490 (0.0479)	-0.00243 (0.0238)	0.0163 (0.0251)	-0.0201 (0.0289)	0.00969 (0.0276)	-0.0127 (0.0259)	-0.0284 (0.0232)	-0.0507 (0.0309)	-0.0380 (0.0294)	-0.0213 (0.0178)
Control group mean	0.000	2.353	2.094	1.040	1.823	0.944	1.006	1.190	1.060	0.255
Control group stdev	1.000	0.601	0.570	0.663	0.664	0.605	0.557	0.688	0.626	0.395
Baseline mean of outcome variable	0.027						0.724			0.269
Observations	5289	5287	5274	5285	5288	5284	5245	5290	5286	5268
R-squared	0.0273	0.00174	0.0157	0.00944	0.0319	0.00768	0.0116	0.0148	0.00724	0.0372
p-value for test of Aflatoun = HMB	0.468	0.868	0.391	0.889	0.218	0.536	0.199	0.322	0.315	0.422
<b>Panel B: Pooled Treatment Effect</b>										
Aflatoun or HMB	0.0312 (0.0386)	-0.00450 (0.0225)	0.00641 (0.0213)	-0.0181 (0.0240)	0.0260 (0.0243)	-0.00350 (0.0217)	-0.0113 (0.0208)	-0.0357 (0.0239)	-0.0230 (0.0234)	-0.0149 (0.0157)

Each column in Panel A presents the results of an OLS regression of the outcome variable on Aflatoun and HMB treatment dummies. Each column in Panel B presents the results of an OLS regression of the outcome variable on a dummy for either HMB or Aflatoun treatment. Each individual outcome variable takes on integer values ranging from 1 (strongly agree) to 4 (strongly disagree). † indicates that the variable enters the index negatively. Regressions control for stratification dummies (region and enrollment per stream). Standard errors clustered at the school level, in parentheses. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

**Appendix Table 3: Saving Environment**

Dependent Variables:	Saving Environment Index	Have talked to parents or relatives about the importance of savings in last 7 days	Someone in household would be angry if they found out student was saving for self †	Parents would be proud of them for saving	Perceived safety of saving with family (1 being least safe, 5 most)	Number of household bank accounts
	(1)	(2)	(3)	(4)	(5)	(6)
<b>Panel A: Individual Treatment Effects</b>						
Aflatoun	-0.0365 (0.0457)	-0.0215 (0.0144)	0.0128 (0.0140)	0.0111 (0.0271)	0.0111 (0.0747)	0.00698 (0.0443)
HMB	0.0563 (0.0447)	0.0159 (0.0166)	-0.00422 (0.0132)	0.0491* (0.0256)	0.0525 (0.0732)	-0.0175 (0.0482)
Control group mean	0.000	0.138	0.122	2.064	2.698	0.851
Control group stdev	1.000	0.345	0.328	0.616	1.610	0.901
Baseline mean of outcome variable	-0.002		0.177		1.988	0.761
Observations	5291	5287	5141	5263	5081	5291
R-squared	0.0587	0.00251	0.0367	0.00572	0.0166	0.228
p-value for test of Aflatoun = HMB	0.0588	0.0198	0.241	0.174	0.522	0.616
<b>Panel B: Pooled Treatment Effect</b>						
Aflatoun or HMB	0.00982 (0.0384)	-0.00286 (0.0135)	0.00438 (0.0116)	0.0301 (0.0225)	0.0319 (0.0666)	-0.00523 (0.0394)

Each column in Panel A presents the results of an OLS regression of the outcome variable on Aflatoun and HMB treatment dummies. Each column in Panel B presents the results of an OLS regression of the outcome variable on a dummy for either HMB or Aflatoun treatment. Outcome variables in Columns (3) and (4) take on integer values ranging from 1 (strongly disagree) to 4 (strongly agree). † indicates that the variable enters the index negatively. Regressions control for stratification dummies (region and enrollment per stream). Standard errors clustered at the school level, in parentheses. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

**Appendix Table 4: Work**

Dependent Variables:	Work Index	Worked in past 4 months to earn money	Days worked in past 30 days	Amount of money earned working in past 30 days	Amount of money earned working in past 30 days, winsorized at 95%	Worked in Feb	Worked in Mar	Worked in Apr	Worked in May	Worked inside household	Worked outside household	Worked a lot during school term
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
<b>Panel A: Individual Treatment Effects</b>												
Aflatoun	0.0381 (0.0487)	0.0150 (0.0215)	0.252 (0.255)	2.306 (1.473)	0.361 (0.466)	0.000288 (0.0141)	0.00284 (0.0143)	0.00296 (0.0152)	0.00298 (0.0202)	-0.0142* (0.00838)	0.0229 (0.0193)	0.00526 (0.0106)
HMB	0.101* (0.0555)	0.0435* (0.0246)	0.664* (0.350)	1.113 (1.674)	0.336 (0.507)	0.0228 (0.0144)	0.0277* (0.0151)	0.0341* (0.0174)	0.0356 (0.0224)	0.00968 (0.0104)	0.0349 (0.0218)	0.0164 (0.0117)
Control group mean	0.000	0.236	2.197	6.765	3.804	0.0872	0.0963	0.127	0.187	0.0596	0.186	0.0614
Control group stdev	1.000	0.425	6.078	29.23	9.896	0.282	0.295	0.334	0.390	0.237	0.389	0.240
Baseline mean of outcome variable	-0.029	0.309	3.816	12.17	7.077					0.0816	0.243	0.100
Observations	5364	5275	5339	5333	5333	5364	5364	5364	5364	5344	5344	5343
R-squared	0.0372	0.0506	0.0269	0.0126	0.0352	0.0136	0.00995	0.00284	0.00870	0.0121	0.0474	0.00898
p-value for test of Aflatoun = HMB	0.263	0.249	0.241	0.529	0.962	0.135	0.116	0.0732	0.143	0.0109	0.579	0.330
<b>Panel B: Pooled Treatment Effect</b>												
Aflatoun or HMB	0.0696 (0.0441)	0.0292 (0.0196)	0.458* (0.252)	1.711 (1.265)	0.349 (0.417)	0.0115 (0.0122)	0.0153 (0.0125)	0.0185 (0.0140)	0.0193 (0.0182)	-0.00232 (0.00832)	0.0289 (0.0176)	0.0108 (0.00961)

Each column in Panel A presents the results of an OLS regression of the outcome variable on Aflatoun and HMB treatment dummies. Each column in Panel B presents the results of an OLS regression of the outcome variable on a dummy for either HMB or Aflatoun treatment. Outcome variable in Column (5) censors the top 5% of observations of earnings variable. Regressions control for stratification dummies (region and enrollment per stream). Standard errors clustered at the school level, in parentheses. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

**Appendix Table 5: Risk Preference**

Dependent Variables:		Would choose to play a game getting 6 cedis win and 0 cedis lose rather than a game getting 3 cedis win or lose	Would choose to play a game getting 6 cedis win and 0 cedis lose rather than a game getting 2 cedis win or lose	Would choose to play a game getting 6 cedis win and 0 cedis lose rather than a game getting 1 cedi win or lose	Risk aversion scale (0 high risk aversion to 1 low risk aversion)	Would start a high risk-high return rather than low risk-low return business
	Risk Preference Index					
	(1)	(2)	(3)	(4)	(5)	(6)
<b>Panel A: Individual Treatment Effects</b>						
Aflatoun	-0.0639 (0.0546)	-0.0225 (0.0229)	-0.0265 (0.0229)	0.00616 (0.0242)	-0.0342** (0.0155)	0.00670 (0.0197)
HMB	-0.0746 (0.0541)	-0.0218 (0.0210)	-0.0305 (0.0219)	-0.0154 (0.0228)	-0.0250* (0.0140)	0.00121 (0.0186)
Control group mean	-0.001	0.346	0.429	0.535	0.515	0.201
Control group stdev	1.001	0.476	0.495	0.499	0.308	0.401
Baseline mean of outcome variable	0.036					0.209
Observations	5282	5287	5287	5290	5288	5276
R-squared	0.0213	0.0253	0.0262	0.00843	0.0313	0.0153
p-value for test of Aflatoun = HMB	0.822	0.973	0.833	0.343	0.556	0.768
<b>Panel B: Pooled Treatment Effect</b>						
Aflatoun or HMB	-0.0692 (0.0488)	-0.0221 (0.0195)	-0.0285 (0.0204)	-0.00460 (0.0206)	-0.0296** (0.0125)	0.00396 (0.0167)

Each column in Panel A presents the results of an OLS regression of the outcome variable on Aflatoun and HMB treatment dummies. Each column in Panel B presents the results of an OLS regression of the outcome variable on a dummy for either HMB or Aflatoun treatment. Regressions control for stratification dummies (region and enrollment per stream). Standard errors clustered at the school level, in parentheses. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

**Appendix Table 6: Time Preference**

Dependent Variables:	Time Preference Index	Prefer 9 cedis in one week to 6 cedis now	Prefer 9 cedis in five weeks to 6 cedis in four weeks	Rather wait for medicine that heals completely than take one now that doesn't completely heal
	(1)	(2)	(3)	(4)
<b>Panel A: Individual Treatment Effects</b>				
Aflatoun	0.0338 (0.0489)	-0.0115 (0.0197)	0.00956 (0.0184)	0.0310 (0.0227)
HMB	0.0315 (0.0518)	0.0109 (0.0186)	-0.00250 (0.0180)	0.0213 (0.0233)
Control group mean	-0.001	0.737	0.820	0.666
Control group stdev	1.000	0.441	0.384	0.472
Baseline mean of outcome variable	0.008			0.620
Observations	5282	5291	5290	5277
R-squared	0.00638	0.00254	0.00203	0.0105
p-value for test of Aflatoun = HMB	0.965	0.293	0.533	0.682
<b>Panel B: Pooled Treatment Effect</b>				
Aflatoun or HMB	0.0327 (0.0428)	-0.000335 (0.0160)	0.00354 (0.0154)	0.0262 (0.0198)

Each column in Panel A presents the results of an OLS regression of the outcome variable on Aflatoun and HMB treatment dummies. Each column in Panel B presents the results of an OLS regression of the outcome variable on a dummy for either HMB or Aflatoun treatment. † indicates that the variable enters the index negatively. Regressions control for stratification dummies (region and enrollment per stream). Standard errors clustered at the school level, in parentheses. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

**Appendix Table 7: Financial Literacy**

Dependent Variables:	Financial Literacy Index	Money left over from Shop Game 1 †	Allocation in Shop Game 1 correct	Seconds taken for Shop Game 1 †	Money left over from Shop Game 2 †	Allocation in Shop Game 2 correct	Seconds taken for Shop Game 2 †	Do you make a plan for how to spend your money during the week?
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
<b>Panel A: Individual Treatment Effects</b>								
Aflatoun	0.0154 (0.0554)	-0.0160 (0.0247)	0.0209 (0.0257)	0.124 (2.586)	0.0151 (0.0219)	0.00311 (0.0163)	1.069 (2.097)	0.0102 (0.0273)
HMB	-0.00508 (0.0566)	-0.0160 (0.0274)	0.00257 (0.0253)	-0.870 (2.617)	0.00144 (0.0182)	-0.0137 (0.0167)	0.417 (2.063)	-0.0108 (0.0249)
Control group mean	0.000	0.248	0.444	43.86	0.129	0.843	39.26	0.657
Control group stdev	1.000	0.739	0.497	41.84	0.603	0.364	34.35	0.475
Baseline mean of outcome variable	0.025	0.297	0.382	55.38	0.154	0.813	47.79	0.672
Observations	5291	5291	5291	5253	5291	5291	5252	5147
R-squared	0.0520	0.00542	0.00699	0.0727	0.000845	0.00323	0.0490	0.0304
p-value for test of Aflatoun = HMB	0.714	0.999	0.462	0.685	0.534	0.353	0.747	0.417
<b>Panel B: Pooled Treatment Effect</b>								
Pooled treatment effect	0.00519 (0.0486)	-0.0160 (0.0231)	0.0117 (0.0223)	-0.371 (2.298)	0.00830 (0.0169)	-0.00526 (0.0139)	0.744 (1.819)	-0.000314 (0.0227)

Two games were conducted as part of the survey, testing the ability of students to allocate money in a hypothetical shopping scenarios. They were given a certain amount of money and a goods/price list then asked to allocate their money to purchase the goods. They were evaluated on how successfully they allocated the money, if their goods purchased reflected their assessment of the amount of money or money left over, how long they took, and if they retried in case of error. Each column in Panel A presents the results of an OLS regression of the outcome variable on Aflatoun and HMB treatment dummies. Each column in Panel B presents the results of an OLS regression of the outcome variable on a dummy for either HMB or Aflatoun treatment. In Columns (2) & (5), because students were asked to allocate all of the money, the more money left over, the worse the performance on the financial literacy test. † indicates that the variable enters the index negatively. Regressions control for stratification dummies (region and enrollment per stream). Standard errors clustered at the school level, in parentheses. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

**Appendix Table 8: Temptation Goods**

Dependent Variables:				
	Temptation Goods Index	Amount spent on snacks in the last 7 days	Amount spent on non-food goods and entertainment in the last 7 days	Amount would spend on fun if given 5 cedis
	(1)	(2)	(3)	(4)
<b>Panel A: Individual Treatment Effects</b>				
Aflatoun	-0.0346 (0.0468)	0.0333 (0.0540)	0.0185 (0.150)	-0.141** (0.0579)
HMB	-0.0209 (0.0435)	0.00356 (0.0602)	-0.127 (0.116)	-0.0103 (0.0493)
Control group mean	0.000	0.578	0.709	0.657
Control group stdev	1.000	1.255	3.465	1.408
Baseline mean of outcome variable	-0.054	0.643	0.555	0.356
Observations	5364	5364	5364	5364
R-squared	0.0521	0.0289	0.0128	0.0371
p-value for test of Aflatoun = HMB	0.712	0.593	0.265	0.0262
<b>Panel B: Pooled Treatment Effect</b>				
Aflatoun or HMB	-0.0278 (0.0411)	0.0184 (0.0500)	-0.0542 (0.117)	-0.0757 (0.0457)

Each column in Panel A presents the results of an OLS regression of the outcome variable on Aflatoun and HMB treatment dummies. Each column in Panel B presents the results of an OLS regression of the outcome variable on a dummy for either HMB or Aflatoun treatment. Regressions control for stratification dummies (region and enrollment per stream). Standard errors clustered at the school level, in parentheses. \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$

**Appendix Table 9: Expenditure**

Dependent Variables:	Expenditure Index	Amount spent on self in the last 7 days	How much money do you expect to spend in the next 7 days?
	(1)	(2)	(3)
<b>Panel A: Individual Treatment Effects</b>			
Aflatoun	-0.0154 (0.0504)	0.0597 (0.305)	-0.260 (0.339)
HMB	-0.0653 (0.0459)	-0.207 (0.269)	-0.447 (0.331)
Control group mean	0.000	5.244	5.894
Control group stdev	1.002	5.716	8.216
Baseline mean of outcome variable	0.020	5.154	5.983
Observations	5279	5231	5114
R-squared	0.154	0.142	0.0956
p-value for test of Aflatoun = HMB	0.276	0.351	0.545
<b>Panel B: Pooled Treatment Effect</b>			
Aflatoun or HMB	-0.0403 (0.0425)	-0.0733 (0.251)	-0.352 (0.298)

Each column in Panel A presents the results of an OLS regression of the outcome variable on Aflatoun and HMB treatment dummies. Each column in Panel B presents the results of an OLS regression of the outcome variable on a dummy for either HMB or Aflatoun treatment. Regressions control for stratification dummies (region and enrollment per stream). Standard errors clustered at the school level, in parentheses. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

**Appendix Table 10: Confidence**

Dependent Variables:	Confidence Index	Confident in taking exams at school	Has a low opinion of self †	Often feels upset at school †	Teacher makes them feel they are not good enough †	Often gets discouraged at school †
	(1)	(2)	(3)	(4)	(5)	(6)
<b>Panel A: Individual Treatment Effects</b>						
Aflatoun	-0.0468 (0.0448)	-0.0169 (0.0303)	0.0300 (0.0294)	-0.00649 (0.0246)	0.0448* (0.0263)	0.000437 (0.0250)
HMB	-0.0108 (0.0445)	-0.0219 (0.0289)	0.00883 (0.0311)	0.00212 (0.0219)	0.00398 (0.0227)	-0.0180 (0.0231)
Control group mean	0.000	2.047	1.066	1.160	1.055	1.070
Control group stdev	1.002	0.611	0.626	0.630	0.580	0.603
Baseline mean of outcome variable						
Observations	5291	5285	5281	5287	5281	5286
R-squared	0.00917	0.00731	0.0103	0.00250	0.00186	0.00381
p-value for test of Aflatoun = HMB	0.456	0.865	0.473	0.719	0.130	0.446
<b>Panel B: Pooled Treatment Effect</b>						
Aflatoun or HMB	-0.0288 (0.0377)	-0.0194 (0.0257)	0.0195 (0.0265)	-0.00220 (0.0200)	0.0244 (0.0207)	-0.00876 (0.0209)

Each column in Panel A presents the results of an OLS regression of the outcome variable on Aflatoun and HMB treatment dummies. Each column in Panel B presents the results of an OLS regression of the outcome variable on a dummy for either HMB or Aflatoun treatment. Individual outcome variables take on integer values ranging from 1 (strongly disagree) to 4 (strongly agree). † indicates that the variable enters the index negatively. Regressions control for stratification dummies (region and enrollment per stream). Standard errors clustered at the school level, in parentheses. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

**Appendix Table 11: Academic Performance**

Dependent Variables:	Academic Index	During the last school week, how many days did you attend?	Standardized aptitude test score
	(1)	(2)	(3)
<b>Panel A: Individual Treatment Effects</b>			
Aflatoun	-0.0339 (0.0638)	-0.0352 (0.0702)	-0.0314 (0.0643)
HMB	-0.0463 (0.0642)	-0.114 (0.0696)	0.00391 (0.0655)
Control group mean	0.000	4.526	0.0157
Control group stdev	1.000	1.181	1.025
Baseline mean of outcome variable	-0.017	4.612	0.00
Observations	5364	4116	5364
R-squared	0.0468	0.0165	0.0769
p-value for test of Aflatoun = HMB	0.819	0.253	0.530
<b>Panel B: Pooled Treatment Effect</b>			
Aflatoun or HMB	-0.0401 (0.0580)	-0.0745 (0.0612)	-0.0138 (0.0586)

Each column in Panel A presents the results of an OLS regression of the outcome variable on Aflatoun and HMB treatment dummies. Each column in Panel B presents the results of an OLS regression of the outcome variable on a dummy for either HMB or Aflatoun treatment. The outcome variable in Column (3) takes the value of the student's standardized aptitude test score for either the primary or junior high school version of the aptitude test. The score distribution for each aptitude test was standardized within the relevant test-taking population, and these two sets of standardized scores were then combined to form one composite variable. Regressions control for stratification dummies (region and enrollment per stream). Standard errors clustered at the school level, in parentheses. \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$

**Appendix Table 12: Takeup**

	Aflatoun (1)	HMB (2)	Combined (3)
Savings Behavior Index	0.0151 (0.0308)	0.0964*** (0.0231)	0.0478* (0.0255)
Savings Environment Index	-0.0401 (0.0306)	-0.00701 (0.0187)	-0.0250 (0.0192)
Work Index	-0.0224 (0.0180)	0.0189 (0.0427)	0.00236 (0.0239)
Risk Preference Index	0.0126 (0.0212)	-0.00312 (0.0282)	0.00426 (0.0183)
Time Preference Index	-0.00585 (0.0217)	-0.0175 (0.0322)	-0.00882 (0.0193)
Financial Literacy Index	0.0255 (0.0176)	0.104** (0.0411)	0.0621** (0.0235)
Temptation Goods Index	0.0168 (0.0365)	0.0302 (0.0272)	0.0347 (0.0254)
Expenditure Index	0.0463 (0.0331)	0.0179** (0.00616)	0.0177*** (0.00468)
Academic Index	0.00469 (0.0155)	-0.00604 (0.0483)	-0.00559 (0.0213)
Female	0.0614 (0.0586)	0.105 (0.0795)	0.0895* (0.0478)
Age	0.00286 (0.0193)	-0.0344 (0.0253)	-0.0221 (0.0183)
Ever Repeated Grade	0.0780 (0.0426)	0.0457 (0.0379)	0.0760** (0.0349)
1st PCA of durables ownership	0.0277** (0.0112)	-0.0344 (0.0372)	0.000829 (0.0230)
Household Size	-0.00458 (0.0107)	-0.0116 (0.0191)	-0.0106 (0.00751)
Number of Earners in HH	0.000461 (0.0186)	0.0131 (0.0421)	0.0132 (0.0229)
Household Wages per week / 100	-0.00890 (0.00826)	0.00170 (0.0108)	-0.00142 (0.00800)
Mean of dependent variable	0.180	0.277	0.223
R-squared	0.0589	0.138	0.0666
Number of observations	294	231	525

Each column presents the results of an OLS regression of program participation in the Aflatoun and/or HMB schools for which data were collected. Standard errors clustered at the school level, in parentheses. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1