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**IMPACT EVALUATION OF THE INCOME-GENERATING ACTIVITIES  
(AGR) SUPPORT PILOT PROJECT  
Final Report**

**Innovations for Poverty Action (IPA) for the Agency of Partnership for Progress**



**Agence du Partenariat  
pour le Progrès**  
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## Introduction

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This report presents the final results of the impact evaluation of the Income-Generating Activity (AGR) Support Program entitled “AGR Support.” Conducted more than three years after the initial survey and 30 months after the start of the AGR support and mentoring actions, the final survey supplemented the first three follow-up surveys and the qualitative survey to provide an overall, longer-term view of the effects of the mentoring of AGRs in the launch phase by the INDH [National Initiative for Human Development] and the APP [Agency of Partnership for Progress].

The first part of this report describes the data sources that were used to perform this impact evaluation, as well as the evaluation methodology. In order to make the final report less cumbersome, some methodological aspects concerning the final survey were reported in the appendices.

The second part of this report presents the implementation of the “AGR Support” program. It describes the program’s content and its implementation schedule, and enables measurement of the added value of this specific program compared with the other mentoring opportunities present in Morocco that AGRs would have had access to anyway in the absence of the INDH's AGR support. We note that the INDH’s support to AGRs permitted a doubling of the volume of training generally received by coordinators and beneficiaries of AGRs and made available – in addition to fairly common training such as technical support and management, accounting, and computer training – less common support such as coaching, human resources training, or networking activities.

The third part of the report presents the impact of the “AGR Support” program on AGR performance factors, then on the performances themselves (survival, sales, and profits), and then on the situation of the people working in AGRs (coordinators and beneficiaries). While the effects obtained at the conclusion of the follow-up surveys were limited to the AGR performance factors, the long-term effects have finally materialized with significant improvements in the economic performances of AGRs, as well as in the personal situation of the people working in them. We can conclude from this evaluation that the “AGR Support” program strengthened the survival abilities and economic profitability of AGRs, and improved the standard of living and level of well-being of their members. The results are all the more in keeping with the INDH’s mission, as it is primarily modest AGRs and households that benefitted from the support program, and not just the highest performing or richest.

## **Part A**

### **Description of the Data and the Survey Methodology**

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#### **I. Survey Schedule and Description**

The evaluation of the “AGR Support” program is based on an initial survey, four follow-up surveys, and a qualitative survey.

The initial survey took place in October, November, and December 2009. It permitted the collection of baseline values for a number of key indicators that were likely to be affected by the program for both AGR coordinators and beneficiaries. Use of the baseline value of these indicators as a control variable in the final econometric analysis allows for improved precision of the estimator of the program’s effect, thus enabling it to be able to detect smaller effects (if such effects exist). The initial survey also permitted stratification of the sample to form groups of AGRs with similar characteristics before randomly selecting in each of the groups so formed the AGRs that were to benefit from the support program and those that were to be the control group. Finally, the initial survey allowed us to verify, once the random selection had been performed, that it had produced two groups of AGRs with identical baseline characteristics.

The first follow-up survey took place face to face from November 8, 2010 to January 15, 2011, and the second follow-up survey was conducted by telephone from June 24 to July 29, 2011. These two surveys were not as lengthy because they involved only the AGR coordinators and not the beneficiaries. Their goal was to measure the very short-term effects of the program, as well as to keep in touch with the AGRs, permitting the updating of contact information and ensuring against the risk of attrition for the subsequent surveys.

The third follow-up survey took place in the months of January and February 2012. This third survey was very important because it involved the AGR coordinators and beneficiaries. It permitted measurement of the program’s impact when it had just ended, thus still over the short term, but after the entire plan had been carried out. It was supplemented by a qualitative survey that was conducted between February 16 and March 1, 2012 in the cities of Agadir, Tetouan, and Taounate. The qualitative survey concerned 12 beneficiary focus groups and individual interviews with coordinators. The third follow-up survey and the qualitative survey

were used as a basis for deciding whether to extend the program. Because the effects were deemed too weak at that stage, the program was not extended.

The final survey took place one year later, from December 3, 2012 and [sic] February 16, 2013. Thus the lapse of time is about 24 months after the diagnostic actions, 18 months after the start of the support operations, and 12 months after the end of the support operations. This survey was also conducted with coordinators and beneficiaries. For the first time, the questionnaire was input on an electronic medium (touch-screen tablets).

## II. Samples

All the AGR coordinators were surveyed during the initial survey, but it was not possible to survey all the beneficiaries given the large number of beneficiaries per AGR. Also, we sampled 4 beneficiaries per AGR: 1 beneficiary was randomly selected from a list of three beneficiaries who were eligible to receive training if selected in the treatment group, 1 board member was randomly selected from among the board members, and 2 beneficiaries were randomly selected from the list of all beneficiaries except for the 3 on the first list.

The total number of coordinators and beneficiaries surveyed in each survey round is presented in the table below:

	Number of coordinators surveyed	Number of beneficiaries surveyed
Initial survey	564	2,214
First follow-up survey	564	0
Second follow-up survey	558	0
Third follow-up survey	556	2,129
Qualitative survey	12	Approximately 40
Final survey	550	1,667

There was very little attrition of coordinators over the three years and three months between the initial survey and the final survey. The attrition analyses show that there is no significant difference between the initial sample and the final sample based on their baseline characteristics, i.e., the 550 coordinators in the final sample are representative of the initial 564 coordinators.

With respect to beneficiaries, a large number left the AGR over the course of these three years, or even left the *douar* where they were living at the time of the initial survey. During the third follow-up survey, the beneficiaries who were no longer part of the AGR or who could not be found were replaced with other beneficiaries indicated by the coordinator. Being prepared for this problem for the final survey, the methodology was refined so that the sample of beneficiaries surveyed would be representative of the AGR beneficiaries. Also, beyond the

beneficiaries in the initial survey who were researched for the maximum amount of time by the survey administrators, one additional beneficiary was randomly selected from the list of current AGR beneficiaries.

### **III. Improvements Made to the Final Survey**

It should be emphasized that the final survey gave rise to two major methodology improvements. The first concerns the construction of the AGR performance indicators. In effect, the questions relating to production and sales associated with the AGR's activity were asked not only to coordinators (as at baseline and in the third follow-up survey) but also to beneficiaries who conduct their own sales. Thus we were able to construct economic and managerial performance indicators by taking into account the diversity of the structure of AGRs. In fact, we find three AGR structures:

- AGRs that conduct collective sales and whose beneficiaries do not conduct their own sales
- AGRs that do not conduct collective sales and whose beneficiaries conduct their own sales
- AGRs that conduct collective sales and whose beneficiaries conduct their own sales

Previously, most economic and entrepreneurial performance indicators for AGRs were observed based solely on information provided by the coordinator and so only involved collective sales. The final survey gives all the information enabling observation of economic performances for all the sales units of the AGR, i.e., not just collective sales, if any, but also sales performed by beneficiaries as well, if any. Thus, for example, the sales figure for AGRs is no longer limited to only the collective sales of AGRs; it is now the sum of the collective sales (if any) and the individual sales (if any), which gives the total sales figure for all the AGR's sales units. Therefore the methodology is adapted to all AGR sales configurations.

The second methodology improvement concerns the study of the effects of the AGR Support Program on the situation of its members. During previous surveys, the questions regarding the personal situation of individuals working for the AGR were posed to the AGR's beneficiaries but not to the AGR's coordinator. But in the final survey, the coordinator was also asked these questions. In fact, the third follow-up survey showed that coordinators were the most intensely affected by the program (in terms of training received) and thus it seemed natural that their own personal situation would potentially be changed by the program. Therefore it appeared to us that the analysis of the program's effects on the personal situation of the people working in the AGR should include the coordinator as well as the beneficiaries.

### **IV. Evaluation Methodology**

The impact of the "AGR Support" program is measured by the differences between the AGRs in the control group and the AGRs in the treatment group for all the variables likely to be

affected by the treatment. These differences are calculated by ordinary least squares regressions including stratum indicators as a control variable if the number of observations is sufficient,<sup>1</sup> and – as often as possible – the value of the variable of interest at the time of the initial survey. The purpose of these control variables is to improve the precision of the estimators of the program’s effect by reducing the statistical noise due to the intrinsic heterogeneity among the set of AGRs.

For variables that are not bounded,<sup>2</sup> we present the results obtained by removing the top 5% of observations from the distribution. In fact, the analysis of the distribution of the unbounded variables indicates that the presence of a few very specific observations contained in the database prevents us from obtaining an accurate and readable picture of the performance indicators and the effect of the support program on the AGRs. As can be seen in the graphs in Appendix 1, a few extreme values are very far away from the rest of the distribution, which is no longer readable due to this fact. This small group of very specific observations affects many of the statistics obtained for the total sample and makes it impossible to measure the effect of the support program on the very large majority of “normal” observations. Consequently, we have chosen to present the results for the sample by excluding the top 5% of observations, which gives us a more accurate and precise idea of the performances of the AGRs and the effect of the support program.

All the results in this section come from the following regression:

$$Y = \alpha + \beta T + \delta X + \epsilon$$

where  $Y$  is the result variable (sales, number of beneficiaries, etc.),  $T$  is the binary variable indicating the group the AGR is assigned to – treatment or control, and  $X$  is a control variable vector corresponding to the stratum indicators (when the observation unit is a person) and to the level of the variable of interest in the baseline survey (when available).  $\beta$  is the parameter of interest, since it measures the change in  $Y$  induced by an increase in  $T$  of one unit, i.e., moving from control to treatment.  $\alpha$  is the equation constant,  $\delta$  is the vector of coefficients associated with the control variables, and finally  $\epsilon$  is the residual of the regression (the

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<sup>1</sup> The indicator shows the stratum the AGR falls in. Each stratum corresponds to a group of AGRs possessing common characteristics (gender of the coordinator, region, line of business) or similar characteristics (initial investment and number of beneficiaries). The stratum indicators were included when the number of observations was high (beneficiaries or beneficiaries + coordinators). However, when the number of observations was moderate, such as when we observe the AGRs, the stratum indicators were not used because, in this case, their inclusion diminishes rather than increases the precision of the estimators of the effect of the support program.

<sup>2</sup> The value of which does not fall within a predetermined interval, such as profits, production costs, or sales.



component of the result variable that is not explained by either membership in the treatment group or by the control variables).

The analysis of the results presented below is organized by family of expected effects. We first evaluate the effect of treatment on the AGR performance factors, i.e., the managerial factors that are supposedly related to the economic performances of the AGRs. We classify these performance factors into three [sic] categories: 1) quality of the logistics and the partner network, 2) production investments and expenses and 3) their financing, 4) internal governance of the AGR, and, finally, 5) psychological factors such as optimism and entrepreneurial spirit. Then we study the program's impact on the AGR's economic performances: its level of activity, its sales, and its profits. Finally, we evaluate the program's impact on the situation of the people involved in the AGR (coordinator and beneficiaries) through their employment, income, personal indebtedness, consumption, and psychological well-being.

## **Part B:**

### **Implementation of the AGR Support Program**

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#### **I. OVERVIEW OF THE “AGR SUPPORT” PROGRAM**

The Initiative Nationale pour le Développement Humain [National Initiative for Human Development] (INDH) is a “Grand Work-Project of the Reign” launched on May 18, 2005, by His Majesty the King. Its purpose is to fight poverty, social exclusion, and job insecurity, and to reduce territorial differences in terms of basic social infrastructures and economic inclusion. For its implementation, INDH governance bodies were set up at different echelons, underpinned by support teams, specifically the Social Action Divisions (DASs) with head offices in each prefecture and province in the Kingdom. These DASs ensure the oversight and implementation of actions initiated under the INDH, namely the Income-Generating Activities (AGRs).

The AGR Support Project is funded by the Millennium Challenge Corporation (MCC) via the Agency of Partnership for Progress (APP). When this project was created, there were few rigorous empirical elements with respect to the effectiveness of post-creation enterprise training to estimate the economic returns of the program. In particular, it was difficult to know to what degree training increased the income and survival rates of AGRs and, consequently, to know whether the benefits of the program would be greater than the costs. The “AGR Support” program consists of personalized expertise provided to each coordinator. After a day of personalized diagnosis, an action plan is drawn up proposing namely training actions, technical assistance, coaching, and networking activities, depending on the needs of each AGR.

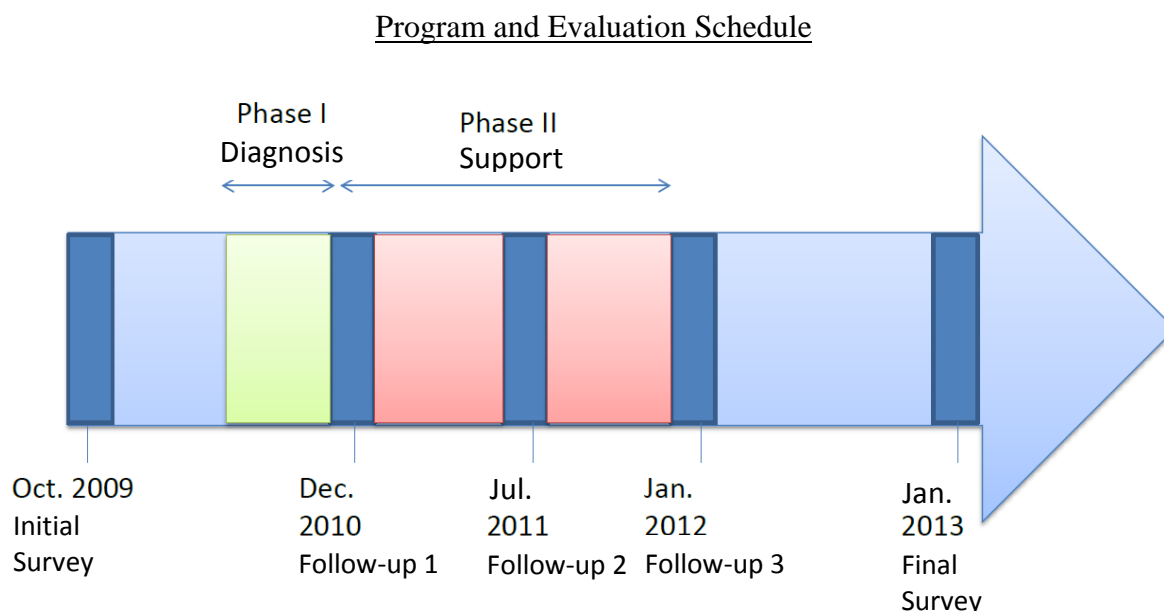
The support actions were performed by a private service provider. Two types of support can be distinguished: on the one hand, technical support specific to a trade and thus to the activity of the AGR and, on the other hand, coaching actions aimed at strengthening or developing the

managerial skills that apply to all AGRs (marketing, coaching, accounting, management, networking, human resources, and computing). The training is done per group of four people per AGR (the coordinator and three beneficiaries) for 2 to 3 AGRs, i.e., in groups of 8 to 12 people. Only coaching and technical support is carried out individually. The support was designed to cover 14 days per AGR. One day is devoted to diagnosis with the coordinator, then days are devoted to support actions. During the support actions, a second day of diagnosis was carried out in order to evaluate the first part of the support and, based on that evaluation, the support actions were corrected and improved.

## II. “AGR SUPPORT” PROGRAM SCHEDULE

The program started in the spring of 2010 with diagnostic days in the AGRs. These first days enabled the coordinators to review with the mentors the AGR’s needs terms of training, coaching, or technical support. The diagnostic day already constituted an important step in the program because it allowed coordinators to take the time to reflect on possible improvements and the tools available for implementing them.

The support operations themselves (training, coaching, or technical support sessions) started at the beginning of 2011 and were completed at the end of 2011. It is important to keep in mind the position of the surveys in relation to the program implementation schedule. The diagram below therefore presents the entire progression of the program and the evaluation:



It can be clearly seen that the three follow-up surveys are concomitant with the implementation of the program and thus enable the immediate effects of the diagnosis (for the first one) and the support (for the subsequent two) to be captured. Only the final survey enables the longer-term effects, approximately 12 months after the end of the program (30 months after its start), to be measured.

### III. INTENSITY AND ADDED VALUE OF THE “AGR SUPPORT” PROGRAM

Tables 1 and 2 show the intensity of the “AGR Support” program, as well as the added value in relation to the existing training systems in Morocco which the AGR coordinators and beneficiaries would have had access to anyway in its absence. Table 1 presents the results for the coordinators, while Table 2 presents the results for the beneficiaries. In both cases, we have combined the information collected during the final survey and the three follow-up surveys to obtain an overview of the training received, its intensity, and its content since the start of the experiment. Thus, the results presented in Tables 1 and 2 are valid for the entire duration of the pilot.

At the end of the three years between assignment of the AGRs to the treatment and control groups and the final survey, 54% of AGR coordinators in the control group indicate that they attended training, for a mean of 1.1 training sessions (i.e., approximately 2 training sessions on average for the half that had training, 0 for the other half) and a mean total of 35 hours of training (columns 1-4). In the treatment group, the intensity of the training is much greater: Almost all (95%) of the coordinators received training, for a mean of 2 training sessions (i.e., likewise 2 training sessions on average for those who had training, since almost everyone had training) and a mean total of 76 hours of training. Thus the “AGR Support” program permitted a doubling of the “usual” coverage for coordinators in terms of training (the number of coordinators who were trained, the number of training sessions received, and the number of training hours received). It should also be noted that almost all the coordinators (89%) explicitly remember the support from “AGR Support” among the training they have received since 2010 (column 2).

Columns 5-10 of Table 1 show the distribution of the training received by training type. In the control group, it appears that the types of training offered most infrequently are coaching (only 9% of coordinators received coaching), networking activities (12%), and human resources training (15%). The most common types of training offered in the absence of the “AGR Support” program are accounting, computing, and management (38% of coordinators received these). The AGR Support Program markedly increased the proportion of coordinators who received each type of training, particularly for the least common training types (human resources, coaching, networking), for which the percentage of coordinators trained increased by more than 50 points. The added value of the program is also notable for the training on sales techniques (marketing, advertising, and market research): 73% of AGR coordinators supported were trained in sales techniques versus only 20% of coordinators in the absence of the program.

As for beneficiaries, the program’s effect is on the same order of magnitude: the proportion of beneficiaries who received training more than doubled, as did the number of training sessions received and the number of training hours received. However, the point of departure is considerably lower, since only 1 beneficiary in 4 received training in the absence of the

program, for a mean total of 14 hours. Overall, without the “AGR Support” program, the type of training received by the beneficiaries is limited to training in accounting, computing, and management, on the one hand, and to technical support, on the other hand. The proportion of beneficiaries receiving coaching or training in human resources, sales techniques, or networking activities is almost null. Thanks to the AGR Support Program, this proportion has risen to approximately 20% for coaching and networking activities, approximately 30% for sales techniques, human resources, and technical support, and close to 40% for training in accounting, computing, and management.

The added value of the “AGR Support” program in terms of volume of training is thus substantial for both coordinators and beneficiaries, since the overall volume just about doubled as a result of the program (starting from a much lower level for beneficiaries). The originality of the content of the “AGR Support” program lies more in the coaching, human resources, and networking activities, which are less commonly used in its absence.

**Table 1: Training Received by AGR Coordinators**

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
					Over the entire pilot					
VARIABLES	Stated had received training	Stated had received support from AGR Support	Total number of training sessions received	Total hours of training received	Received training in accounting, computing or, management	Received technical support	Received training in human resources	Received coaching	Received training in marketing, advertising, or market research	Received training in networking activities
Effect of assignment to the treatment group	0.41*** (0.038)	0.71*** (0.032)	0.94*** (0.199)	40.92*** (6.168)	0.47*** (0.040)	0.35*** (0.041)	0.65*** (0.034)	0.51*** (0.034)	0.53*** (0.038)	0.54*** (0.035)
Mean in the control group	0.539	0.183	1.129	34.55	0.384	0.272	0.153	0.0925	0.202	0.124
Number of AGRs/beneficiaries observed	537	548	530	517	538	538	538	538	538	538
Variance explained (adjusted R2)	0.175	0.464	0.0388	0.0770	0.208	0.118	0.407	0.300	0.266	0.305
Standard deviation in the control group	0.499	0.387	2.496	67.19	0.487	0.445	0.361	0.290	0.402	0.330
Median in the control group	1	0	1	6	0	0	0	0	0	0

The coefficients reported in this table come from an ordinary least squares regression. The standard errors are in parentheses.

\* denotes that the coefficient is significantly different from zero at the 90%, \*\* at the 95%, and \*\*\* at the 99% confidence level

The variables in this table concern the entire duration of the pilot (they were constructed based on the follow-up surveys and the final survey)

**Table 2: Training Received by AGR Beneficiaries**

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
					Over the entire pilot					
VARIABLES	Stated had received training	Stated had received support from AGR Support	Total no. of training sessions received	Total hours of training received	Received training in accounting, computing, or management	Received technical support	Received training in human resources	Received coaching	Received training in marketing, advertising, or market research	Received training in networking activities
Effect of assignment to the treatment group	0.32*** (0.028)	0.40*** (0.024)	0.46*** (0.064)	11.51*** (3.869)	0.27*** (0.027)	0.16*** (0.027)	0.25*** (0.023)	0.20*** (0.021)	0.21*** (0.021)	0.17*** (0.019)
Mean in the control group	0.250	0.0683	0.391	14.77	0.122	0.144	0.0436	0.0284	0.0578	0.0324
Number of beneficiaries observed	1555	1672	1524	1502	1528	1528	1528	1528	1528	1528
Variance explained (adjusted R2)	0.159	0.261	0.110	0.0964	0.148	0.0912	0.153	0.123	0.166	0.131
Standard deviation in the control group	0.433	0.252	0.883	64.42	0.327	0.351	0.204	0.166	0.233	0.177
Median in the control group	0	0	0	0	0	0	0	0	0	0

The coefficients reported in this table come from an ordinary least squares regression. The standard errors are in parentheses.

\* denotes that the coefficient is significantly different from zero at the 90%, \*\* at the 95%, and \*\*\* at the 99% confidence level

The error terms were clustered at the AGR level to account for the correlation between beneficiaries in the same AGR.

The regression includes an indicator of each stratum as control variables

The variables used to construct the strata are: geographic area, gender of the coordinator, line of business, initial investment, and number of beneficiaries

## **Part C:**

### **Impact of the “AGR Support” Program**

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The purpose of this part is to present the effects of the “AGR Support” program 18 months after initiation of the support actions and to relate them to the effects that were observed during the previous follow-up surveys (particularly the third survey that took place 6 months after the start of the support). In this section, we will refer to the results of the third follow-up survey as “short-term effects” and those of the final survey as “long-term effects.” The simultaneous study of the short-term and long-term effects enables us to understand how the effects of the AGR support operations occurred over time and are inferred from one another.

#### **I. IMPACT OF THE PROGRAM ON THE AGR PERFORMANCE FACTORS**

##### **1. AGR Governance**

Table 3 presents the effects of the AGR Support Program on the structure of the AGRs. The program induced an important shift from association status to cooperative status. This change had [already] begun to a slight degree at the time of the third follow-up survey, but it is now more pronounced and very significant: the AGR Support Program enabled a move from association status to cooperative status for 6% of AGRs (producing 49% associations and 49% cooperatives in the treatment group versus 55% and 43% in the control group, with the remainder being EIGs or private companies). Additionally, among associations, 14% are in the process of acquiring cooperative status in the group of supported AGRs versus 9% in the control group. So we see that movement toward cooperative status is common in both groups, but it is already more advanced and continues to progress more rapidly due to the AGR Support Program.<sup>3</sup>

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<sup>3</sup> It should be noted that this change was explicitly encouraged by the trainers in the “AGR Support” program.



**Table 3: AGR Structure**

VARIABLES	(1) Association	(2) Cooperative	(3) EIG or private company	(4) In process of acquiring cooperative status	(5) AGR does collective production	(6) Respondent conducts personal sales of the AGR-related production
Effect of assignment to the treatment group	-0.06** (0.027)	0.06** (0.027)	0.01 (0.011)	0.05* (0.027)	0.01 (0.042)	0.07** (0.034)
Mean in the control group	0.555	0.431	0.0141	0.0901	0.550	0.415
Number of AGRs/beneficiaries observed	547	547	547	547	550	1674
Variance explained (adjusted R2)	0.642	0.626	-0.00231	0.0670	0.138	0.145
Standard deviation in the control group	0.498	0.496	0.118	0.287	0.498	0.493
Median in the control group	1	0	0	0	1	0

The coefficients reported in this table come from an ordinary least squares regression. The standard errors are in parentheses.

\* denotes that the coefficient is significantly different from zero at the 90%, \*\* at the 95%, and \*\*\* at the 99% confidence level

The estimation of the program's impact takes into account the AGR's status at baseline

When the respondents are beneficiaries, the error terms were clustered at the AGR level to account for the correlation between beneficiaries in the same AGR.

When the respondents are beneficiaries, the regression includes an indicator of each stratum as control variables

The variables used to construct the strata are: geographic area, gender of the coordinator, line of business, initial investment, and number of beneficiaries

Another effect of the AGR Support Program is that it increased the proportion of AGRs whose beneficiaries conduct personal sales of the AGR-related production (but without reducing the occurrence of a collective production, which is 55% in both groups and has not changed since the previous survey). Forty-two percent of beneficiaries questioned in the control group conduct personal sales, and this proportion amounts to 49% in the treatment group.

Table 4 presents the effect of the AGR Support Program on meetings within the AGR. We observe an increase in the proportion of AGRs in which there are meetings from 89% in the control group to 96% in the treatment group. The proportion of AGRs in which meetings are monthly is the same in the two groups (approximately 1 AGR in 3), nor do meetings differ with respect to their content except for an increase in the proportion of AGRs in which decisions concerning the operation of the AGR are made during the meetings (this proportion rises from 85% in the control group to 93% in the treatment group). As columns 4, 6, and 7 show, designation of board members and beneficiaries and revenue-sharing are much less common topics (only 1 AGR in 5 discusses these topics during meetings).

While a greater number of AGRs organize meetings as a result of the support program, these meetings do not involve beneficiaries. In fact, Table 5 shows that the proportion of AGRs that organize meetings with beneficiaries is the same in both groups (80%), and only 14% of AGRs organize such meetings at least once a month. The AGR Support Program therefore prompted the establishment of meetings among board members, but it did not motivate AGRs to have beneficiaries participate more. Furthermore, it is reassuring to note that the

information collected from beneficiaries (columns 3 and 4 of Table 5) agrees very well with the information collected from coordinators (columns 1 and 2), and that the participation of beneficiaries seems to be quite regular (when meetings do exist, 78% of beneficiaries state that they attend *every* meeting – column 5).

**Table 4: Meetings Within AGRs**

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	Any type of meeting						
	Existence of meetings	Meetings occur at least once a month	Decisions on AGR's operation are made during meetings	Decisions on revenue-sharing are made during meetings	Decisions on AGR's investments are made during meetings	Decisions on designation of board of members are made during meetings	Decisions on designation of beneficiaries are made during meetings
Effect of assignment to the treatment group	0.07** (0.026)	0.04 (0.043)	0.08*** (0.029)	-0.00 (0.037)	0.04 (0.044)	0.04 (0.038)	-0.04 (0.035)
Mean in the control group	0.888	0.331	0.848	0.225	0.593	0.225	0.199
Number of AGRs/beneficiaries observed	547	547	547	547	547	547	547
Variance explained (adjusted R2)	0.0100	-0.000202	0.0130	-0.00180	-0.000245	-0.000109	0.000235
Standard deviation in the control group	0.316	0.471	0.359	0.418	0.492	0.418	0.400
Median in the control group	1	0	1	0	1	0	0

The coefficients reported in this table come from an ordinary least squares regression. The standard errors are in parentheses.

\* denotes that the coefficient is significantly different from zero at the 90%, \*\* at the 95%, and \*\*\* at the 99% confidence level

**Table 5: Meetings Including AGR Beneficiaries**

VARIABLES	(1)	(2)	(3)	(4)	(5)
	According to the coordinator	Meetings including beneficiaries	Respondent participates in meetings including beneficiaries	Meetings including beneficiaries	If respondent participates in meetings, he/she participates in all meetings
	Existence of meetings including beneficiaries	occur at least once a month	meetings including beneficiaries	occur at least once a month	
Effect of assignment to the treatment group	0.02 (0.035)	-0.01 (0.031)	0.04 (0.030)	0.02 (0.026)	-0.02 (0.028)
Mean in the control group	0.802	0.141	0.734	0.143	0.777
Number of AGRs/beneficiaries observed	537	537	1639	1636	1285
Variance explained (adjusted R2)	-0.00104	-0.00150	0.135	0.0785	0.0520
Standard deviation in the control group	0.399	0.348	0.442	0.350	0.416
Median in the control group	1	0	1	0	1

The coefficients reported in this table come from an ordinary least squares regression. The standard errors are in parentheses.

\* denotes that the coefficient is significantly different from zero at the 90%, \*\* at the 95%, and \*\*\* at the 99% confidence level

When the respondents are beneficiaries, the error terms are clustered at the AGR level to account for the correlation between beneficiaries of the same AGR.

In conclusion, the support for AGRs had several effects on AGR governance: changes toward more AGRs with cooperative status, more beneficiaries conducting personal sales in addition to collective sales, and more AGRs organizing meetings among board members. Positive effects on meetings within AGRs were already observed in the third follow-up survey. Thus positive effects on internal governance had already started in the short term and were confirmed by the final survey.

## 2. Number of Beneficiaries in AGRs

Table 6 presents the program's effect on the number of beneficiaries in AGRs. After omitting the top 5% of observations, we find that the mean number of beneficiaries in AGRs is 29 beneficiaries, with a median of 20 beneficiaries. Entries into and departures from AGRs are quite low (1.5 beneficiaries entered versus 0.8 departed in 2012). In columns 4 and 5 we see that not all beneficiaries take part in collective production and, in particular, collective sales, in which a mean of only 3 beneficiaries participate. The AGR Support Program did not change anything with respect to AGR beneficiaries.

Table 6: Number of Beneficiaries

VARIABLES	(1) Number of beneficiaries	(2) Number of beneficiaries who arrived in 2012	(3) Number of beneficiaries who left in 2012	(4) Number of beneficiaries participating in production	(5) Number of beneficiaries participating in collective sales
Effect of assignment to the treatment group	0.80 (2.413)	-0.24 (0.334)	0.18 (0.183)	0.46 (1.214)	-0.14 (0.511)
Mean in the control group	28.52	1.504	0.833	8.570	3.218
Number of AGRs/beneficiaries observed	522	523	522	522	524
Variance explained (adjusted R2)	0.0397	0.0120	-0.000684	-0.00204	-0.00183
Standard error in the control group	27.37	3.817	1.941	13.30	5.866
Median in the control group	20	0	0	1	0

The coefficients reported in this table are from an ordinary least squares regression. The standard errors are in parentheses.

\* denotes that the coefficient is significantly different from zero at the 90%, \*\* at the 95%, and \*\*\* at the 99% confidence level

The estimation of the program's impact takes into account the number of beneficiaries at baseline

## 3. AGR Management and Partners

The AGR Support Program did not change the use of accounting by either the coordinators or the beneficiaries who perform sales (Table 7). This confirms the results of the previous surveys, in which the number of coordinators who used accounting was similar in both AGR groups. The accounting knowledge of coordinators and beneficiaries is also identical in both groups, which suggests that the training received under the support program did not improve the quality of use of accounting either. Moreover, it should be noted that the level of use and knowledge of accounting by beneficiaries is very low compared with that of coordinators (only 10% use handwritten accounting and almost no beneficiaries can cite even just one write-in category in accounting, while 68% of coordinators use handwritten accounting and they can cite a mean of 2.5 write-in categories out of 8).

This is deceiving because 85% of coordinators and 29% of beneficiaries in the treatment group were trained in accounting, computing, and management. When we itemize this group of training, however, it appears that it involved primarily management more than accounting and computing. In addition, in all the previous follow-up surveys, a greater number of coordinators indicated that they had made accounting improvements, which does not translate the level of use or knowledge of accounting.

**Table 7: Use of Accounting in AGRs**

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)
	The coordinator...			The beneficiaries who conduct sales...		
	Uses			Use		
	Uses handwritten accounting	accounting by computer or done by outside accountant	Number of write-in accounting categories cited	Use handwritten accounting	accounting by computer or done by outside accountant	Number of write-in accounting categories cited
Effect of assignment to the treatment group	0.05 (0.040)	0.04 (0.038)	0.20 (0.194)	0.03 (0.025)	-0.00 (0.005)	0.01 (0.073)
Mean in the control group	0.679	0.235	2.534	0.104	0.00887	0.327
Number of AGRs/beneficiaries observed	550	549	548	729	729	728
Variance explained (adjusted R2)	0.0502	0.0270	0.0468	0.0709	0.0609	0.0956
Standard deviation in the control group	0.468	0.424	2.235	0.306	0.0939	1.033
Median in the control group	1	0	3	0	0	0

The coefficients reported in this table come from an ordinary least squares regression. The standard errors are in parentheses.

\* denotes that the coefficient is significantly different from zero at the 90%, \*\* at the 95%, and \*\*\* at the 99% confidence level

When the respondents are coordinators, the estimation of the program's impact takes into account the level of use of accounting at baseline

When the respondents are beneficiaries, the error terms were clustered at the AGR level to account for the correlation between beneficiaries in the same AGR.

When the respondents are beneficiaries, the regression includes an indicator of each stratum as control variables

The variables used to construct the strata are: geographic area, gender of the coordinator, line of business, initial investment, and number of beneficiaries

The sample of beneficiaries includes only those who conduct their own sales

As can be seen in Table 8, the changes in logistics (management, production, and distribution) were not more numerous in the AGRs that received the support program than in those that did not receive it *during 2012*. In the three follow-up surveys, a greater number of coordinators of the supported AGRs stated that they had made management changes. Thus all the management changes prompted by the AGR Support Program took place within a very short period (from performance of the diagnoses to six months after the start of the support operations). It is also interesting to note that the overall level of logistics changes in 2012 was very low compared with the previous surveys, independently of the AGR Support Program (see the very low change rates in the control group). This suggests that AGRs reached a stage of maturity in 2012 in which management, production, and distribution processes are stabilized. The fact remains that the supported AGRs reformed their management method more than the control AGRs in 2011, and this gap was not closed subsequently, resulting in a positive impact of the AGR Support Program on changes in internal logistics.

The total quantity of stock held by all sales units of the AGR (the AGR if it conducts collective sales, as well as the beneficiaries who conduct their own sales) is identical in both groups (columns 4 and 5), as is the number of trading partners (column 6). The number of *non*-trading partners increased substantially in 2012 (in the control group it went from a mean of 8 partners at the beginning of 2012 to a mean of 37 partners at the beginning of 2013), and the AGR Support Program further enhanced this natural trend by increasing the number of non-trading partners to approximately 10 partners (column 7) (this result is not significant at a conventional level, but it is very close with a Student's statistic of 1.61). This result had already been observed in the short term, since the AGR Support Program had significantly increased the number of non-trading partners by 2 partners.

**Table 8: Logistics and Partners**

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	In 2012				At time of survey		
	Changed management	Changed production	Changed distribution	Has stock	Total value of stocks	Total number of trading partners	Total number of non-trading partners
Effect of assignment to the treatment group	0.03 (0.020)	0.02 (0.029)	0.00 (0.025)	0.02 (0.037)	1,098.27 (5,693.585)	0.18 (0.666)	10.37 (6.414)
Mean in the control group	0.0563	0.139	0.0990	0.357	24184	2.931	36.55
Number of AGRs observed	550	550	550	550	523	523	523
Variance explained (adjusted R2)	0.00250	-0.00101	-0.00180	-0.00137	-0.00185	-0.00179	0.00308
Standard deviation in the control group	0.206	0.316	0.276	0.415	62923	7.304	68.48
Median in the control group	0	0	0	0	0	0	8.667

The coefficients reported in this table come from an ordinary least squares regression. The standard errors are in parentheses.

\* denotes that the coefficient is significantly different from zero at the 90%, \*\* at the 95%, and \*\*\* at the 99% confidence level

Each variable of interest takes into account all sales units of the AGR: the AGR if it conducts sales and the beneficiaries who conduct sales

For questions for which the answer is yes/no, the variable is the mean of the answers of the AGR's sales units

For questions for which the answer is an amount, the variable is the sum of the answers of the AGR's sales units

In conclusion, the support to AGRs did not change the use of accounting by coordinators and beneficiaries, but it enabled short-term management changes and increased the number of non-trading partners over both the short and the long term. The increase in the number of non-trading partners is an interesting effect because it has been observed in other studies that informal exchanges among entrepreneurs permitting the sharing of advice and experiences is a success factor for small enterprises.

#### 4. Production Costs and Investments

##### a. Production Costs

Table 9 presents the breakdown of the production expenses borne by all sales units of the AGRs (collective and/or individual) by expense type (equipment rental, equipment maintenance, marketing, purchases of inputs, energy costs, business site, and

subcontracting).<sup>4</sup> Table 10 completes this by presenting the labor expenses (permanent and casual). Column 3 of Table 10 presents the sum of all these itemized production costs, while column 4 presents the declared production cost total (in the questionnaire, the production cost total was asked for before the breakdown by type of cost, so the declared total is not a simple sum of the itemized production costs<sup>5</sup>).

The AGR Support Program increased the AGRs' production expenses. We see a significant increase in equipment rental expenses, the amount of purchases of inputs, and the declared total expenses. In all three instances, it is a substantial increase greater than or equal to 40%. For the other expense types, the AGR Support Program did not create any marked and statistically significant differences. It should also be noted that the AGR Support Program did not have any impact on fixed-capital investments (column 5 of Table 10). Thus the AGR Support Program prompted AGRs to use new production tools, but by rental only and not by purchase. It may be that the amounts required for the purchase of new production tools are high and that AGRs need a longer period of time to acquire them.

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<sup>4</sup> For all cost types, we asked about the amount of expenses in the month prior to the survey as well as the amount of expenses since January 2012 in order to account for cycle effects. In the vast majority of cases, both approaches yield the same means and the same dispersion. If the two approaches yield different means and/or dispersions, only the method that produced the lowest dispersion was retained.

<sup>5</sup> We used these two approaches jointly in order to test whether the results obtained vary substantially based on the way the people questioned are asked about the production costs. Looking at the means in the control group, we observe that the total expenses declared is much lower than the sum of the itemized expenses. This may be due to a memory effect whereby respondents tend to underestimate the whole in relation to the sum of the parts. It should also be pointed out that the two means are not strictly comparable because the sum of the itemized expenses could have been reported for a smaller number of respondents than the declared total expenses, which means that for a given AGR, the number of sales units that were used to calculate each of these two variables is different (fewer sales units taken into account to calculate the sum of the itemized expenses).

**Table 9: Amounts of AGR Production Expenses, by Cost Type**

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
				In 2012			
VARIABLES	Total equipment rental costs	Total maintenance costs	Total marketing costs	Total purchases of inputs	Total energy costs	Total site expenses	Total subcontracting expenses
Effect of assignment to the treatment group	339.12** (164.031)	426.00 (390.120)	-5.22 (46.485)	11,340.30* (6,460.648)	2,322.61 (3,721.404)	575.53 (419.250)	-186.87 (125.007)
Mean in the control group	549.6	1318	179.5	26537	19043	1442	499.1
Number of AGRs observed	524	524	525	523	523	523	523
Variance explained (adjusted R2)	0.00622	0.000368	-0.00189	0.00397	-0.00117	0.00169	0.00236
Standard deviation in the control group	1637	3952	517.6	68987	39680	4197	1516
Median in the control group	0	0	0	1725	3120	0	0

The coefficients reported in this table come from an ordinary least squares regression. The standard errors are in parentheses.

\* denotes that the coefficient is significantly different from zero at the 90%, \*\* at the 95%, and \*\*\* at the 99% confidence level

Each variable of interest takes into account all sales units of the AGR: the AGR if it conducts sales and the beneficiaries who conduct sales

For questions for which the answer is yes/no, the variable is the mean of the answers of the AGR's sales units

For questions for which the answer is an amount, the variable is the sum of the answers of the AGR's sales units

**Table 10: Labor, Total Expenses, and Investments**

	(1)	(2)	(3)	(4)	(5)
			In 2012		
VARIABLES	Total wages of regular employees	Total wages of casual employees	Sum of itemized production costs	Declared total production costs	Total value of fixed-capital investments
Effect of assignment to the treatment group	-839.90 (1,828.899)	224.24 (694.055)	7,156.72 (13,350.043)	9,134.63** (4,124.980)	-2,032.51 (1,979.850)
Mean in the control group	8292	2537	66797	20185	7756
Number of AGRs observed	523	523	523	523	523
Variance explained (adjusted R2)	-0.00151	-0.00172	-0.00137	0.00742	0.000103
Standard deviation in the control group	20283	7212	142315	41212	23397
Median in the control group	0	0	11085	2400	0

The coefficients reported in this table come from an ordinary least squares regression. The standard errors are in parentheses.

\* denotes that the coefficient is significantly different from zero at the 90%, \*\* at the 95%, and \*\*\* at the 99% confidence level

Each variable of interest takes into account all sales units of the AGR: the AGR if it conducts sales and the beneficiaries who conduct sales

For questions for which the answer is yes/no, the variable is the mean of the answers of the AGR's sales units

For questions for which the answer is an amount, the variable is the sum of the answers of the AGR's sales units

Because there is no reason why the purchase prices that apply to AGRs would be different between the treatment and control groups (rising in the treatment group), the increase in production expenses suggests a sharp increase in volumes produced as a result of the AGR Support Program.

## 5. AGRs' Financing

### a. Payment Terms

Table 11 presents the proportion of sales units in the AGRs that grant or receive extended payment terms, as well as outstanding trade receivables and payables at the time of the survey. The AGR Support Program did not have any effect on payment terms.

The proportion that grant extended payment terms to customers is 31% in both groups, and the proportion who receive extended payment terms from suppliers is 28% in both groups. These proportions are slightly higher than they were in the third follow-up survey, but overall they remain similar. At the time of the final survey, outstanding trade receivables were close to 6,200 DH, while outstanding trade payables were 3,600 DH, which represent amounts that are clearly reduced compared with the previous year (in the third follow-up survey, we found 13,500 DH in trade receivables and 8,400 DH in trade payables, respectively). In contrast, approximately half of trade receivables and payables are held informally, which is a higher proportion than in the previous year, suggesting that the decrease in extended payment terms in 2012 only involved formal receivables and payables.

**Table 11: Payment Terms with AGRs' Suppliers and Customers**

VARIABLES	(1) Grants customers extended payment terms	(2) Total outstanding trade receivables	(3) Total outstanding informal trade receivables	(4) Suppliers grant extended payment terms	(5) Total outstanding trade payables	(6) Total outstanding informal trade payables
Effect of assignment to the treatment group	0.06 (0.035)	924.40 (1,449.426)	807.30 (852.963)	0.01 (0.033)	83.88 (983.875)	-683.53 (543.520)
Mean in the control group	0.315	6211	2691	0.277	3616	2006
Number of AGRs observed	550	523	523	550	523	523
Variance explained (adjusted R2)	0.0819	0.167	0.00707	0.0581	-0.00404	0.00427
Standard deviation in the control group	0.403	18188	9251	0.381	10497	6614
Median in the control group	0	0	0	0	0	0

The coefficients reported in this table come from an ordinary least squares regression. The standard errors are in parentheses.

\* denotes that the coefficient is significantly different from zero at the 90%, \*\* at the 95%, and \*\*\* at the 99% confidence level

The estimation of the program's impact takes into account the level of the variable of interest at baseline (without beneficiaries who conduct sales)

Each variable of interest takes into account all sales units of the AGR: the AGR if it conducts sales and the beneficiaries who conduct sales

For questions for which the answer is yes/no, the variable is the mean of the answers of the AGR's sales units

For questions for which the answer is an amount, the variable is the sum of the answers of the AGR's sales units

### b. Indebtedness

Table 12 presents the level of indebtedness of AGRs. Here we consider the AGR as a legal entity, i.e., we exclude debts incurred by beneficiaries. The indebtedness of beneficiaries and coordinators as individuals will be studied later on in the analysis of the economic situation of



households, since it is not possible in reality to distinguish between personal indebtedness associated with the AGR's activity and personal indebtedness associated with other activities or consumption (in point of fact, resources in households are fungible, thus resources loaned for a given activity can, in reality, replace their own resources, which are then made available for another activity, etc.).

We see that only 15% of AGRs have an active loan, and most of them have only one since the mean number of active loans is 0.18 for all AGRs (columns 1 and 2).<sup>6</sup> In the third follow-up survey, 24% of AGRs had an active loan, which suggests a considerable debt paydown during 2012 (we find about the same level of debt paydown when we observe that 0.07 active loans per AGRs came due in 2012, column 3). The mean level of indebtedness is also very low at 1,329 DH, and the mean total remaining to be paid back is 1,386 DH. This indicates that, overall, the AGRs are not very indebted, with a very large majority of them having no active loan to pay.

**Table 12: AGRs' Loans**

VARIABLES	(1) Has at least one active loan at time of survey	(2) Number of active loans	(3) Number of loans that came due in 2012	(4) Relationship with lender is improved	(5) Amount borrowed	(6) Total to be paid back for loans
Effect of assignment to the treatment group	0.01 (0.032)	0.05 (0.047)	-0.01 (0.026)	0.03 (0.024)	126.71 (494.843)	102.12 (505.894)
Mean in the control group	0.152	0.183	0.0702	0.0674	1329	1386
Number of AGRs/beneficiaries observed	547	547	547	547	518	518
Variance explained (adjusted R2)	0.0151	0.0165	-0.00518	-3.28e-06	0.0172	0.0150
Standard deviation in the control group	0.359	0.466	0.297	0.251	5035	5219
Median in the control group	0	0	0	0	0	0

The coefficients reported in this table come from an ordinary least squares regression. The standard errors are in parentheses.

\* denotes that the coefficient is significantly different from zero at the 90%, \*\* at the 95%, and \*\*\* at the 99% confidence level

The estimation of the program's impact in columns 1 to 4 takes into the account the number of active loans at baseline

The estimation of the program's impact in columns 5 to 8 takes into account the amount of active formal and informal loans at baseline

The AGR Support Program did not change anything with respect to AGR indebtedness. This suggests that the supported AGRs did not have to resort to new loans and were able to rely on their own resources to finance the increased production expenses that we observed above.<sup>7</sup>

<sup>6</sup> Less than 5% of AGRs have an informal loan so when the sample is limited to the first 95 percentiles, no AGRs have informal loans. Of the total value of the loans for the entire sample, half is from formal loans and the other half is from informal loans.

<sup>7</sup> The final survey enabled verification that the aid from the INDH was equivalent for the AGRs in the treatment group and the control group in 2012. INDH grants were slightly higher in the treatment group before 2012, but

## 6. Optimism and Entrepreneurial Spirit

An important element of the dynamism of any business activity is the motivation and state of mind of the people working in it. The purpose of the coaching sessions provided by the AGR Support Program was to develop the entrepreneurial spirit of coordinators and beneficiaries.

So we tested the optimism and entrepreneurial spirit of the coordinators and that of the beneficiaries who conduct personal sales.<sup>8</sup> For optimism, we administered the respondents a scale of difficulties experienced in relation to their activity (production, finances, demand, and competition). Column 1 of Table 13 presents the mean level of difficulties experienced (if no difficulty is experienced, the score is the minimum value and is equal to 0; if all items are experienced as "huge" difficulties, the score is the maximum value and is equal to 3). The results indicate that the coordinators and beneficiaries who conduct their own sales experience a moderate level of difficulty (score of 1.3), which was not changed by the AGR Support Program.

Column 2 presents how producing coordinators and beneficiaries project their work in 10 years. The response modalities are grouped into a category of responses that show a strong entrepreneurial spirit (have developed their current activity or have created a new activity) and a category of responses that show, conversely, a weak entrepreneurial spirit (becoming a wage-earner, performing the same activity with no change). Overall, the entrepreneurial spirit is very developed, since 87% of respondents declare that they will have developed the current activity or created a new activity. In the third follow-up survey, only coordinators were asked the question and we found the same proportion of "entrepreneurial" responses, which indicates that this dimension did not change over time. We also see that the number of "entrepreneurial" responses was not affected by the AGR Support Program.

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the difference was only 800 DH and thus not enough to finance the increase in production expenses observed in 2012, which amounts to around 10,000 DH.

<sup>8</sup> Beneficiaries who do not conduct personal sales are wage earners, so entrepreneurial spirit is not a relevant indicator for this population.

**Table 13: Optimism and Entrepreneurial Spirit**

VARIABLES	(1) Scale of difficulties experienced in relation to activity (min.= 0 and max.=3)	(2) In 10 years, sees himself/herself having developed the AGR or created a new activity	(3) Received maximum score on self-efficacy scale I	(4) Score on self- efficacy scale I (min.=10 and max.=40)	(5) Score on self- efficacy scale II (min.=6 and max.=30)	(6) Does not expect government to provide opportunities
Effect of assignment to the treatment group	-0.01 (0.043)	0.02 (0.019)	-0.03** (0.016)	-0.63 (0.395)	-0.08 (0.181)	-0.00 (0.014)
Mean in the control group	1.323	0.870	0.0807	31.14	22.73	0.0557
Number of people observed	1255	1277	1273	1272	1273	1277
Variance explained (adjusted R2)	0.0642	0.0187	0.0385	0.104	0.0172	0.0170
Standard deviation in the control group	0.727	0.336	0.273	5.573	3.110	0.229
Median in the control group	1.250	1	0	31	23	0

The coefficients reported in this table come from an ordinary least squares regression. The standard errors are in parentheses.

\* denotes that the coefficient is significantly different from zero at the 90%, \*\* at the 95%, and \*\*\* at the 99% confidence level

The error terms were clustered at the AGR level to account for the correlation between people who are members of the same AGR.

The regression includes an indicator of each stratum as control variables

The variables used to construct the strata are: geographic area, gender of the coordinator, line of business, initial investment, and number of beneficiaries

The coordinators and beneficiaries who conduct personal sales also answered two psychometric scales used by psychologists to measure “self-efficacy,” i.e., the feeling that people have of being able to accomplish the projects they have and of having control over their life (as opposed to people who feel that they do not have the resources to face difficulties and that the things that happen to them are not dependent on them but are imposed on them by the outside environment). Columns 3, 4, and 5 present the results. We see that only 8% of respondents obtained the maximum score in the control group, and that this proportion drops significantly, to 5%, in the treatment group. However, the mean scores on the two scales are not significantly different in the two groups. Thus it seems that the members of the AGRs in the treatment group have, on average, the same feeling of self-efficacy as do the members of the control group, but are ultra-optimistic less often. The support programs perhaps enabled the people who benefitted from them to be more realistic with respect to the realities of their occupational life.

Finally, the vast majority of the people questioned (94%) expect the government to provide them opportunities (column 6). Although they demonstrate a good entrepreneurial spirit, as seen above, entrepreneurs very much expect support from the public authorities to help and mentor them. This proportion was not affected by the AGR Support Program.

## 7. Conclusion Regarding the Program’s Effect on the Performance Factors

In conclusion, the AGR Support Program led to several changes in the AGR performance factors. In the short term, it caused more AGR management changes, an increase in the number of non-trading partners, more frequent changes toward cooperative status, and an

increase in meetings within AGRs. These effects are confirmed in the long term and are accompanied by an increase in production expenses, indicating a larger volume produced. The entrepreneurs' state of mind was not changed, except for a small decrease in "ultra-optimistic" entrepreneurs.

## II. IMPACT OF THE PROGRAM ON THE ECONOMIC PERFORMANCE OF AGRs

### 1. AGR Activity

The AGR Support Program had a positive effect on AGR survival (Table 14). In the control group, the survival rate at the beginning of 2013 is 92% (down slightly by 2 points compared with the beginning of 2012), and we observe that it remained higher at 97% in the treatment group (column 1). Columns 2, 3, and 4 show that the AGRs that are no longer in operation have not necessarily closed down permanently, since only 1% have administratively dissolved in the control group. The program's effect on the activity of AGRs was not as great and was not significant in the previous surveys because few AGRs in the control group had closed. With time, the effect of the support program became significant and we can now conclude that the training really did permit a greater number of AGRs to remain in operation.

Table 14: AGR Activity

VARIABLES	(1) AGR in operation	(2) AGR closed down	(3) AGR not started up	(4) AGR permanently closed down	(5) AGR administra- tively dissolved	(6) Collective or individual sales occurred in 2012	(7) Respondent performed an activity associated with the AGR in 2012
Effect of assignment to the treatment group	0.05** (0.022)	-0.04** (0.021)	-0.00 (0.008)	-0.01 (0.009)	-0.01 (0.008)	0.03 (0.029)	0.02 (0.026)
Mean in the control group	0.916	0.0754	0.00838	0.0140	0.0112	0.868	0.800
Number of AGRs/beneficiaries observed	550	550	550	550	550	546	1674
Variance explained (adjusted R <sup>2</sup> )	0.00631	0.00605	-0.00151	-0.000207	0.00211	0.000355	0.0731
Standard deviation in the control group	0.277	0.264	0.0913	0.118	0.105	0.339	0.400
Median in the control group	1	0	0	0	0	1	1

The coefficients reported in this table come from an ordinary least squares regression. The standard errors are in parentheses.

\* denotes that the coefficient is significantly different from zero at the 90%, \*\* at the 95%, and \*\*\* at the 99% confidence level

When the respondents are beneficiaries, the error terms were clustered at the AGR level to account for the correlation between beneficiaries in the same AGR.

When the respondents are beneficiaries, the regression includes an indicator of each stratum as control variables

The variables used to construct the strata are: geographic area, gender of the coordinator, line of business, initial investment, and number of beneficiaries

Columns 6 and 7 show that the program had a positive, albeit less marked and non-significant, effect on the proportion of AGRs that actually conducted sales in 2012 and on the proportion of beneficiaries who actually performed an activity associated with the AGRs in 2012. Here too, these gaps have every chance of widening with time if the trend in the AGR activity rate continues.

## 2. Sales and Profits

The income from sales of all the sales units of the AGRs increased by 24% in the group that received the AGR Support Program (Table 15). However, this difference in the mean is not statistically significant. As Graphs 5 and 5b show, it is in fact the AGRs with a fairly low sales level that benefited significantly from the AGR Support Program. Graph 5 presents the distribution of sales in both the treatment (in blue) and control (in red) groups. It appears that the concentration of AGRs that did not have any sales decreased as a result of the program (the density at zero is lower in the treatment group) and that a bit higher number of AGRs have slightly positive sales (the blue curve is above the red curve for low sales values).

This result is confirmed by Graph 5b, which presents the program's effect on sales quantiles. Over the 5 quantiles for which we tested the effect of treatment, we see that the 20<sup>th</sup> percentile, 30<sup>th</sup> percentile, and 40<sup>th</sup> percentile are significantly higher in the treatment group compared with the control group. This means that an AGR whose sales are located at the limit of the bottom 20% and the top 80% has higher sales in the treatment group than in the control group. This is also true of an AGR whose sales are located at the limit of the lowest 30% and the lowest 40%. Thus we see that the program had a positive and significant effect on the AGRs that performed the fewest sales. In the upper part of the distribution, the program did not have any significant effect.

**Table 15: AGR Sales and Profits in 2012**

	(1)	(2)	(3)
		In 2012	
VARIABLES	Total sales performed	Profits increased	Total profits made
Effect of assignment to the treatment group	47,592.86 (41,587.705)	0.02 (0.029)	38,748.86*** (12,696.008)
Mean in the control group	202050	0.192	49740
Number of AGRs observed	523	550	523
Variance explained (adjusted R2)	0.000593	-0.000525	0.0157
Standard deviation in the control group	420580	0.318	108124
Median in the control group	37750	0	5200

The coefficients reported in this table come from an ordinary least squares regression. The standard errors are in parentheses.

\* denotes that the coefficient is significantly different from zero at the 90%, \*\* at the 95%, and \*\*\* at the 99% confidence level

Each variable of interest takes into account all sales units of the AGR: the AGR if it conducts sales and the beneficiaries who conduct sales

For questions for which the answer is yes/no, the variable is the mean of the answers of the AGR's sales units

For questions for which the answer is an amount, the variable is the sum of the answers of the AGR's sales units

Whereas the coordinators and beneficiaries who conduct sales did not experience more improvement in their profits in 2012 in the treatment group than in the control group (column 2), the program did however have a very large positive effect on profits in 2012 (column 3). We observe mean declared profits 78% greater (close to 39,000 DH greater) in the treatment

group than in the control group.<sup>9</sup> This result indicates that the volume of production expenses increased less markedly than did the sales themselves, which allows us to conclude a better economic performance of the AGRs that benefitted from the support program.

Graphs 6 and 6b enable us to note that the program's effect was significant for the AGRs located in the middle of the distribution (the 40<sup>th</sup>, 50<sup>th</sup>, and 60<sup>th</sup> percentiles are significantly higher in the treatment group, and once again we see a lower concentration of AGRs that did not have any profits).

In the third follow-up survey, we did not observe any significant change in sales and profits. Therefore, we can confirm that the effects on these performance indicators take longer to react to the training received by the coordinators and beneficiaries, and that a period of 6 months after the start of training is not sufficient to be able to assess the effects. In contrast, this type of effect can be assessed after 18 months.

### **3. Conclusions Regarding the Program's Effect on AGR Performances**

The AGR Support Program improved the long-term economic performances of AGRs. It enabled 5% of AGRs to continue the activity (i.e., approximately 28 AGRs out of the 550 in our sample), and permitted those with the fewest sales to significantly increase sales. Finally, profits are also substantially improved, with a mean increase of 78%. It is important to emphasize that the program's effect on economic performances did not benefit the AGRs that were already high performing, but rather benefitted those with fairly moderate or even low performances.

## **III. IMPACT OF THE PROGRAM ON BENEFICIARIES' SITUATION**

### **1. Employment**

Table 16 presents the program's effect on employment in the AGR and outside the AGR in households. For each household, the work hours and income of the different members of the household were added up to obtain the overall hours and income at the household level.<sup>10</sup>

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<sup>9</sup> Very reassuringly, the estimation of the difference between mean profits in the treatment group and mean profits in the control group is the same if we do not use the declared profits but rather the profits calculated from the difference between sales and production expenses. Using the sum of itemized production expenses in 2012, we estimate a program effect on profits of +41,000 DH. Using the declared total expenses in 2012, we estimate a program effect on profits of +39,000 DH. Thus all the estimations come together well for a pronounced effect on profits on the order of 40,000 DH.

<sup>10</sup> Households have an average of six members (households of coordinators as well as households of beneficiaries) in both the treatment and control groups.

**Table 16: Work Hours and Employment Income**

VARIABLES	(1) Portion of household members who work for activity connected with the AGR	(2) Monthly work hours invested by entire household in the AGR	(3) Mean monthly income received by entire household from activity connected with the AGR	(4) Portion of household members who work for an activity other than the AGR	(5) Monthly work hours invested by entire household outside the AGR	(6) Mean monthly income received by entire household from activity outside the AGR
Effect of assignment to the treatment group	0.01 (0.011)	10.32 (6.479)	8.46 (54.262)	-0.02 (0.010)	-16.32* (8.900)	-28.05 (161.888)
Mean in the control group	0.238	101.5	508.5	0.278	202.5	2345
Number of people observed	2222	2101	1949	2220	1908	1450
Variance explained (adjusted R2)	0.0153	0.0724	0.0989	0.0657	0.0465	0.0437
Standard deviation in the control group	0.197	103.5	828.3	0.201	155.4	2543
Median in the control group	0.200	64.95	17	0.250	181.9	1530

The coefficients reported in this table come from an ordinary least squares regression. The standard errors are in parentheses.

\* denotes that the coefficient is significantly different from zero at the 90%, \*\* at the 95%, and \*\*\* at the 99% confidence level

The error terms were clustered at the AGR level to account for the correlation between people who are members of the same AGR.

The regression includes an indicator of each stratum as control variables

The variables used to construct the strata are: geographic area, gender of the coordinator, line of business, initial investment, and number of beneficiaries

The program did not change the proportion of household members who work in the AGR and outside the AGR (columns 1 and 4). Approximately one quarter of the people in a household work for the AGR and one quarter work outside the AGR (some of them may do both). In contrast, we can see that the AGR Support Program led to a change in the intensity of work in favor of the AGR (10h more on average per month) and at the expense of work outside the AGR (16h less on average per month) (columns 2 and 5). The increase in the number of work hours for the AGR is not significant, but it is very close to the conventional level. Graphs 7 and 9 provide a good illustration of this inversion of time invested in the AGR and outside the AGR: fewer households in the treatment group invested a low number of hours (0h to 50h per month) in the AGR and more of them invested a number of hours approximately equivalent to full time (100h to 200h per month), and inversely for work outside the AGR. It therefore seems that the program led to a substitution of work hours devoted to other activities with work hours for the AGR. However, it should be noted that the increase in work hours for the AGR is smaller in volume (and only close to the conventional level of significance) than the reduction in work hours for other activities. Also, it would seem that the program enabled households to benefit from a little more leisure time.

We do not see any effect on the income that the household derives from the AGR or on the income it derives from other activities (columns 3 and 6). This is surprising in part because we have seen that the profits made by AGRs increased. We did not observe that fixed-capital investments increased, but expenses for equipment rental and the purchase of inputs increased so it would seem that the additional profits are invested back into production more than paid out in the form of income to the people who are members of the AGR. It is also interesting to note that AGRs only contribute a second income to households (about 18% of their income):

the mean income from the activity associated with the AGR is approximately 500 DH per month, whereas it is 2,345 DH per month for all other activates.

## 2. Personal Savings and Debt

Table 17 shows that the AGR Support Program did not have any effect on the number of people who save or on the mean amount of savings (37% of people working in AGRs have personal savings). The mean amount of the savings is approximately 1,700 DH (it is 2,000 DH in the treatment group, but this difference is not statistically significant). The volume of personal savings thus represents less than one month of household income. Fourteen percent of respondents reinvest a portion of their savings in personal production (not necessarily associated with the AGR). Graph 11 presents the distribution of personal savings per group. We observe that the only differences between the two distributions are downward, with the treatment group having a smaller concentration of people who do not have any savings and a slightly larger concentration of people with a low level of savings (less than 2,500 DH).

Table 17: Personal Savings

VARIABLES	(1) Respondent saves	(2) Amount of personal savings	(3) Respondent reinvests savings in his/ her production
Effect of assignment to the treatment group	0.03 (0.026)	303.93 (307.967)	0.01 (0.017)
Mean in the control group	0.366	1714	0.140
Number of people observed	2205	1908	2069
Variance explained (adjusted R2)	0.0445	0.0101	0.0535
Standard deviation in the control group	0.482	5047	0.348
Median in the control group	0	0	0

The coefficients reported in this table come from an ordinary least squares regression. The standard errors are in parentheses.

\* denotes that the coefficient is significantly different from zero at the 90%, \*\* at the 95%, and \*\*\* at the 99% confidence level

The error terms were clustered at the AGR level to account for the correlation between beneficiaries who are members of the same AGR.

The regression includes an indicator of each stratum as control variables. The variables used to construct the strata

are: geographic area, gender of the coordinator, line of business, initial investment, and number of beneficiaries

Compared with the third follow-up survey, the proportion of respondents who save and those who invest a portion of their savings in personal production remain roughly the same. Instead, the amount of personal savings decreased (it amounted to close to 4,000 DH on average at the beginning of 2012). Additionally, at the beginning of 2012, we observed a higher level of savings in the treatment group compared with the control group (this increase was on the order of 50% and was significant once the top 1% of values were removed from the sample). This progression suggests that the support program supposedly enabled people working in



AGRs to initially increase their personal savings, but over the long term they used up or reinvested this additional savings such that the difference in savings lessens and is no longer significant in the long term.

As Table 18 shows, indebtedness was only slightly reduced by the AGR Support Program. We observe a significant decrease of 5 points (from a baseline of 42%) in the proportion of people who have an active loan. The total amount of the loans is slightly less than about 700 DH out of a total of 6,700 DH (column 3), but it should be pointed out that this result is obtained by eliminating the top 5% of values. When we consider the total sample with the top 5% of values, the AGR Support Program has a significant effect on the amount of the loans, with mean loans in the treatment group less than the mean loans in the control group.

**Table 18: Personal Indebtedness**

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)
	At the time of the survey					Number of personal loans that came due in 2012
	Has at least one active personal loan	Has at least one formal active personal loan	Sum borrowed via active personal loans	Sum borrowed via formal active personal loans	Number of active personal loans	
Effect of assignment to the treatment group	-0.05** (0.024)	-0.01 (0.017)	-763.54 (799.173)	14.61 (564.655)	0.12 (0.126)	0.19 (0.121)
Mean in the control group	0.417	0.165	6767	2874	0.346	-0.0168
Number of people observed	2210	2210	2077	2085	2210	2209
Variance explained (adjusted R <sup>2</sup> )	0.0307	0.0212	0.0309	0.0418	0.00167	0.00332
Standard deviation in the control group	0.493	0.372	16338	10786	4.561	4.468
Median in the control group	0	0	0	0	0	0

The coefficients reported in this table come from an ordinary least squares regression. The standard errors are in parentheses.

\* denotes that the coefficient is significantly different from zero at the 90%, \*\* at the 95%, and \*\*\* at the 99% confidence level

The error terms were clustered at the AGR level to account for the correlation between people who are members of the same AGR.

The regression includes an indicator of each stratum as control variables

The variables used to construct the strata are: geographic area, gender of the coordinator, line of business, initial investment, and number of beneficiaries

In the third follow-up survey, we noted that the support program had increased the proportion of beneficiaries who had a loan that came due during 2011. At that time, 31% of respondents had an active loan, whereas at the beginning of 2013 it is 42% of respondents who have an active loan in the control group and 37% in the treatment group. Thus it seems that the proportion of people in debt increased during 2012 but that this increase was not as great as a result of the AGR Support Program.

### 3. Wealth and Consumption

Table 19 presents the program's effect on household wealth and consumption. The wealth index presented in column 1 is obtained from a principal component analysis performed using the quantity of goods owned for each of the 23 durable goods listed in the questionnaire. A

higher index corresponds to a greater quantity of goods owned. Columns 2 to 6 present the consumer expenditures by expenditure type (food expenditures, current expenditures,<sup>11</sup> foreseeable one-time expenditures,<sup>12</sup> and finally ceremony expenditures<sup>13</sup>). Column 7 presents the total of these four types of expenditures. All expenditure amounts were annualized so they could be compared.

The AGR Support Program increased the level of household wealth as measured by the ownership of durable goods. The wealth score is 0.33 points higher in the treatment group than in the control group, which corresponds to 0.14 standard deviations from the distribution in the control group. This represents a moderate but appreciable effect for a wealth index. Graphs 13 and 13b enable us to note that the program decreased the concentration of households with very low levels of wealth and increased the number of households at the median level and slightly beyond. The program significantly increased the 20<sup>th</sup>, 30<sup>th</sup>, 50<sup>th</sup>, and 60<sup>th</sup> percentiles (only the 40<sup>th</sup> percentile did not move).

At the same time, current expenditures increased significantly by 15% and the other types of expenditures did not vary significantly. Graph 14 shows a shift of some households with a low level of current expenditures (less than 10,000 DH per year) to a higher level (over 10,000 DH per year). Graph 14b indicates that the 20<sup>th</sup> percentile, as well as the 50<sup>th</sup> and 60<sup>th</sup>, increased significantly as a result of the program.

In the third follow-up survey, the program did not yet have any significant effect on household wealth and consumption. At that time, it was primarily savings that increased. Therefore, it seems that households first had savings in the short term, then acquired new durable goods and increased their current expenditures in the long term.

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<sup>11</sup> Water, electricity, telephone, healthcare, clothing, housing, hygiene, leisure, transportation, Imam, newspapers and magazines.

<sup>12</sup> School fees, housing improvement work, expenses for Ramadan and Eid, and travel.

<sup>13</sup> Weddings, baptisms, funerals, engagements, etc.

**Table 19: Wealth and Consumption**

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	Wealth index (PCA)	Amount of durable good purchases	Food expenditures	In 2012 Current expenditures other than food	Foreseeable one-time expenditures	Ceremony expenditures	Total consumer expenditures (3)+(4)+(5)+(6)
Effect of assignment to the treatment group	0.28** (0.114)	10.91 (94.225)	283.26 (663.022)	1,178.50*** (401.290)	-232.74 (300.440)	113.07 (183.890)	-808.04 (1,413.978)
Mean in the control group	-0.398	754.4	20134	7709	7393	1071	38596
Number of people observed	2041	2002	1827	1743	1671	2053	1414
Variance explained (adjusted R2)	0.0959	0.0153	0.0504	0.0550	0.0333	0.0102	0.0662
Standard deviation in the control group	2.002	1760	10787	6247	5130	3203	21582
Median in the control group	-0.379	0	18200	6000	5875	0	32494

The coefficients reported in this table come from an ordinary least squares regression. The standard errors are in parentheses.

\* denotes that the coefficient is significantly different from zero at the 90%, \*\* at the 95%, and \*\*\* at the 99% confidence level

The error terms were clustered at the AGR level to account for the correlation between people who are members of the same AGR.

The regression includes an indicator of each stratum as control variables

The variables used to construct the strata are: geographic area, gender of the coordinator, line of business, initial investment, and number of beneficiaries

#### 4. Personal Well-Being

To conclude the analysis of the impact of the AGR Support Program, Table 20 presents the program's effect on the well-being of the people working in the AGRs. We used two different measurements. The first is a satisfaction scale in which the respondents must place their feeling of satisfaction with respect to their current life on a scale of 1 to 10 (1 indicates the lowest satisfaction and 10 the highest). The second measurement comes from a list of feelings that the respondents potentially experienced over the past 7 days (sadness, anger, nervousness, fatigue, and anxiety, for the negative feelings; relaxation, joy, and satisfaction, for the positive feelings). The respondents must indicate whether they experienced these feelings never, sometimes, often, or all the time. Column 2 presents the mean level of responses for the negative feelings, column 3 for the positive feelings, and column 4 presents an overall score obtained from a principal component analysis. In all cases, a higher indicator signifies higher morale (for example, a higher score for the negative feelings indicates that the respondent had negative feelings *less* often, and a higher score for the positive feelings indicates that he/she had positive feelings *more* often).

We do not observe any significant effect on the feelings experienced by people during the 7 days prior to the survey, but we note that the mean level of satisfaction regarding their life is significantly higher in the treatment group compared with the control group. Graph 16 reveals a reduction in the [number of] people who have a satisfaction level less than 5 and an increase in the [number of] people who have a satisfaction level greater than 8. Although the mean effect may seem small in size (0.33 points above a mean of close to 6.5 in the control group), it is generally quite difficult to cause this type of indicator to change because psychological parameters are deeply anchored in the individual and are associated with many factors other than economic ones which the program cannot have any impact on. In addition, it is quite

remarkable that the AGR Support Program improved not only the economic performances of AGRs and the material affluence of households, but also the personal well-being of the people working in the AGRs.

**Table 20: Personal Well-Being**

	(1)	(2)	(3)	(4)
		Over the past 7 days		
VARIABLES	Satisfaction scale score (min.=1 and max.=10)	Negative feeling scale score (min.=1 and max.=4)	Positive feeling scale score (min.=1 and max.=4)	Well-being score (PCA)
Effect of assignment to the treatment group	0.33*** (0.121)	0.03 (0.030)	-0.01 (0.030)	0.06 (0.093)
Mean in the control group	6.486	2.896	2.512	-0.0205
Number of people observed	2196	2204	2210	2203
Variance explained (adjusted R2)	0.0549	0.0205	0.0230	0.0259
Standard deviation in the control group	2.390	0.562	0.637	1.815
Median in the control group	6	3	2.333	-0.0219

The coefficients reported in this table come from an ordinary least squares regression. The standard errors are in parentheses.

\* denotes that the coefficient is significantly different from zero at the 90%, \*\* at the 95%, and \*\*\* at the 99% confidence level

The error terms were clustered at the AGR level to account for the correlation between people who are members of the same AGR.

The regression includes an indicator of each stratum as control variables. The variables used to construct the strata

are: geographic area, gender of the coordinator, line of business, initial investment, and number of beneficiaries

## 5. Conclusion Regarding the Program's Effect on the Situation of Households

In conclusion, the AGR Support Program brought about changes in the situations of households. It reduced work hours devoted to other activities, the consequence of which was to slightly increase work hours devoted to the AGR or to leisure. While we do not see any effect on income at the time of this survey, we note that the households of the supported AGRs are less often in debt, have more material wealth, and consume more everyday consumer goods. Finally, the people working in the supported AGRs are more satisfied with their life. All these results indicate coherently that the support for AGRs improved not only the economic performances of AGRs but also the situation of households, particularly the situation of households located around the median of households, thus the wealthier ones [sic]. This detail is important because it is often noted that support programs benefit the most advantaged people in the target population, whereas the “AGR Support” program benefitted modest AGRs and households.

## Conclusion

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The “AGR Support” program has finally demonstrated its effectiveness. Thanks to the four surveys conducted, we are now able to assess the progression of the program’s effects over time.

As of the diagnostic phase, the program prompted more frequent changes in the management of AGRs. At the beginning of the training operations, the increase in management changes continued and was accompanied by an increase in the number of non-trading partners and exchanges among AGR members (sharing of know-how, discussion on personal topics).

At the end of the support operations, more significant effects became apparent: the change to cooperative status proved more frequent, as were meetings within AGRs. The management changes continued to be more numerous as a result of the support program, and we could already see an increase in savings and a faster rate of closing out current loans on the part of beneficiaries working in the supported AGRs. The percentage of AGRs that acquired new production tools had also doubled under the effect of the AGR Support Program.

The program’s effects materialized 18 months after the start of training. The supported AGRs increased their production expenses (production equipment rental and purchase of inputs), which indicates a greater volume produced. Ninety-seven percent of AGRs were able to continue their activity instead of 92% for those AGRs that did not receive the support program. AGRs that would have had weak sales – or even no sales at all – without the program were able to conduct significantly more sales as a result of the program. Finally, mean profits improved by 78%.

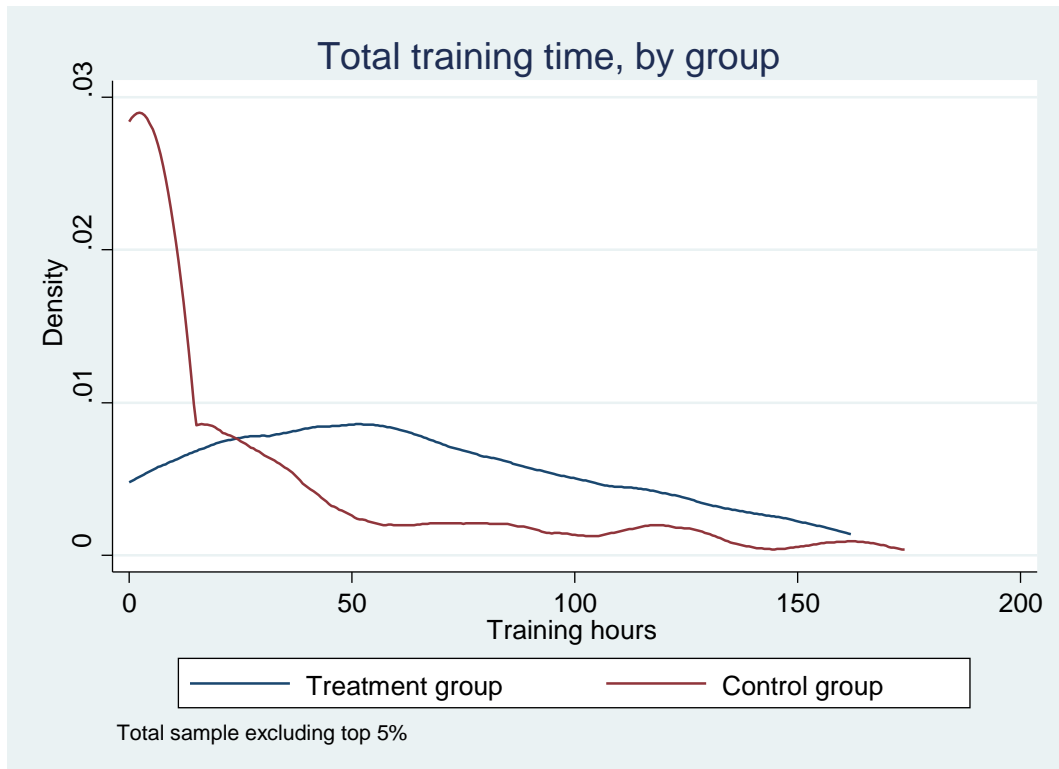
With respect to the people working in AGRs, the work hours households devoted to other activities decreased 16h per month (or one half-day per week), the consequence of which was to slightly increase work hours devoted to the AGR or to leisure. While we do not see any effect on income at the time of this survey, the households of the supported AGRs are less often in debt, have more material wealth, and consume more everyday consumer goods. The additional profits created by the better economic performances of the supported AGRs seem to have been used in three ways: they were partly consumed (in durable goods and current expenditures), invested in production in the form of production tool rental and purchases of

inputs, and transferred to the bank to lower the level of indebtedness or to pay off a loan. Finally, with respect to their well-being, the people working in the supported AGRs state that they are more satisfied with their life.

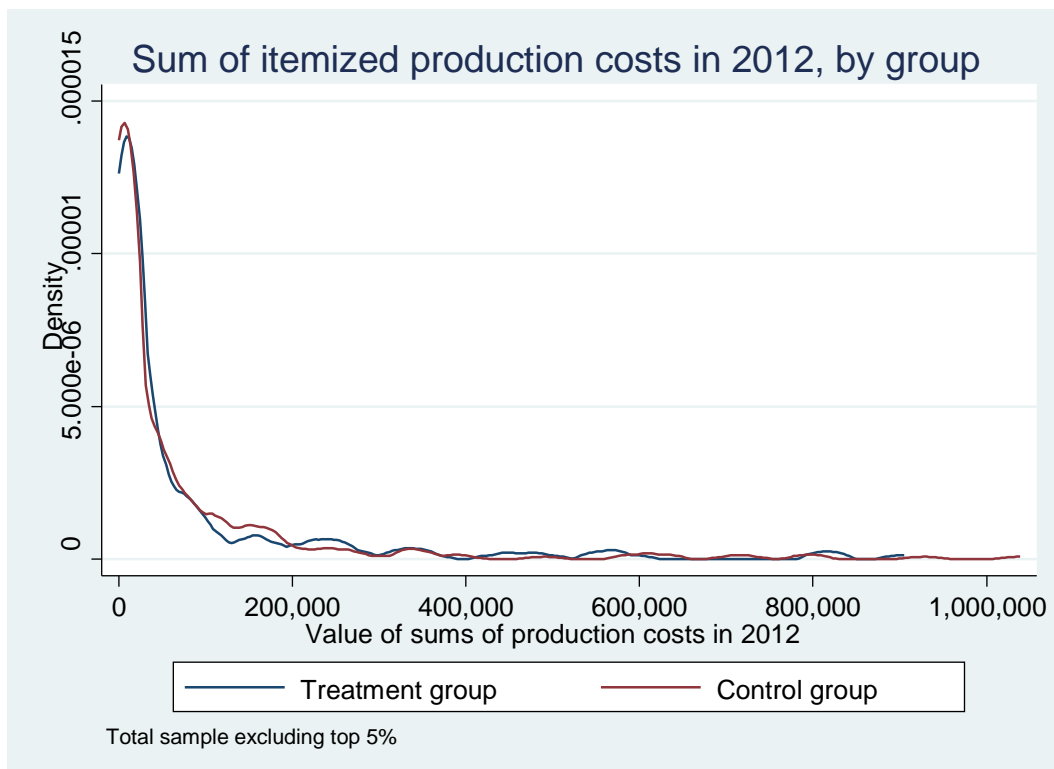
In relation to the intensity of the program, these effects can be considered to be substantial. The “AGR Support” program enabled coordinators to benefit from 41 more hours of training, and beneficiaries from 11 more hours of training, than they would have received without the program. Compared with other enterprise mentoring programs, the “AGR Support” program is relatively non-intense but nevertheless yields significant outcomes with respect to economic performances. The program studied by Bruhn, Karlan and Schoar in Mexico consisted of approximately 200h of individual sessions with a consultant over a one-year period. The increase in sales observed is 120%. It is 78% for the “AGR Support” program, but with fewer support hours offered and offered not just individually. Support programs with an intensity more similar to that of the “AGR Support” program show little or no effect on the economic performances of enterprises; rather the effects are limited to managerial performances and management practices in the enterprise (Karlan and Valdivia, 2010; Drexler, Fischer and Schoar, 2010; Bruhn and Zia, 2011; Gine and Mansuri, 2011).

## Graphs

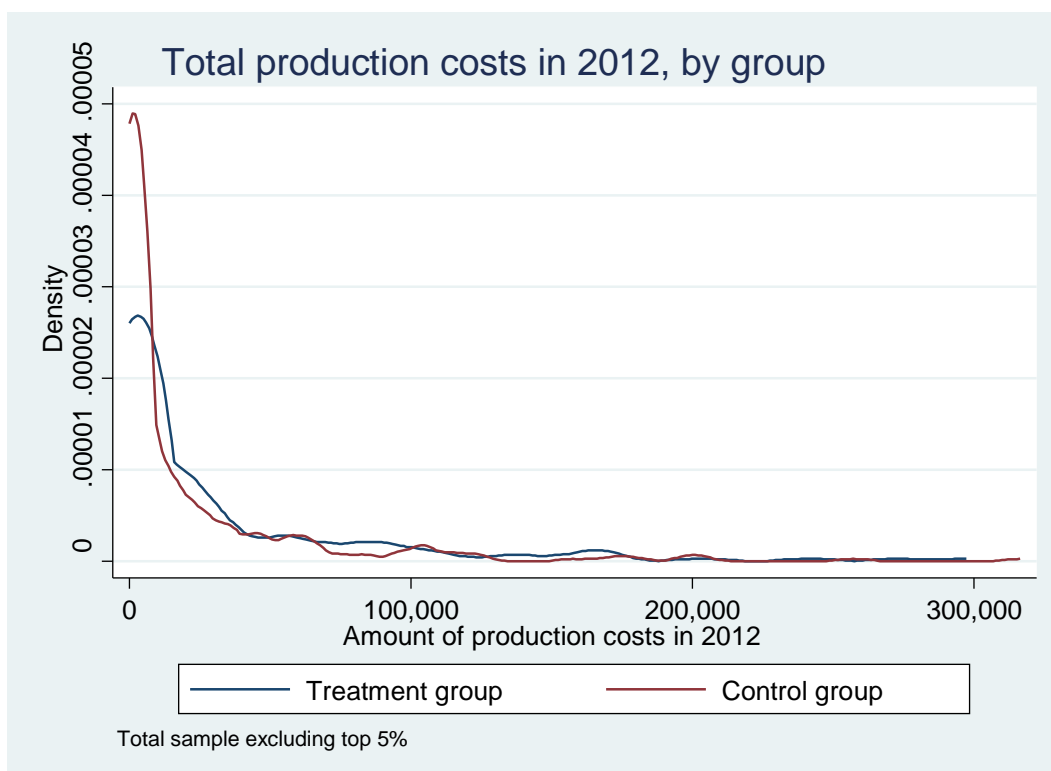
Graph 1: Total Training Time Over the Duration of the Pilot, by Group



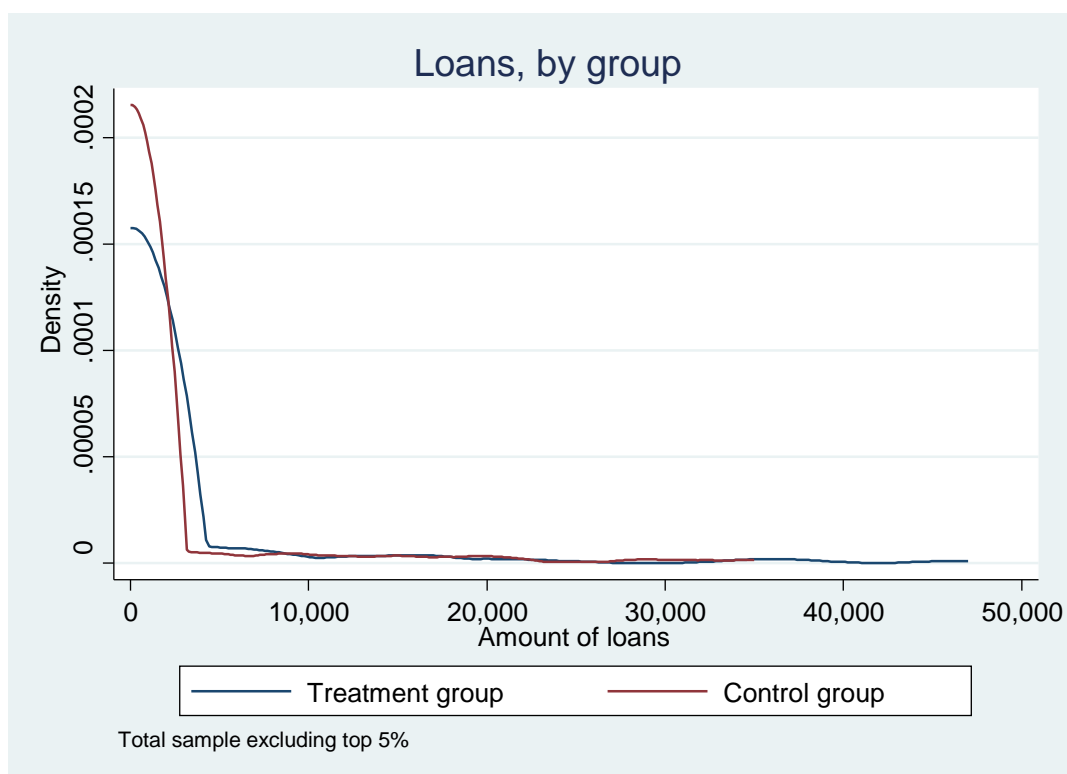
Graph 2: Sum of Itemized AGR Production Expenses in 2012, by Group



Graph 3: Declared Total AGR Production Expenses in 2012, by Group

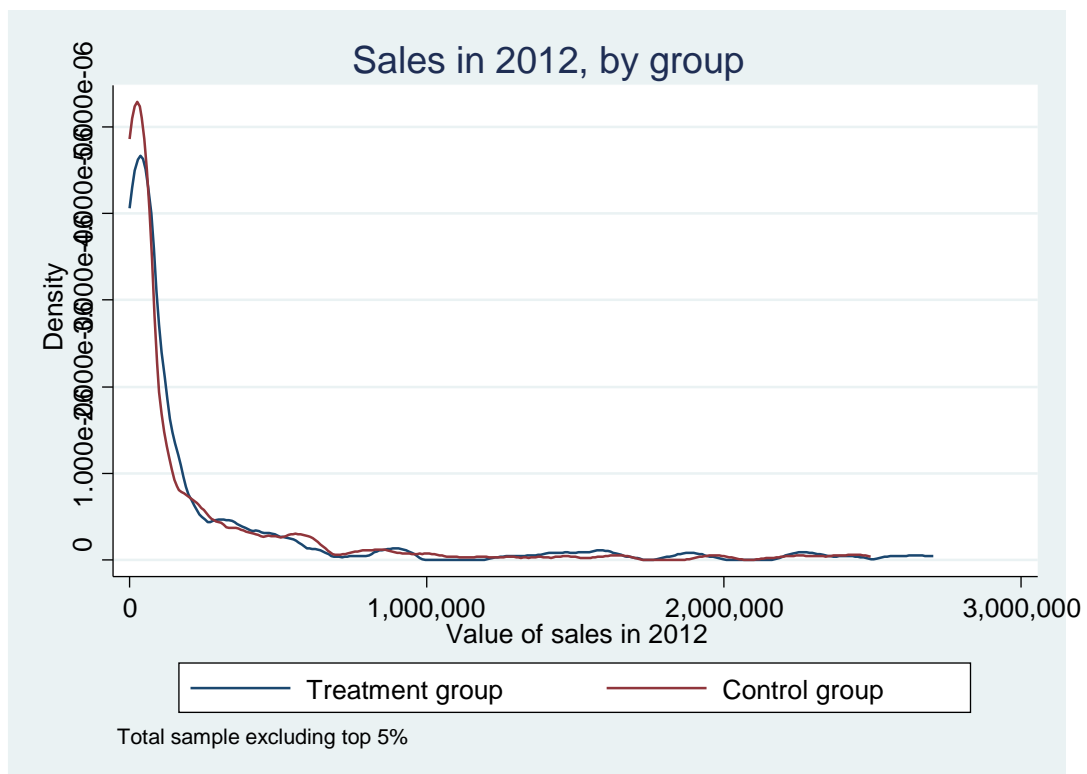


Graph 4: Amount of AGR Active Loans, by Group

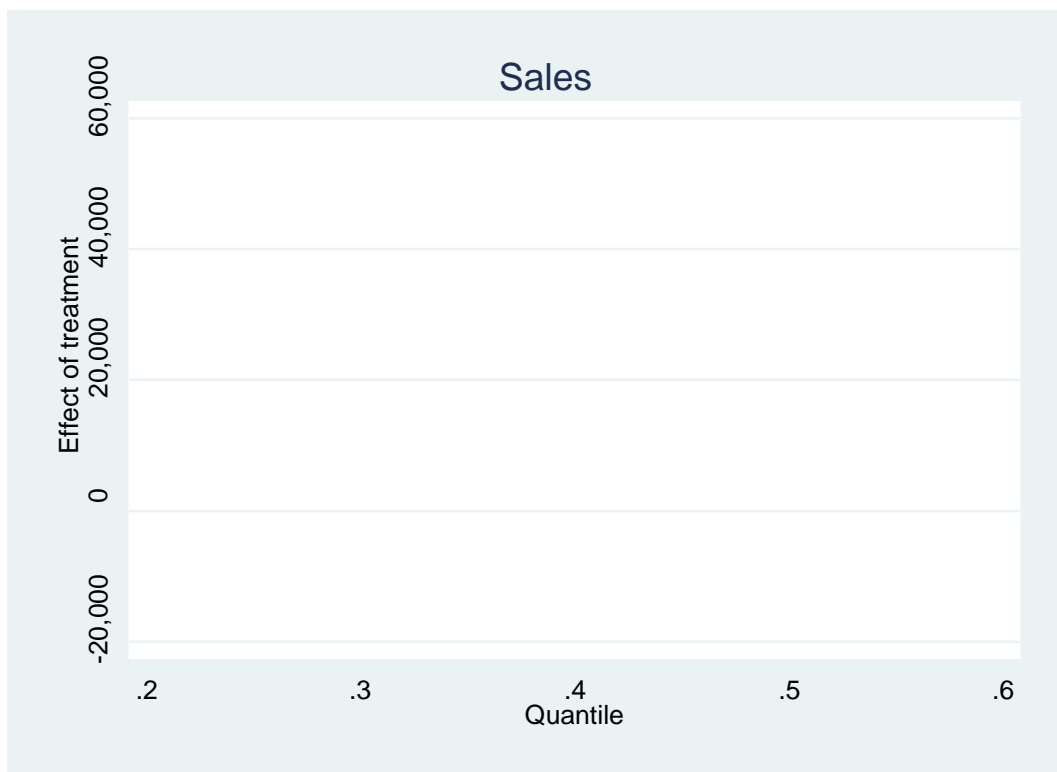




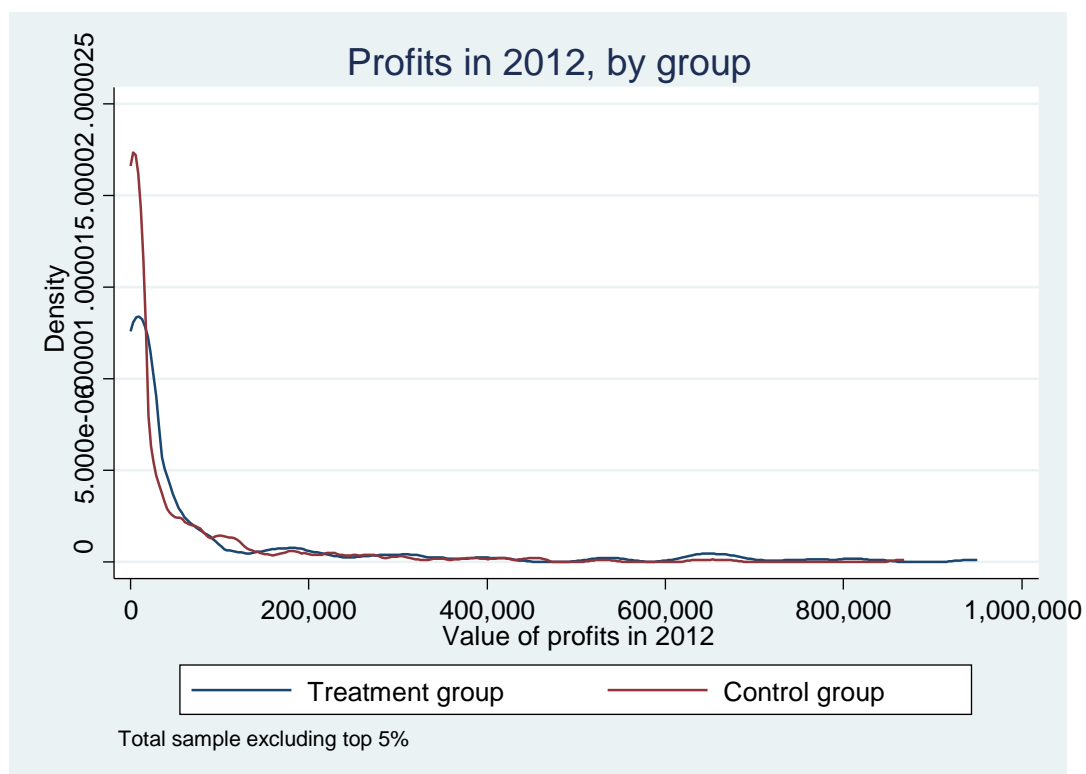
Graph 5: Sales in 2012, by Group



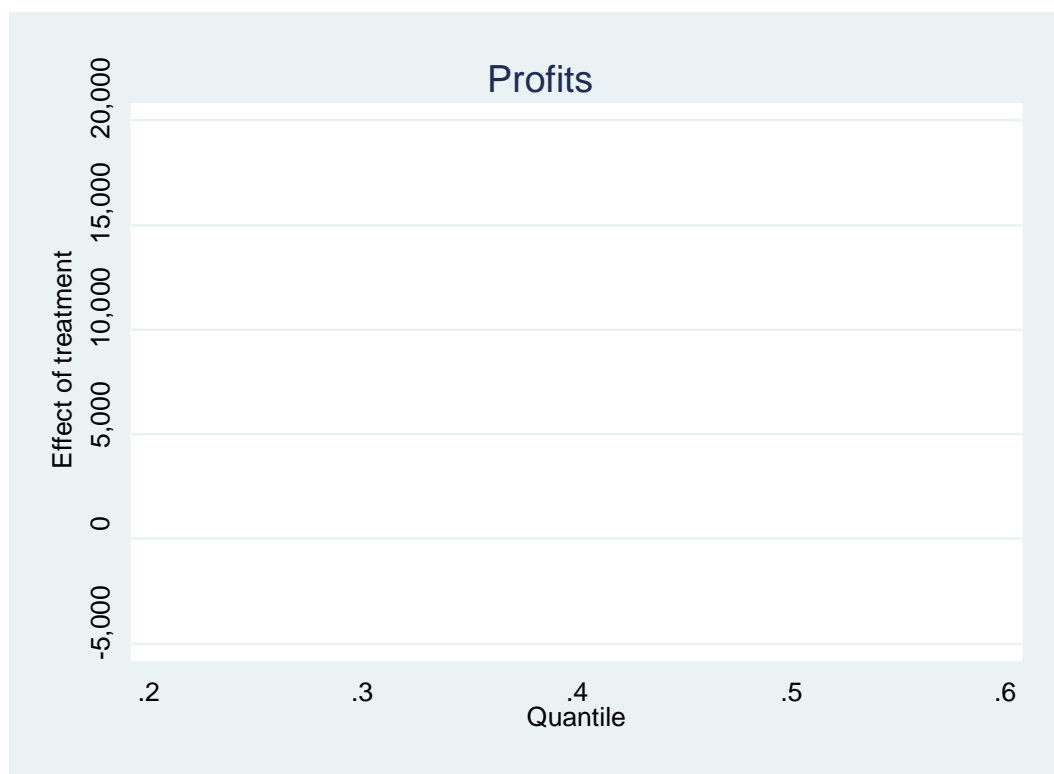
Graph 5b: Effect of Treatment on Sales Quantiles in 2012



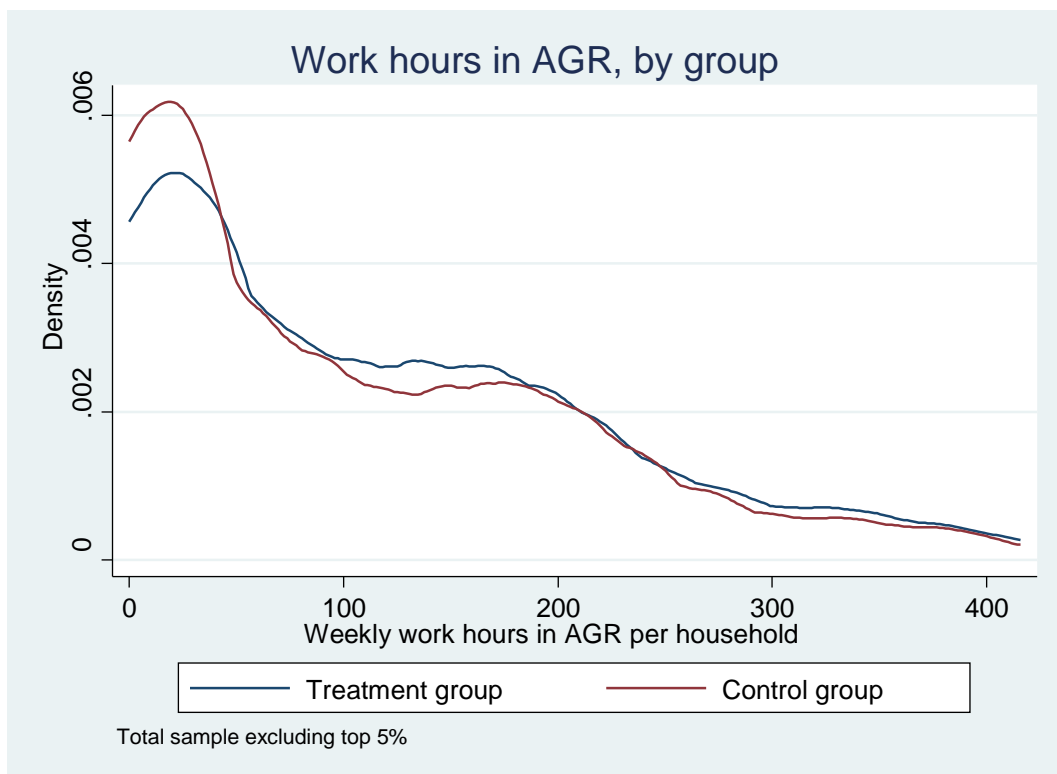
Graph 6: Profits in 2012, by Group



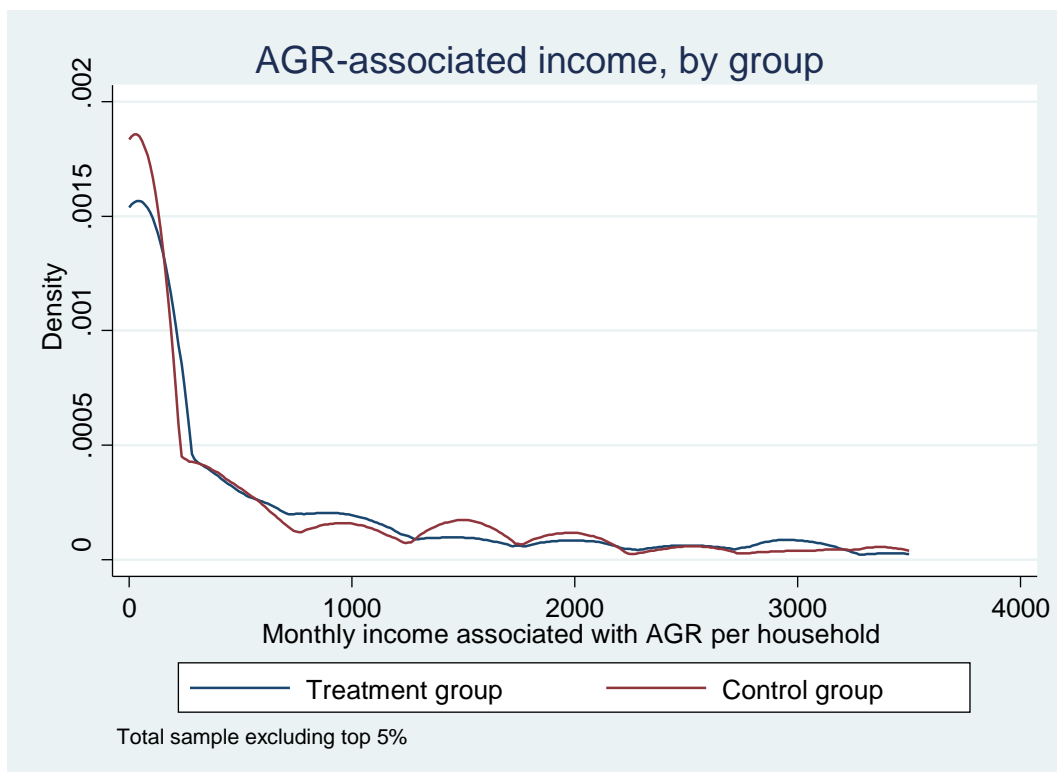
Graph 6b: Effect of Treatment on Profit Quantiles in 2012



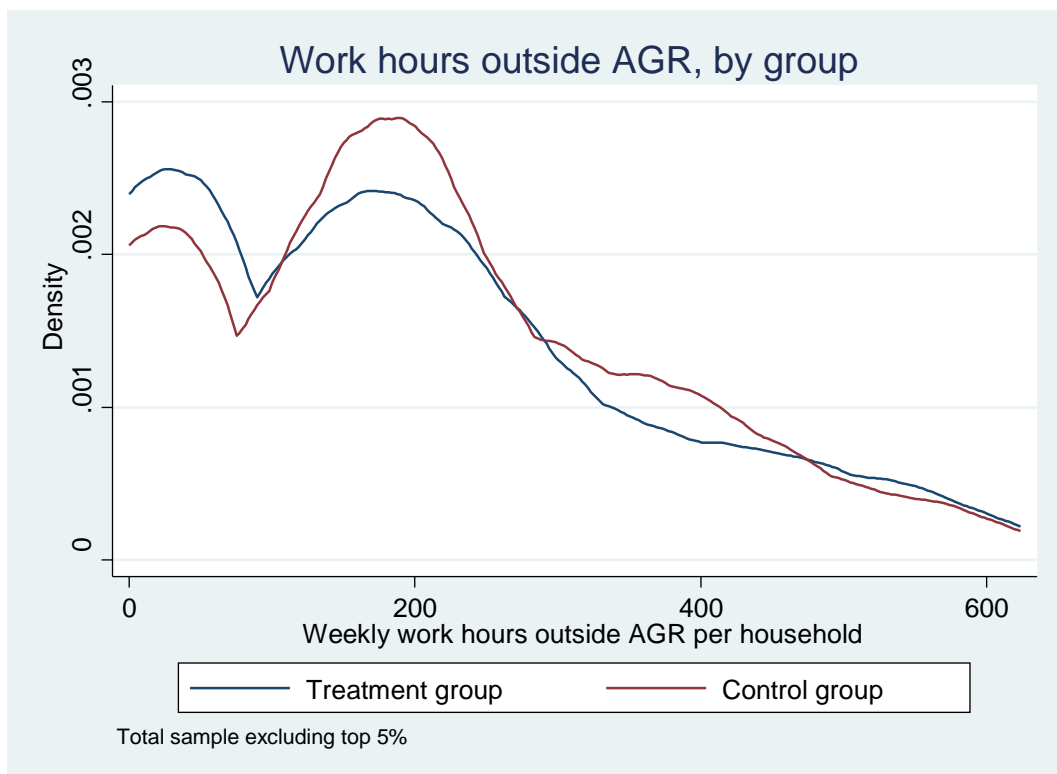
Graph 7: Number of Weekly Work Hours for AGRs per Household



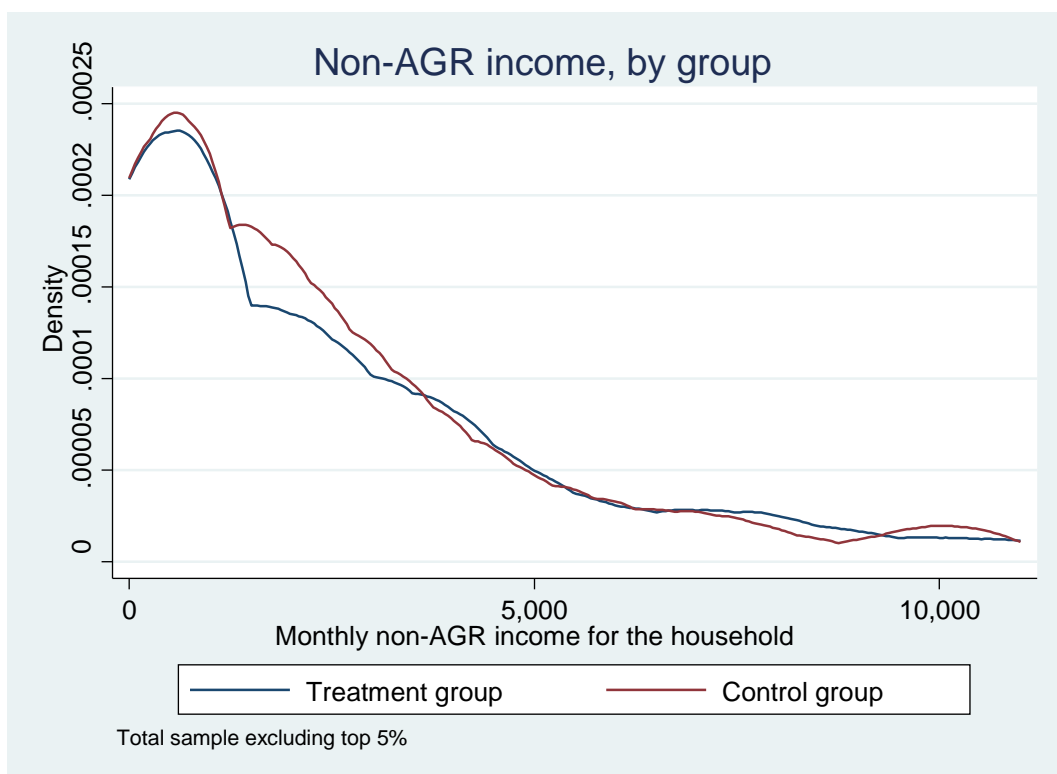
Graph 8: Monthly AGR-Associated Income for Households



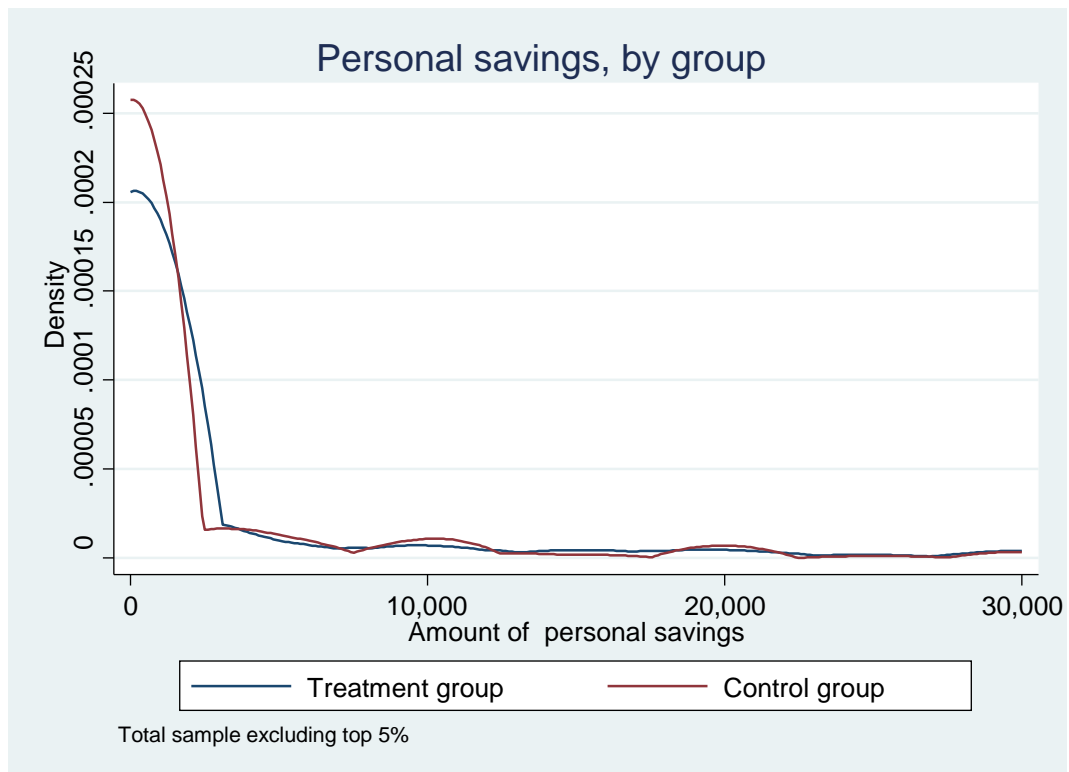
Graph 9: Number of Weekly Work Hours Per Household



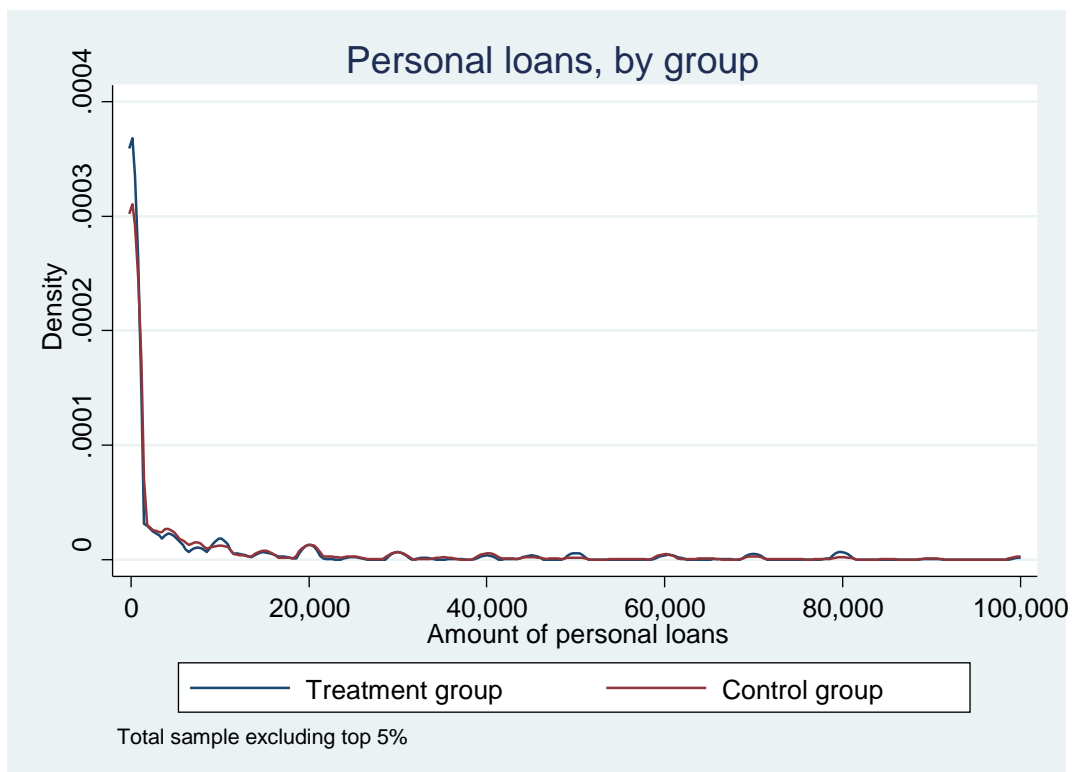
Graph 10: Monthly Non-AGR Income for Households



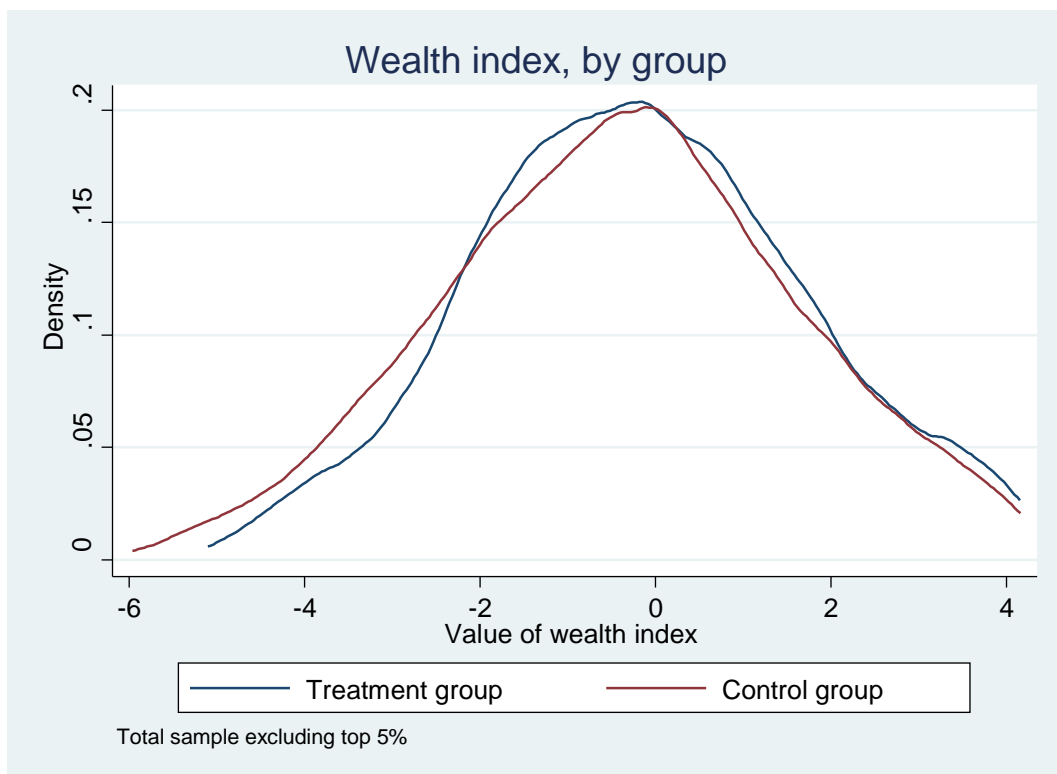
Graph 11: Amount of Personal Savings, by Group



Graph 12: Amount of Personal Debt, by Group



Graph 13: Wealth Index,\* by Group

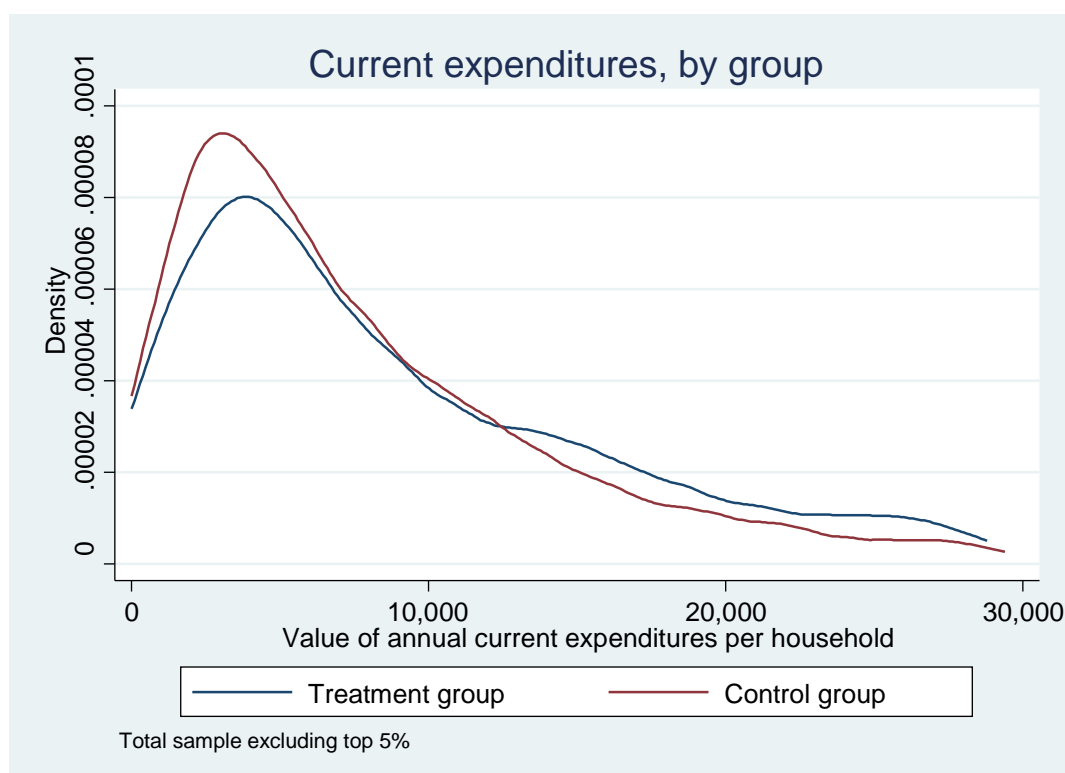


\*Obtained from a principal component analysis based on household ownership of goods on a list of 23 everyday goods

Graph 13b: Effect of Treatment on Wealth Index Quantiles

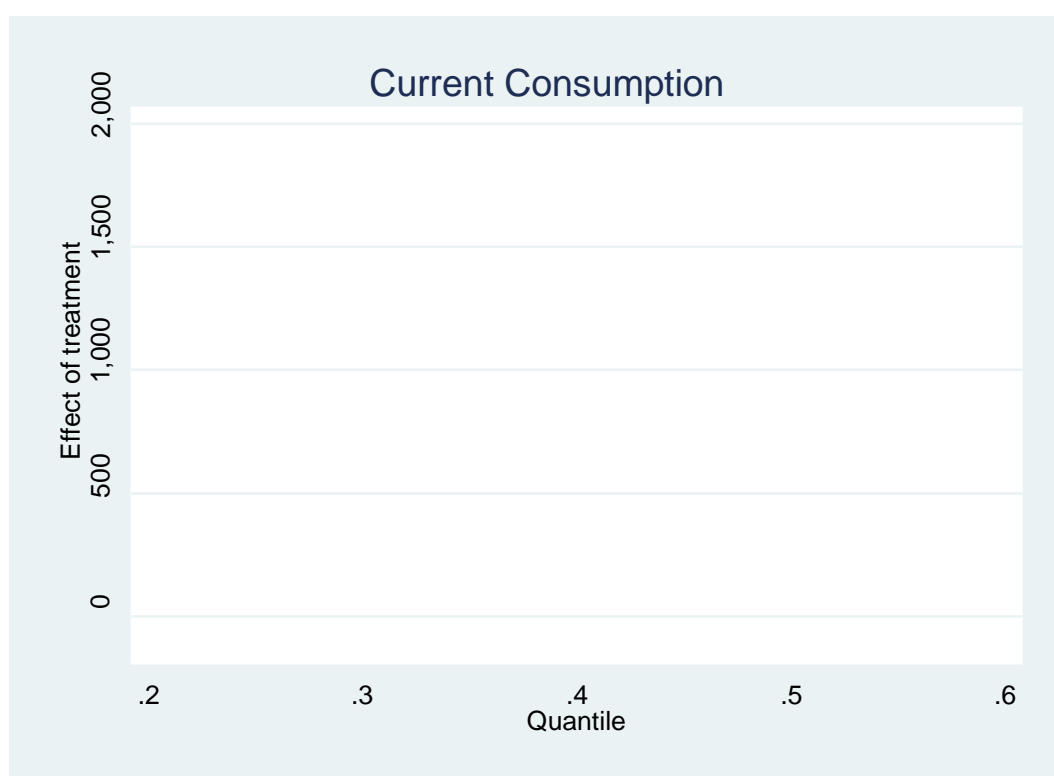


Graph 14: Annual Current Consumption Expenditures,\* by Group

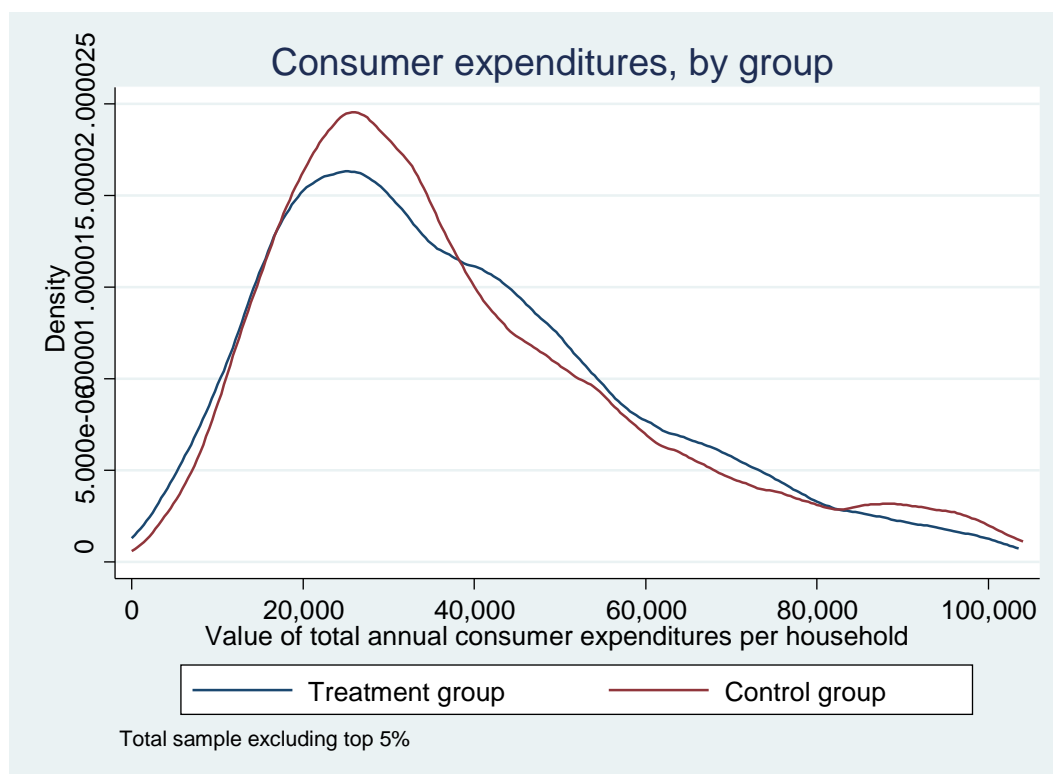


\*Water, electricity, telephone, healthcare, clothing, housing, hygiene, leisure, transportation, Imam, newspapers and magazines

Graph 14b: Effect of Treatment on Current Consumption Expenditures

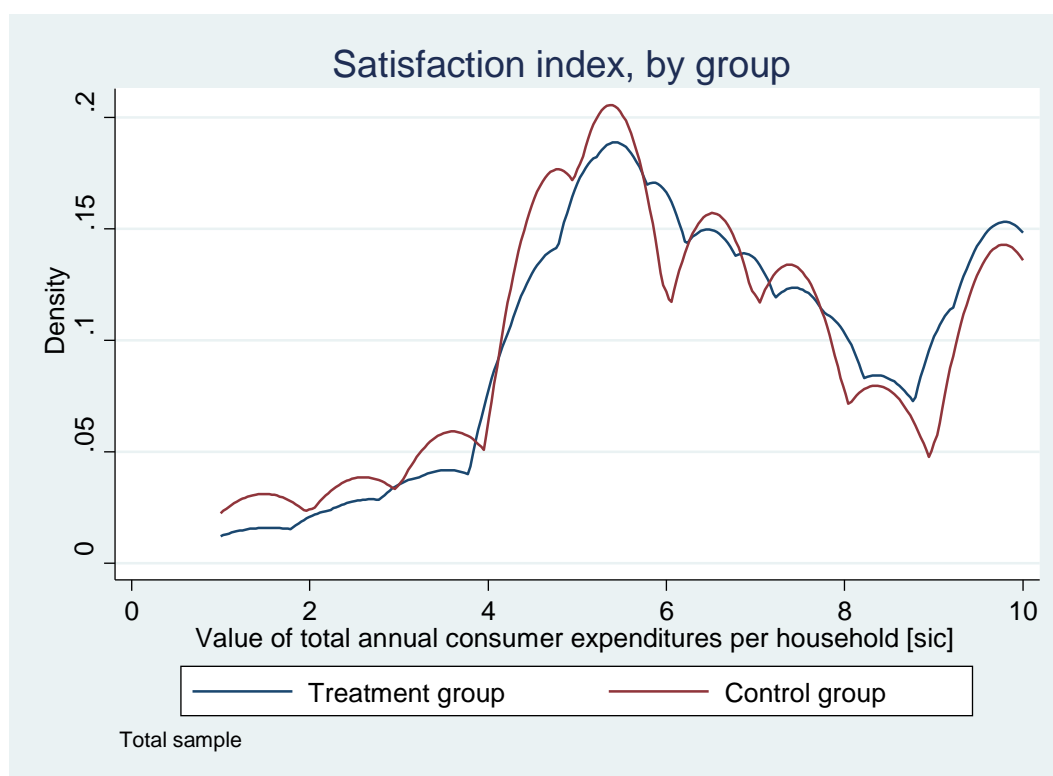


Graph 15: Total Annual Consumer Expenditures,\* by Group



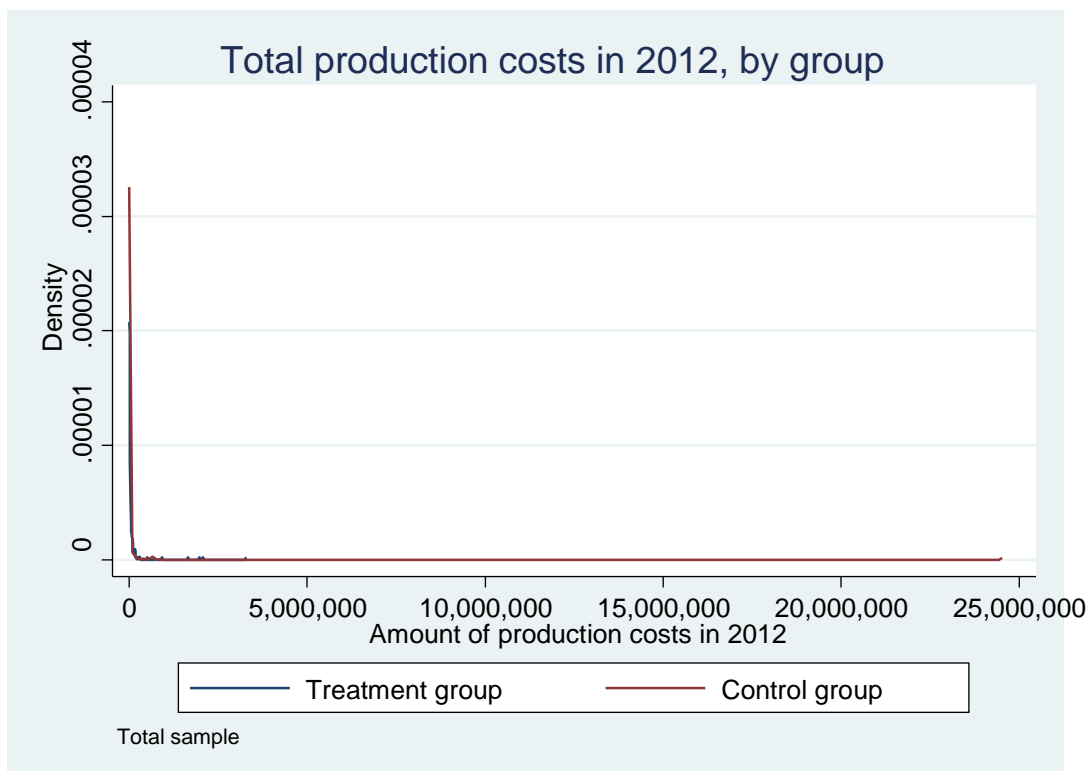
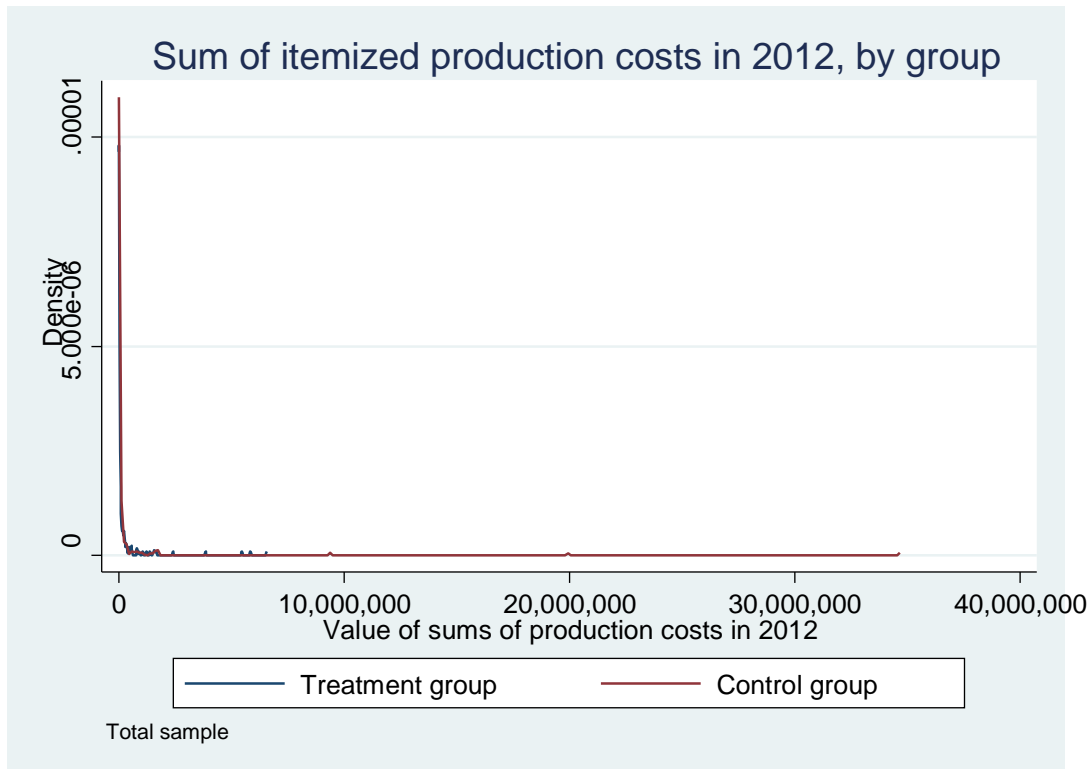
\*Current consumption expenditures + food expenditures + school fees + housing improvement work + expenditures for Ramadan and Eid + travel + family celebrations

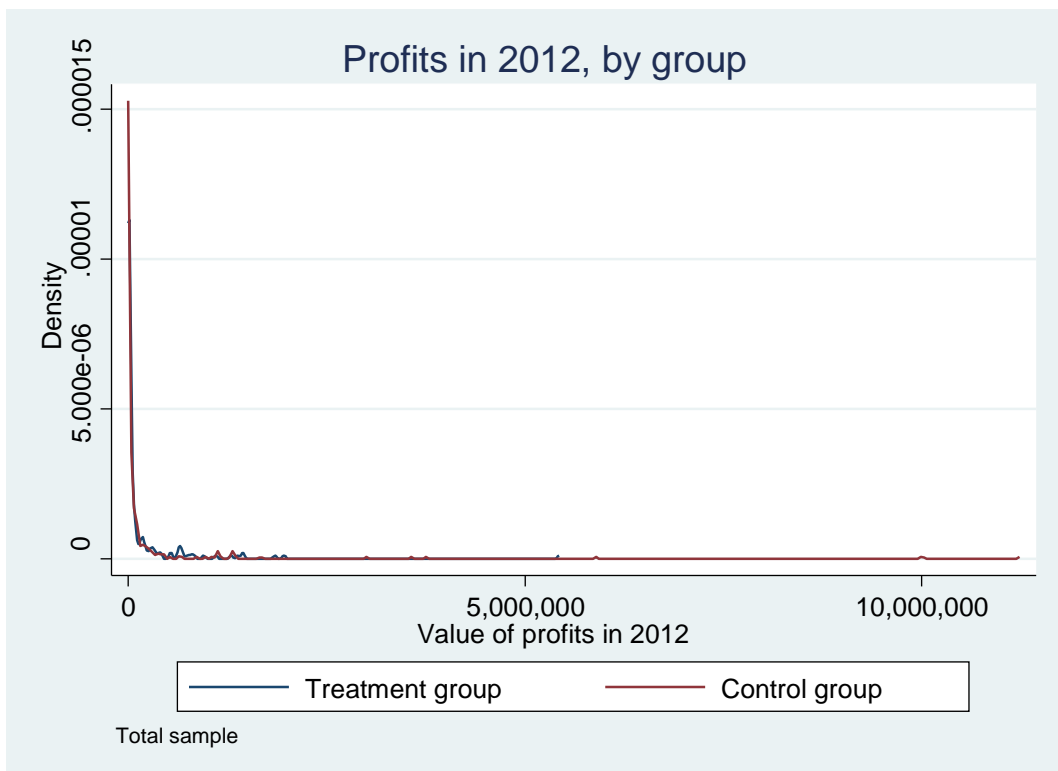
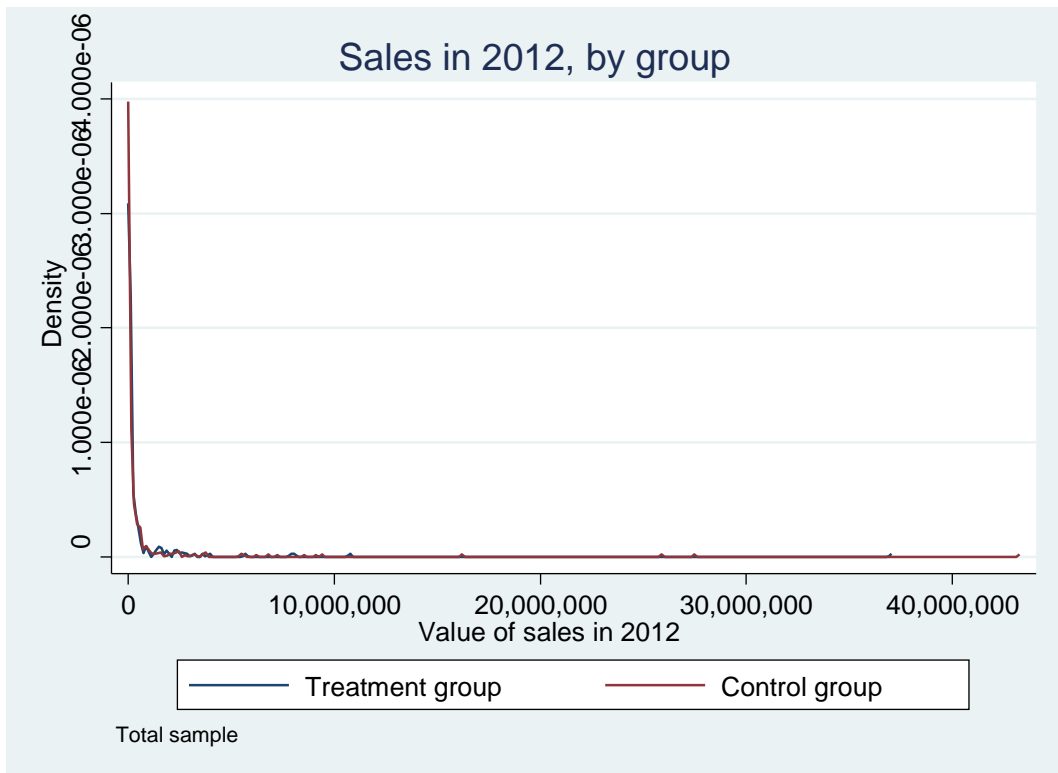
Graph 16: Satisfaction Index, by Group

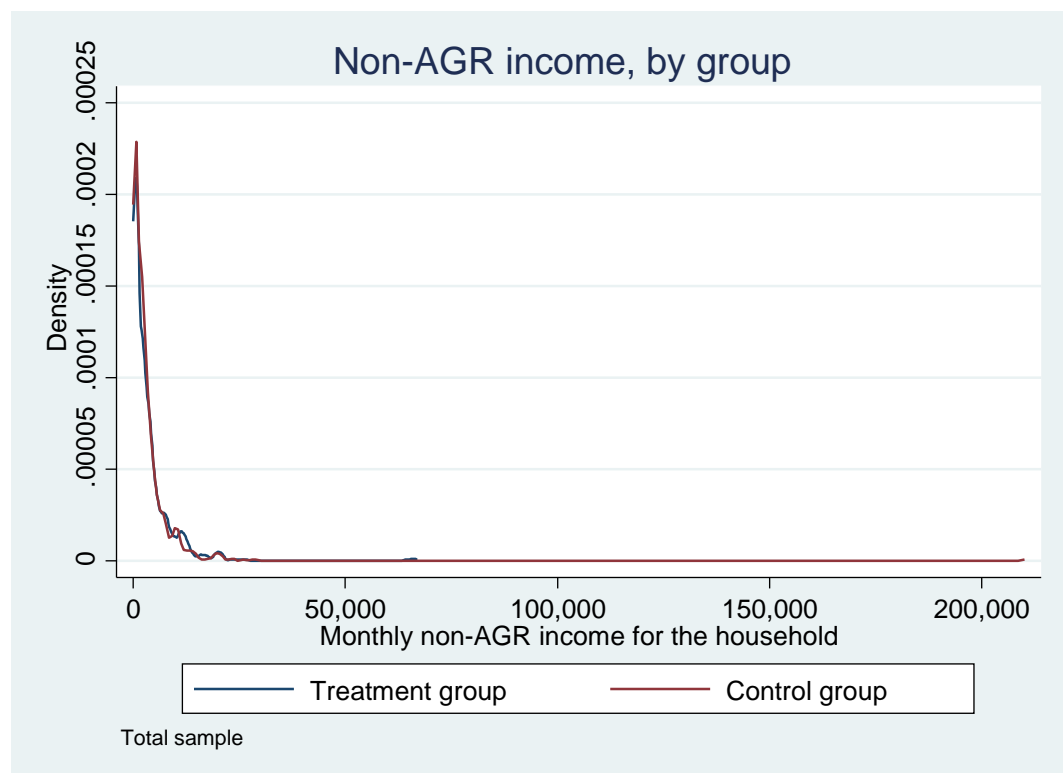
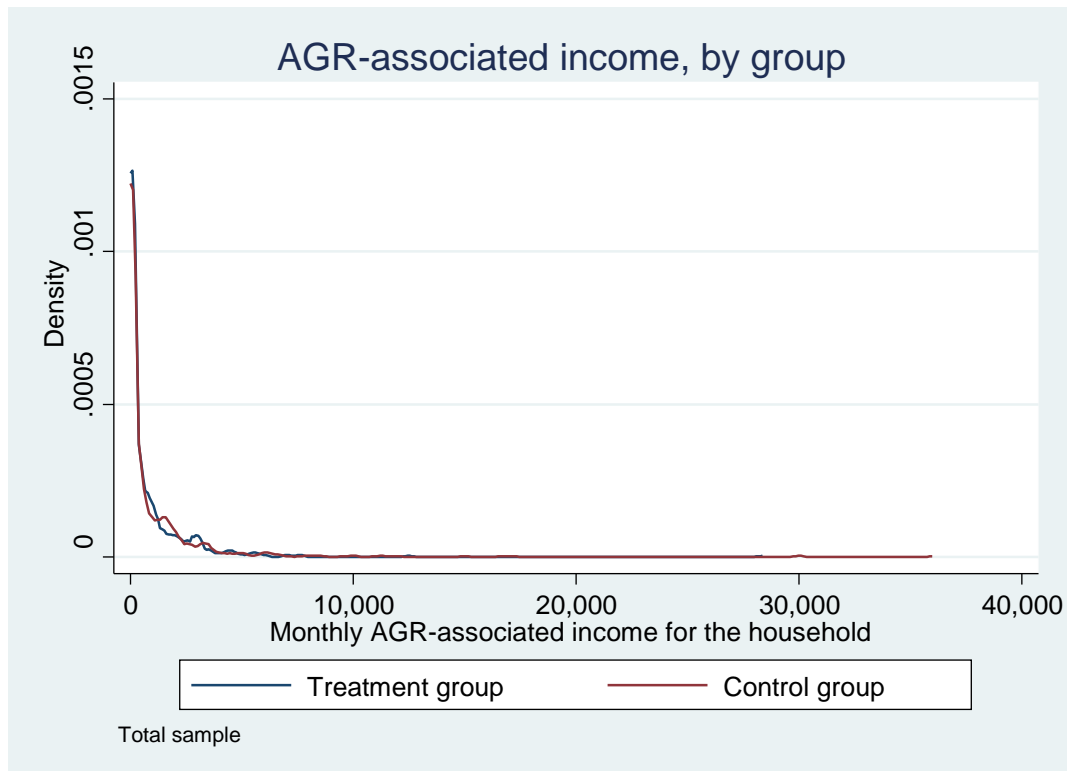


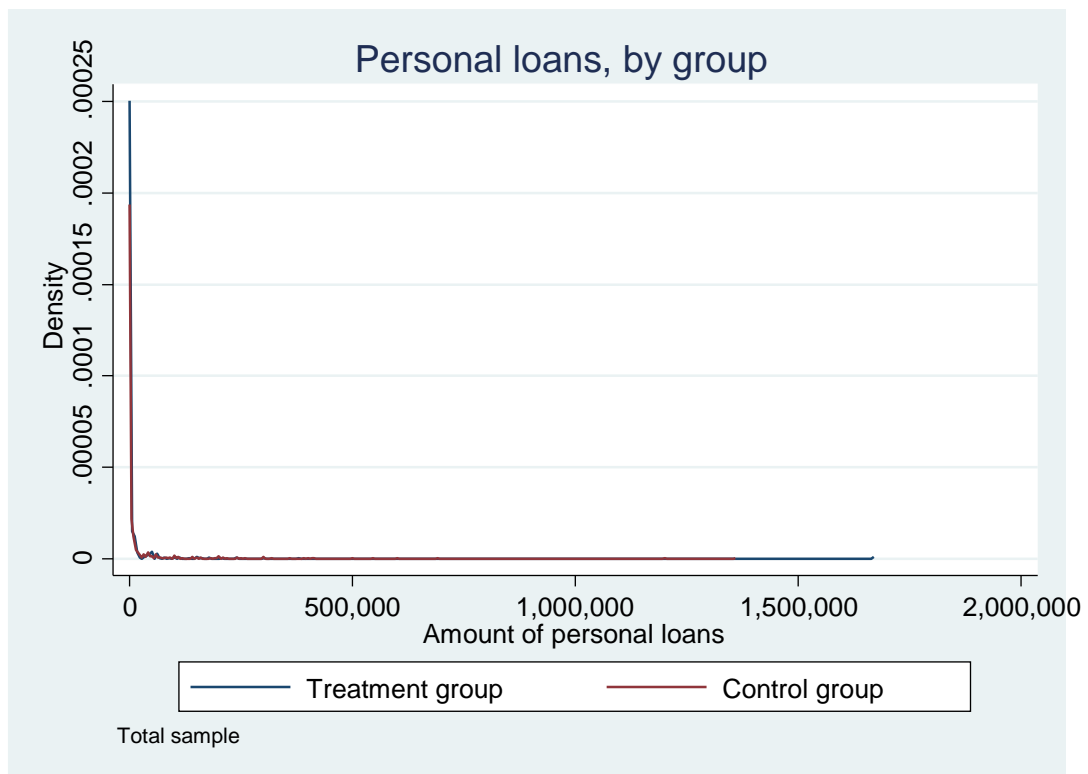
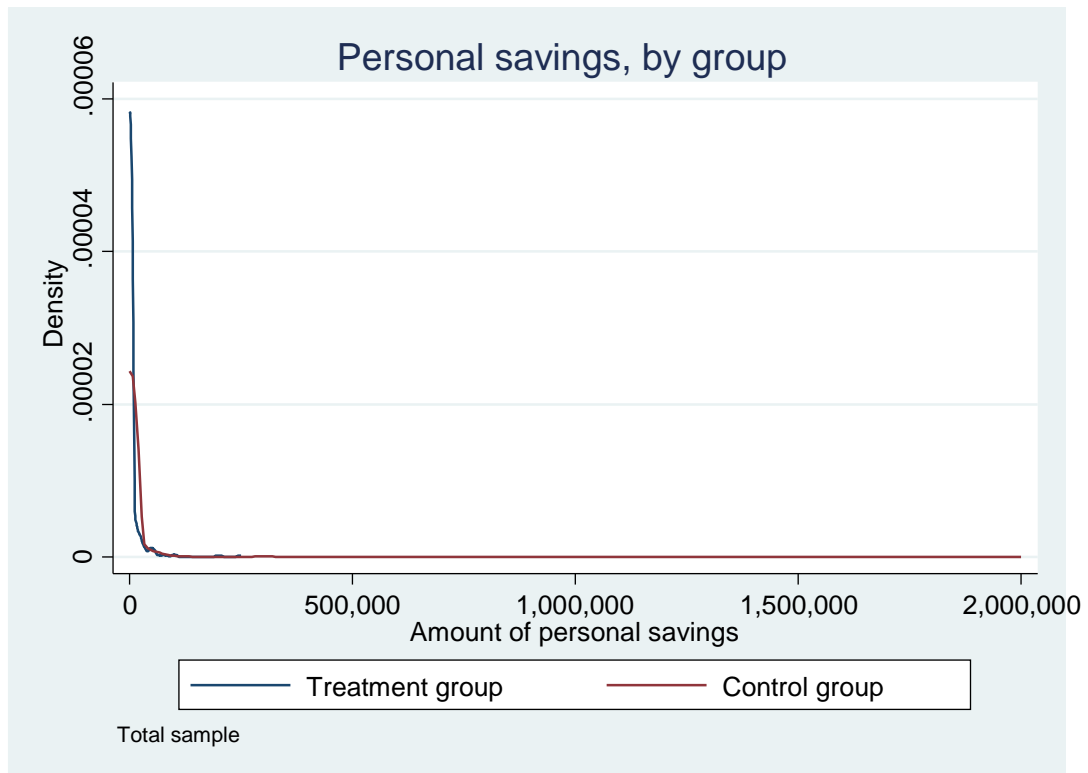


## Appendix 1: Distribution of Performance Indicators for the Entire Sample









## Appendix 2: Presentation of the Final Survey Questionnaires

### Beneficiary Questionnaire

- ID Section: This section lists the identity and contact information of the beneficiary. This part was prefilled with the data collected during the initial beneficiary survey.
- Section A: This section seeks to identify the position of the survey respondent in the AGR and his/her participation in the operation of the AGR and in the different meetings that take place within it.
- Section B: This section seeks to identify the detail of the beneficiary's different activities and the corresponding income, as well as the activity of the other family members.
- Section C: This section seeks to identify the details regarding the accounting, profits, and stock from the beneficiary's activity connected with the AGR.
- Section D: This section deals with the beneficiary's production costs (expenses) and investments (fixed capital).
- Section E: This section concerns the changes (management, production, services) implemented in the beneficiary's activity. It also concerns the clientele, type, and geographic distribution.
- Section F: This section seeks to capture the professional network in which the beneficiary's activity falls. The survey respondent is asked about his/her professional trading and non-trading partners and their membership in the AGR network.
- Section G: This section seeks to identify the state of mind of the person being surveyed [and] the difficulties he/she is faced with in his/her activity.
- Section H: This section deals with the survey respondent's financing, i.e., his/her savings, if any, and debt, via questions regarding the existence and type of any loans.
- Section I: This section compiles the demographic and socioeconomic characteristics of all the members of the survey respondent's household.
- Section J: This section lists the assets of the survey respondent's household.
- Section K: This section seeks to identify the consumer expenditures of the survey respondent's household: current, weekly, monthly, or one-time consumer expenditures, unexpected expenditures, or occasional expenditures.
- Section L: This section seeks to identify the beneficiary's social network via questions regarding family matters or money and personal satisfaction (mood states).
- Section M: This section asks questions relating to preference for the present and the beneficiary's attitude toward risk.
- Section N: This section seeks to find out whether the beneficiary was treated.
- Section O: This part enables the quality of the survey to be checked (length, particular features of the interview, etc.), and enables the survey administrator and supervisor to leave us explanations regarding the specifics of his/her activity if required for our understanding during the review.

### **Coordinator Questionnaire**

- ID Section: This section lists the contact information of the AGR coordinator. This part is filled out in advance on the tablet before the survey to facilitate data entry. It is updated if the contact information would not enable us to reach or correctly identify the coordinator.
- Section A: This section concerns the AGR's activity, its status, and its operation (number of beneficiaries, existence and distribution of the AGR's income, meetings, etc.).
- Section B: This section serves to identify the AGR's type of accounting and the flow of funds within the AGR, and to measure its profits and sales.
- Section C: This section concerns fixed capital, production costs, and investment. It is primarily a question of fixed-capital purchases, equipment rental, the number and types of employees, marketing expenses, and management of stocks within the AGR.
- Section D: This section seeks to capture the AGR's financing. It is a question of the existence and amount of the AGR's extended payment terms granted by suppliers, trade receivables, active loans, and loans that have come due.
- Section E: This section concerns the changes (management, production, services) implemented in the AGR by the coordinators. It also concerns the clientele, size, type, and geographic distribution.
- Section F: This section seeks to capture the professional network in which the AGR's activity falls. The coordinator is asked about the AGR's professional trading and non-trading partners and their membership in the AGR network.
- Section G: This section seeks to measure, on the one hand, the difficulties perceived by the coordinator regarding the operation of the AGR and, [on the other hand], his/her own state of mind regarding the future development of its activities.
- Section H: This section deals with the survey respondent's financing, i.e., his/her savings, if any, and debt, via questions regarding the existence and type of any loans.
- Section I: This section compiles the demographic and socioeconomic characteristics of all the members of the survey respondent's household.
- Section J: This section lists the assets of the survey respondent's household.
- Section K: This section seeks to identify the consumer expenditures of the survey respondent's household: current, weekly, monthly, or one-time consumer expenditures, unexpected expenditures, or occasional expenditures.
- Section L: This section seeks to identify the beneficiary's [sic] social network via questions regarding family matters or money and personal satisfaction (mood states).
- Section M: This section asks questions relating to preference for the present and the beneficiary's [sic] attitude toward risk.
- Section N: This section concerns, on the one hand, the AGRs' perception of the grant or investment from the INDH and enables, on the other hand, measurement of the

effectiveness of the treatment by asking about the training the coordinators and other members of the AGR received (type, volume in hours, and satisfaction).

- Section O: This part enables the quality of the survey to be checked (length, particular features of the interview, etc.), and enables the survey administrator and supervisor to leave us explanations regarding the specifics of the AGR if required for our understanding during the review.

## Appendix 3: Survey Administrator Training

All of the people involved in the survey – survey administrators, supervisors, and backchecker – attended a three-week training course given by the IPA liaisons in Rabat.

The people hired for the training were mostly former IPA survey administrators who had performed satisfactorily in previous surveys. For both former and new survey administrators, the CVs were reviewed and those with interesting profiles were asked to come in for an individual interview and a test on completing a portion of the questionnaire. The other qualities required were: a very good command of French, a high level of education, a good command of electronic equipment, experience with quantitative surveys, a certain degree of ease in speaking, a respectful and polite demeanor, a good ability to listen, and conviction. Fluency in Berber was appreciated. After one month of interviews, about forty people were invited to attend the training.

The training was composed of classes, exercises, and evaluations presented in the following order:

- Presentation of the program and the evaluation methodology, status of the work, survey administrator tasks, practical organization, and survey schedule;
- Protocol for contacting survey respondents, demeanor to be observed with survey respondents;
- Instruction in filling out paper questionnaires and practical exercises (from training manuals), checking completion of each section of the questionnaire by means of various role-playing exercises presenting cases of different figures;
- Familiarization with the electronic tablet and exercises in completing electronic questionnaires;
- Final exams and selection.

In order to enable better assimilation of the information, many practical exercises were done. Personalized corrections permitted feedback regarding each survey administrator's errors.

At the end of the three weeks of training, the survey administrators were evaluated. Understanding of the questionnaire was tested by means of role-playing simulations in Darija and in French. Of the 40 people who attended the training, 30 were retained. Among those who obtained the best test results, six people exhibiting specific leadership qualities were selected to supervise the teams of survey administrators. One survey administrator was selected to be a backchecker in the office. Supervisors completed additional modules to train in reviewing questionnaires, quality control of data, and daily transmission of data to the server. They also reviewed the schedule and the protocol for conducting the survey in the field.



## Appendix 4: Final Survey Protocol

This protocol summarizes the steps to be followed by IPA and the INDH's UGP [Project Management Unit] during the final survey for the Enterprise and AGR Support evaluation. This survey will be conducted entirely in the field. The objective is to survey the total AGR sample established during the baseline survey, i.e., 564 coordinators, as well as the 4 beneficiaries per AGR surveyed in the initial survey, for a total of 2,820 people.

The following protocol is a guide for conducting of the survey properly and maximizing the response rate. The survey will have an anticipated duration of 11 weeks beginning on December 3, 2012.

### **A. Before the Start of the Survey**

#### *1. Recruitment*

- a. The survey administrators for the final survey will be recruited in part from among those survey administrators who performed satisfactorily in previous surveys. However, the large number of survey administrators required for this survey led us to recruit survey administrators who had never worked for IPA. All the survey administrators selected for training underwent an interview and took an initial written test at the IPA's offices in Rabat.
- b. Specific training in the new questionnaires was held from October 15 to November 30, for a total duration of 20 days. The survey administrators were tested regularly over the course of the training. Only those who perfectly master the questionnaires will be sent into the field for the survey. The teams of survey administrators will be organized as follows: 4 survey administrators working in pairs and one supervisor. Each pair will have to survey one AGR at a time. The supervisors will be selected from among the best hires.
- c. Supervision of the teams will be performed directly by the IPA team in the field. The team consists of Fatima el Kadiri and Virginia Ceritti, as well as research assistants Olivia Siegl, Christophe Misner, and Francesca Viola, who have rejoined us for the duration of the survey fieldwork.

#### *2. Contact with AGRs*

- a. Two weeks prior to the start of the survey, IPA will send INDH the list of contact information for the heads of the Social Action Divisions (DASs) so as to ensure that the contact information is up to date.
- b. One week before the start of the survey, IPA will send the UGP a final schedule of meetings with the different DAS heads, indicating the names of the AGRs to be surveyed in the province. The DAS head will be in charge of contacting the AGR coordinators and inviting them to meet at the DAS the first day the IPA teams are to pass through. IPA will be in charge at that time of organizing appointments for going to the AGRs, will communicate to the coordinators of the AGRs in question the list of baseline beneficiaries to be surveyed on a priority basis, and will randomly select one additional beneficiary to be surveyed from the list of beneficiaries that the coordinator will have previously brought with him/her to the appointment at the DAS. This person must be available and contactable. At this meeting, IPA must give the planned visit schedule to the DAS heads. When IPA goes to the AGR sites, the coordinator is to have contacted the beneficiaries in question in advance and will be in charge of having them meet on the

premises of that AGR, insofar as this is possible. This appointment-making protocol will be repeated at each visit with the DAS heads throughout the entire field survey period.

### *3. Notification of the authorities and the parties in the field of the conducting of the survey*

- a. The local authorities will be notified of the conducting of the survey by the INDH coordinating office, which requires having the IPA schedule. IPA will send a provisional schedule to the INDH 2 weeks in advance.
- b. One week before the start of the fieldwork, IPA will send the INDH the final schedule of the IPA teams' travels for the first week. For subsequent weeks, the final weekly schedule will be forwarded to the INDH one week beforehand.
- c. The DAS heads will be informed by the INDH of the conducting of the survey.

## **B. During the Survey**

### *1. Contact with AGRs*

- a. During the week prior to their traveling to the province, the supervisors will call the DAS heads in question to confirm with them their appointment and the list of AGRs to be surveyed.
- b. The DAS head will be in charge of contacting the coordinators and inviting them to meet at the DAS the first day the IPA teams are to pass through. At that time, IPA will be in charge of organizing the appointments to go to the AGRs and will communicate to the coordinators of the AGRs in question the list of beneficiaries to be surveyed.
- c. The coordinators are tasked with contacting and assembling the beneficiaries on the day IPA comes to that AGR in order to facilitate the conducting of the survey.
- d. The survey administrators will work in teams and will survey the coordinator and the beneficiaries in a group visit in order to minimize the disruption caused by the survey.
- e. Coordinators and beneficiaries eligible for a second trip will be:
  - i. The Baseline coordinators or beneficiaries  
A person selected during the first trip from the list of coordinators who was unreachable or unavailable.
  - ii. Coordinators or beneficiaries who are unavailable for a short period (period less than the length of the survey),
  - iii. Coordinators or beneficiaries who are unreachable after the first contact between the supervisor and the DAS head and after a series of two failed calls and an on-site visit of both has failed,
  - iv. Beneficiaries who are unreachable despite the efforts of the coordinator and the team supervisor to get back in touch with them,
  - v. Coordinators or beneficiaries whose survey was incomplete at the end of the first visit (questionnaire started but not finished; these are rare cases),
  - vi. Coordinators and beneficiaries who did not show up for the appointments due to cases of force majeure,
  - vii. Coordinators and beneficiaries whose appointments made by telephone were cancelled by the survey administrator due to cases of force majeure,
- f. For coordinators or beneficiaries who are unavailable for a long period (greater than or equal to the length of the survey), IPA shall decide to either:

- i. survey another competent person (associate of the beneficiary, AGR treasurer),
- ii. make an appointment with the survey respondent to do an interview by telephone, or
- iii. meet the survey respondent in the area where he/she is available during this period.

## 2. *Role of DAS head*

- a. The supervisor will get back in touch with the DAS head before any action is taken in the territory.
- b. In the case of coordinators/beneficiaries who are not reachable on site or by telephone, after two series of two calls 48 hours apart, the DAS heads must provide all directions enabling the survey administrators to locate the coordinator. Three days prior to the arrival of the IPA team in the province, IPA will contact the DAS heads with a list of unreachable parties. This telephone contact will permit new telephone numbers or information to be obtained in order to more easily locate the AGR. This telephone contact may also lead to an appointment between the supervisor and the DAS head to facilitate the exchange of information and the locating of the AGRs.
- c. A person from the DAS may be contacted at any time to help, to the extent possible, with contacting the unreachable coordinator/beneficiary.
- d. If during the telephone contact, the coordinator refuses to answer the survey, the supervisor will discuss this with the DAS head to see if it is possible to convince the coordinator [otherwise].

## 3. *Contacts between the UGP and IPA*

- a. Weekly, one week before each trip, IPA will send the INDH the final schedule of meetings with the DAS heads.
- b. In the event of problems with the DASs in the field, IPA will contact the UGP for support. The support of the UGP is important for coordinating the help of the DASs.
- c. Similarly, in the event of problems with the IPA survey administrators, the UGP will contact the IPA liaisons to overcome these problems.

## **C. Survey Monitoring and Quality Control**

- a. IPA will send a weekly report to the INDH on the progress of the survey.
- b. The IPA research team will be present in the field throughout the fieldwork, circulating among the teams. The research team will perform supervision of each survey administrator several times during the first week of the survey, and this supervision will continue for the entire duration of the fieldwork.
- c. A check will be performed for 10% of the sample. A specialized survey administrator will work alone and will monitor the survey a few days later. He/she will contact the coordinators and randomly selected beneficiaries directly. The checker will perform interviews by telephone, from the IPA premises.

## Appendix 5: Consent Letter

### **CONSENT TO PARTICIPATE IN A STUDY**

**Title: Impact Evaluation of the Enterprise and AGR Support Program Pilot Project**

Hello. I am [Name], a survey administrator from Innovations for Poverty Action (IPA), a non-governmental organization in the United States.

You have been invited to participate in the study evaluating the MCC program, Enterprise Support Project, AGR component, conducted by the IPA team.

The purpose of the study is to learn more about Income-Generating Activities (AGRs) like yours and to evaluate the impact of this program. This program was set up through the joint collaboration of the Agency of Partnership for Progress (APP) and the National Coordinating Office of the Initiative Nationale pour le Développement Humain (INDH).

Answering this survey does not entail any risks for you and will not have any impact on the support that you or the AGR receive from the INDH or, more generally, on the AGR's relationship with the INDH. You participated in the previous survey(s) and now you are taking part in the evaluation for this last survey.

This questionnaire is an evaluation tool. You may agree to or refuse to answer the questionnaire. Even if you agree to start the questionnaire, you have the right to refuse to answer any question and to stop answering the questionnaire at any time. We think that the questionnaire will take between 20 and 45 minutes.

You may refuse to answer any of these questions or stop participating at any time.

The information you provide us will be confidential. All questionnaires will be kept in a locked cabinet at IPA headquarters in Rabat for one year after the last survey (in about two years). The paper copies of the questionnaires will then be destroyed.

I understand the procedures described above. I am satisfied with the answers that have been given to my questions and I agree to participate in this study. I have been given a copy of this document.

[ ] I agree to answer the questionnaire.

Name of respondent: / \_\_\_\_\_ / / \_\_\_\_\_ /  
(Last name) (First name)

Signature of respondent \_\_\_\_\_ Date \_\_\_\_\_

Signature of survey administrator \_\_\_\_\_ Date \_\_\_\_\_

ORAL CONSENT |\_\_|

if you have any questions or concerns, please contact the IPA office at 05 37 68 69 86 — IPA Maroc, 4 Av Bine El Ouidane, Appt. 10, 10090 Agdal, Rabat.

## Appendix 6: Data Quality Control

### **Supervision of Survey Administrators**

Oversight during the survey was performed on two levels: by the supervisors with the survey administrators and by the IPA liaisons.

Throughout the survey, the supervisors of each team attended a portion of the interviews of each member of their team. This supervision, which was particularly important in the first few days, enabled rapid individual feedback regarding aspects that could still pose a problem after training. More generally, their presence and daily oversight of the work performed permitted adapted management of survey administrators.

At the end of each survey day and once the questionnaires had been completed by the survey administrator, the supervisors checked the questionnaires on the tablets. Thus, any possible omissions, inconsistencies, or errors were able to be identified very quickly and noted in the comments in section O for each questionnaire (if the survey administrator had information on the missing or incorrect data) so that the IPA liaisons could identify the errors and correct them during the weekly data cleaning. If an error was observed, the survey respondent was contacted again during the week by the backchecker to correct it.

In addition to the permanent presence of a supervisor on each team, the IPA liaisons visited the teams over the entire duration of the fieldwork. Each survey administrator conducted more than one survey in the presence of a liaison. This presence permitted possible errors to be spotted. These errors could be corrected and explained over again with the survey administrator, in the presence of the supervisor, so the latter would perform a more careful check of the items where errors occurred.

During their visits with the teams, the IPA liaisons also reviewed available questionnaires to check the quality of the oversight performed by the supervisors. Errors not detected by the supervisors could thus be discussed with the supervisor and the survey administrator so that they would be more attentive.

This oversight and explanation work took place throughout the fieldwork. Each team continually received visits from the IPA liaisons and the errors identified in one location were systematically communicated to the other teams.

### **Review and Cleanup of Questionnaires**

The questionnaires completed by the teams were reviewed by the supervisors the same day as the survey in order to be able to report errors. They were then sent to the server at the Rabat office. Every day the server was synced to download the data. The updated database underwent a cleaning session performed by the IPA liaisons once a week. This second check enabled detection of inconsistent results, unjustified missing information (no filter), or surprising results. In the event that the errors could not be corrected directly, the backchecker was tasked with calling the survey respondent to have him/her clarify the problem items.

All of the questionnaires were reviewed and, when necessary, the person surveyed was contacted again to check a specific item by means of a very brief call (less than 5 minutes).

### **Special Feature of the Questionnaire**

In order to minimize the risk of error with respect to the essential variables, sales and profits, the questionnaire listed two measurements of sales and profits, as well as a minimum-maximum range for each. Having two measurements of these variables enables detection of an inconsistent figure (for example, a sales figure since January 2012 that is lower than the sales figure for the previous month). The range enabled collection of a minimum and maximum for these variables.

### **Backcheck**

As with all its surveys, IPA put a backcheck system in place. This action consists of resurveying 10% of the people in order to ensure the reliability of the results. The backcheck for this first follow-up survey was conducted by telephone with 56 coordinators and 175 beneficiaries. The questionnaires used, which were shorter than those used in the field and had two different versions, went back over only the most important questions. The backcheck questionnaires can be found in the appendix.

While the backcheck permits the correction of some errors, it also has two other major benefits. The first is that it constitutes a simple and effective means of checking the action of the survey administrators, ensuring that their meetings with the people surveyed are effective, and of verifying that the survey is conducted properly.

The second benefit is that it enables a comparison of the means obtained during the survey with those in the backcheck. Performed with a much shorter questionnaire for 10% of the surveys conducted, the checker's work does not permit verification of the data by observation but provides an opportunity to verify that the orders of magnitude of the variables are the same.

### **Incentives for the Survey Administrators**

Financial incentives for the survey administrators connected with the backcheck and the review and cleaning by the liaisons in the IPA sites were established to encourage the survey administrators to be extremely careful when completing their questionnaires. In fact, calculation of bonuses was based on the number of errors detected during the daily reviews and on a scale established in advance and shown to the survey administrators during training. This operating by penalties indexes one fourth of the total salary to the quality of the work performed, thus creating a strong incentive to do quality work.

## **Data Cleaning**

Once the data were synced on the server, we put them through a certain number of logic tests to verify their consistency. In fact, the questionnaire enables cross-checking of information, making detection of errors possible. For example, it is possible to edit all the questionnaires for which profits are greater than the sales figure. Errors were identified on a weekly basis and the checker called the survey respondents to correct inconsistencies. Then the IPA liaisons made corrections in the database as they went along and continued with the logic tests.

## **Difficulties Associated with CAI (Computer-Assisted Interviewing)**

The implementation of an electronic survey for this last phase of the project created certain complications. Because Internet connections were weak in some regions of Morocco, they slowed down daily data collection and thus error detection and cleaning. Similarly, we encountered difficulties associated with the server used. A portion of questionnaires, or sometimes entire questionnaires, never reached the server during the tablet syncing. This caused us to implement a data recovery phase. Two survey administrators recovered almost all the data lost by calling the survey respondents to readminister the questionnaire over the telephone. Then two IPA liaisons performed the data entry at the office.