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Microfinance and Enterprises' Formalisation An impact study of ESAF's (India) microfinance innovation

Microfinance for Decent Work

Working Paper No. 59

Social Finance Programme & Mannheim University

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Preface

Entrepreneurs in the informal economy, and the employees that work in those businesses, are often exposed to difficult and dangerous working conditions. The tools used to identify, prevent and rectify such conditions in the formal economy – including social dialogue between employers and employees, labour inspection and other applications of labour law – generally do not apply to the unregistered enterprises that proliferate in many emerging economies. Consequently, alternative approaches are required. But how can one reach these enterprises and influence their conditions?

Microfinance institutions (MFIs) are a potential conduit. In many emerging markets, they have significant outreach, providing financial services to thousands of small and micro enterprises. Since their primary relationship with these entrepreneurs often involves an enterprise loan, they could theoretically use that leverage to encourage improvements to conditions in the business.

Why would microfinance institutions be interested in doing that? Many MFIs have a social agenda, or a double bottom line approach that strives to combine social and commercial objectives. These organizations are often looking for new tools and approaches that allow them to efficiently enhance their social impact, especially since recent research has raised serious questions about the welfare benefits derived from microfinance. It is also possible that such interventions could also enhance business objectives, which would be of interest even to MFIs without a social agenda.

With this concept in mind, and with the generous support from the German Ministry of Labour and Social Affairs, the International Labour Organization (ILO) launched an action research programme to assess if MFIs could use their relationship with entrepreneurs to target decent work deficits and improve the plight of workers in the informal economy.

This Working Paper presents the results of an intervention of ESAF, India and is part of a series of impact reports that present the outcomes of this action research programme. The primary target audiences are MFI managers who will hopefully be inspired by their colleagues' ingenuity, educated about the impact of innovative approaches, and informed about the challenges of conducting action research (but not scared off). Other microfinance actors, including networks and associations, investors and funders, regulators and policymakers, academics and anyone interested in the social performance of microfinance will also find this paper informative.

For the ILO's constituents – employers' and workers' organizations and Ministries of Labour – the findings of this research present them with a new instrument in their policy toolkit to improve the circumstances of entrepreneurs and workers in the informal economy.

Through this initiative, the ILO wishes to promote its "Decent Work Agenda" among MFIs and also to demonstrate that MFIs can improve livelihoods of their clients through more comprehensive approaches, often including the provision of both financial and non-financial services.

For anyone interested in reading the other impact studies and the synthesis report, click on the MF4DW button on the Social Finance website (www.ilo.org/socialfinance).

Craig Churchill
Chief
Social Finance Programme

Executive summary

The Evangelical Social Action Forum (ESAF), through its Microfinance and Investments (P) Ltd (EMFIL) of India participated in the ILO's Microfinance for Decent Work (MF4DW): Action Research project from 2008-2012. As part of this experimental research, ESAF launched and tested business development services and awareness raising activities on the benefits of formalisation for their members entrepreneurs in order to see if there was a positive impact of formalisation on the economic and social performances of clients and their enterprises, using a target versus control group methodology. Econometric analysis of the panel dataset collected from control and target groups at four equally spaced intervals show that ESAF's innovation can be linked to increase in the formalisation status and awareness about its benefits, as well as improved business practices regarding accounting, expansion plans, marketing in particular. However, the effects of the innovation were limited or inexistent on employment outcomes, repayment capacity, and repayment difficulties.

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List of acronyms

BDS	business development services
ESAF	Evangelical Social Action Forum
EMFIL	Microfinance and Investments (P) Ltd
MFI	microfinance institutions
MF4DW	Microfinance for Decent Work

Contents

Preface	ii
Executive summary	iii
Acknowledgements	iii
List of acronyms	v
1. Background: The ILO microfinance for decent work: Action research	4
2. The decent work innovation: Awareness-raising campaign and business development services (BDS) for the formalization and strengthening of growth-oriented enterprises	6
3. Intended outcomes	10
4. Data and evaluation methodology	11
4.1. Data	11
Data quality	12
4.2. Evaluation methodology	13
5. Results	13
5.1. A word of caution	14
5.2. Summary statistics at baseline	14
Client's characteristics at baseline	14
Client's business at baseline	16
5.3. Impact on formalization	17
Access to financial products	18
Access to government support schemes	21
5.4. Impact on clients' enterprise and market linkages	23
Management practices	23
Annual turnover	24
Expansion plans	25
Investment in new machinery	26
Employment	27
Access to electricity	29
Demand, advertisement and market linkages	30
5.5. Impact on socio-economic characteristics	34
5.6. Impact on clients' loan size and repayment capacity	40
6. Lessons learned and recommendations	43
Annex I	45
Annex II	46
Annex III	49
Social Finance Working Papers since 2000	57

Figures

Figure 1: General map of India	5
Figure 2: ESAF strategy for clients' formalization	7
Figure 3: Result chain of ESAF formalization innovation	10
Figure 4: Timeline of the project's activities	12
Figure 5: Do you know about formalization?.....	17
Figure 6: Have you registered your business?.....	17
Figure 7: Do you wish to register your business?	17
Figure 8: Are you willing to pay for the registration?.....	18
Figure 9: Do you have a bank account?	19
Figure 10: Business bank account	19
Figure 11: Is your firm insured?.....	21
Figure 12: Are you a member in any other network?.....	21
Figure 13: Awareness about government support schemes.....	21
Figure 14: Benefited from government support scheme	22
Figure 15: Maintains book of accounts?	23
Figure 16: Annual turnover	24
Figure 17: Turnover bracket > or = INR100,000	25
Figure 18: Bought any new machinery	26
Figure 19: Bought any new machinery	26
Figure 20: Do you have employees?	27
Figure 21: Number of employees	28
Figure 22: Business has electricity?	30
Figure 23: Tariff reduction on electricity bill.....	30
Figure 24: Is your product in high demand?	31
Figure 25: Is your product in low demand?.....	31
Figure 26: Do you advertise?	33
Figure 27: Do you export your products?.....	33
Figure 28: Monthly household income.....	34
Figure 29: Share of clients with income inf or equal to INR10,000.....	34
Figure 30: Share of clients with income INR10,001 – 20,000	35
Figure 31: Share of clients with income INR20,001 – 30,000	35
Figure 32: Main income source: Household enterprise.....	38
Figure 33: Main income, casual wage labour.....	38
Figure 34: Amount of last ESAF loan	40
Figure 35: Repayment difficulties	41
Figure 36: Share of respondents without loan.....	42
Figure 37: Large unforeseen expenses	43
Figure 38: Map of Kerala with target and control groups	46
Figure 39: Map of Maharashtra with control and target groups.....	47
Figure 40: Map of Tamil Nadu with Control and Target groups	48

Tables

Table 1: Observations per branch.....	12
Table 2: Summary statistics – Client information at baseline	15
Table 3: Summary statistics – Enterprise characteristics	16
Table 4: Summary statistics – Use of financial products	20
Table 5: Summary statistics – Awareness about government support schemes.....	22
Table 6: Summary Statistics – Access to Government support schemes at follow-up III.....	23
Table 7: Impact on book of accounts	24

Table 8: Summary statistics – Plans to expand business.....	26
Table 9: Summary statistics – Investment in productive assets	27
Table 10: Summary statistics – Employment in client's enterprise	28
Table 11: Summary statistics – business electricity	29
Table 12: Impact on business electricity	30
Table 13: Summary statistics – Demand and advertisement	32
Table 14: Summary statistics – Monthly household income.....	36
Table 15: Share in lowest income class (<10,000), by type of business and innovation status	37
Table 16: Summary statistics – Main income source	39
Table 17: Summary statistics - Clients' relation to ESAF	42
Table 18: Share of clients without ESAF loan within target group.....	43
Table 19: Impact on formalisation	49
Table 20: Impact on ownership of bank account.....	49
Table 21: Impact on annual turnover.....	50
Table 22: Summary statistics - Sales turnover a year.....	51
Table 23: Impact on investment in machinery	52
Table 24: Impact on employment.....	52
Table 25: Impact on demand and advertisement	52
Table 26: Impact on monthly household income	54
Table 27: Impact on main income source.....	54
Table 28: Summary statistics - New durables in HH	55
Table 29: Impact on Clients' relation to ESAF.....	56

1. Background: The ILO microfinance for decent work: Action research

The Microfinance for Decent Work (MF4DW) action research aims at building knowledge about the effects of innovations on microfinance clients' livelihoods. Launched by the ILO Social Finance Programme in 2008, the MF4DW action research started by identifying specific work-related challenges among microfinance clients and to address them, implemented tailor-made innovations with 16 microfinance institutions (MFIs) worldwide. The MF4DW action research set out to apply an experimental research design to measure the impact of these innovations overtime. The MF4DW action research concluded in June, 2012.

At the outset of the MF4DW action research, each participating MFI conducted a diagnostic survey among 200 of its clients to determine their most pressing work-related challenges. The analysis was guided by ILO's vision of decent work for all and its goal to promote opportunities for women and men to obtain decent and productive work, in conditions of freedom, equity, security and human dignity. Within this framework, the diagnostic determined child labour, working conditions, formalisation, job creation and productive employment, risk management/over-indebtedness, and women's empowerment, as key challenges for microfinance clients to obtain decent work.

Informed by the diagnostic results, each MFI developed an innovation to address the work-related challenge that most affected its clients and started implementing the innovations from 2009 onwards. The innovations included new or upgraded

- financial services (loan, savings, insurance, leasing),
- non-financial services (training, awareness campaign), or
- mechanisms for delivering services (organizational restructuring).

The MF4DW action research used an experimental research design meaning that one group of clients received the innovation (target group) while another group of clients did not (control group). Ideally, clients of each group were selected randomly. Before the introduction of the innovations, all clients of the target and control groups were interviewed to establish a baseline against which changes could be compared. Depending on the implementation timeline, up to four follow-up surveys were conducted once the innovation was launched. The last follow-up surveys were completed in February 2012.

This report presents the final impact results of the innovation implemented by the microfinance wing of ESAF (Evangelical Social Action Forum) formed as EMFIL, ESAF Microfinance and Investments (P) Ltd. a non-bank financial institution, established in 1992 and transformed as a Non-Bank Financial Institution (NBFI) in 2008. ESAF's mission is to empower the poor and marginalized especially women, children and youth by providing access to financial, marketing, health, natural resources and technological support to explore the fullest human potential and create opportunities for sustenance, development and holistic transformation. ESAF offers loans, insurance as well as training and consulting services to its clients. It has a network of 150 offices covering 34 districts in seven Indian States, servicing roughly 430'000 members. ESAF conducted the MF4DW action research in three States of India (Kerala, Tamil Nadu, Maharashtra), in 12 selected local branches, split into respectively control (2) and target (2) branches in each of the States (see Table 1 under part 4.1 for the number of clients included at the baseline in each of the location; see Annex 2 for detailed maps of each state).

Figure 1: General map of India



The selection of the three states where the project would be implemented was done first, taking into consideration the following aspects: Kerala is the oldest area of operations under ESAF; many people are engaged in business but are neither associated with any networks or associations nor have good financial and formalized system of running their enterprises. The innovation was for ESAF the opportunity to pilot a full-fledged business assistance programme. Tamil Nadu was comparatively a new area of operation under ESAF with a great number of potential clients engaged in some kind of micro enterprises. The research project was considered as an opportunity to enhance the value proposition to ESAF towards these clients. In Central Zone, ESAF identified first the clients of the “Street Bank project for hawkers and small entrepreneurs” as target for the innovation. Formalisation support would thus be complementary to the financial support provided to these street vendors. The specific target group in that State was then changed after the baseline, as it came out that these entrepreneurs did not correspond to the profile of the “ready to grow clients”.

Next, the selection of the specific branches that made up the research sample for the action research was done taking into account the definition of the characteristics of “ready to grow clients” (see Chapter 2 for more details on the logical chain of the innovation). The characteristics are as follow:

The clients: (i) own their enterprises or belong to an association of enterprises, (ii) are not registered with the local industries and trade associations, (iii) have at least one year in business, and (iv) had plans for business development.

ESAF conducted therefore an analysis of the client base of its branches and selected in each of the three states two branches that would be assigned either to control or to target areas.

2. The decent work innovation: Awareness-raising campaign and business development services (BDS) for the formalization and strengthening of growth-oriented enterprises

In 2008, ESAF conducted a diagnostic study among 200 members, including 68 per cent self-employed clients in order to gather information on the work-related challenges that they encounter. This study revealed the following:

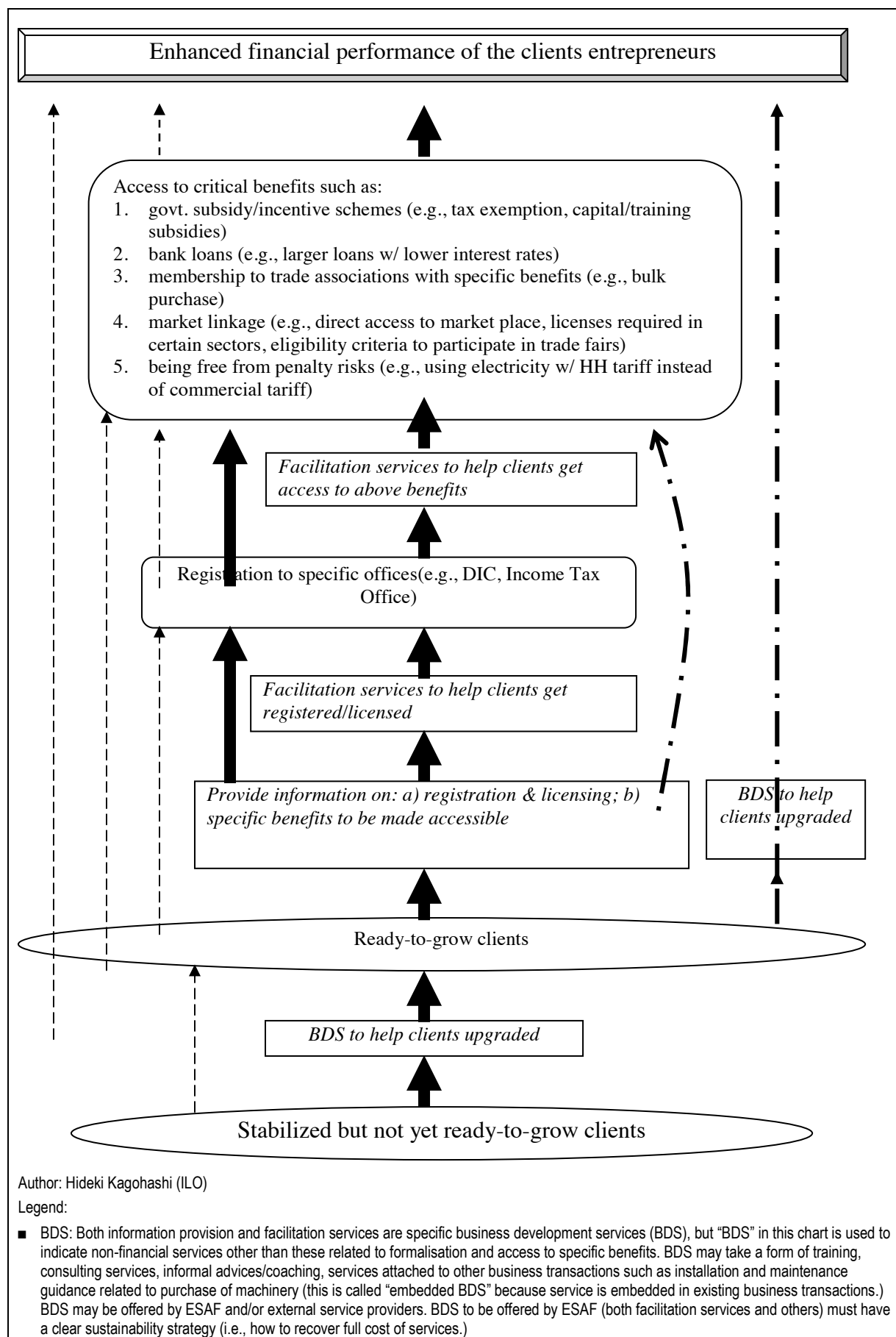
- 85 per cent of the self-employed clients do not have any kind of registration for their activity;
- 69 per cent of the self-employed do not conduct bookkeeping – even basic such as maintaining an income and expenditure book. This rate is even higher when disaggregating by registration status (74 per cent of clients with unregistered businesses do not keep records);
- 88 per cent of self-employed clients do not pay taxes;
- when they had employees (only 41 clients in the group), only 24 per cent of them provided their staff with some kind of social benefits, usually paid on the basis of ad-hoc and informal arrangements.

In addition, ESAF noticed that a number of clients had the potential to grow their enterprises and hence create jobs for additional employees. However, ESAF did not have the necessary capital to provide them with larger loans and due to the informal status of their enterprises, they could not access bank services or government support schemes. To address these issues, ESAF developed a strategy to support “ready to grow clients” in the formalisation process.¹

¹ Given the requirements for formalisation and potential costs attached to it, not all clients of ESAF would have the potential, need and interest to enter in such process. Thus, ESAF clients which are members of producers’ companies have already access to a number of benefits and assistance (branding, access to market, technical support through ESPCL) and would certainly not be interested in formalizing individually their enterprises.

At the same time, clients that are mainly at livelihood level do not have the capacity and potential to upgrade and take a further step for formalisation. It has been therefore important for ESAF that the innovation targets clients that have a potential to grow and for which formalisation would be an opening door for access to services and benefits for their expansion.

Figure 2: ESAF strategy for clients' formalization



- Dotted lines: No intervention scenario. Few entrepreneurs; slow progress.
- Bold lines: Main intervention scenario. More entrepreneurs to follow, accelerated process.
 - Information provision could lead to formalisation and access to benefits without additional facilitation services if: a) cost and benefits are clearly articulated in real life situation; and b) procedure is simple and transparent. This is a sustainable scenario because there is little recurrent cost involved.
 - Otherwise, facilitation services could be developed to overcome complex and/or high transaction procedure. Here, a sustainability strategy is required.
- Semi dotted line: Risk scenario possibility.
 - If many entrepreneurs could get access to benefits without formalisation, there is failure in policy coherence (i.e., disjuncture between policies to promote formalisation and incentive/subsidy policies). This is beyond the control of an MFI, but will produce useful inputs to policymakers.
 - If many entrepreneurs take BDS to improve their performance but do not formalize themselves, it will be a failure as an innovation in the area of formalisation. The BDS (other than information and facilitation for formalisation and benefits) in the proposal is supplementary means to enhancing financial performance of client enterprises through formalisation; not an alternative to it.

ESAF views formalisation as a key opportunity for the growth of enterprises. Formalisation allows enterprises to access a broader range of financial and non-financial services and to penetrate into a larger market network. Formal enterprises can have access to larger loans from banks as well as subventions through government schemes to support their growth. Being required to maintain and submit updated business information, formal enterprises are more prone to closely monitor their business, and therefore to better assess and manage the business risks. These improved business practices along with a better access to finance and markets open up business expansion avenues for formal enterprises.

On the other hand, ESAF feels that its client entrepreneurs may perceive formalisation as unnecessary or counter-productive. For example, in India, business registration is only required for enterprises with more than ten employees. Smaller enterprises are therefore authorized to operate without any formal documentation. Formalisation implies that entrepreneurs pay relevant taxes and are able to submit the tax documents. The costs of these taxes combined with the costs of registration in such add up to the enterprise non-operational expenses (including memberships to business association and unions) and may also discourage ESAF client entrepreneurs.

According to ESAF, the main obstacles for its client entrepreneurs to formalize include a low awareness about the advantages and disadvantages of formalisation, the lack of available information on the formalisation process, a lack of funds to cover the costs induced by the formalisation including the upgrades of business processes that maybe necessary for the registration.

To address the issues of informality and support the business expansion of its “ready-to-grow” clients, ESAF introduced awareness raising campaigns on the registration and formalisation processes and targeted Business Development Services (BDS) to its clients.

To provide these specific non-financial services, ESAF created a new capacity within its team: the business development officers (BDOs). The BDOs are responsible for collecting and elaborating information materials on registration, facilitating sensitization workshops at branch level, including exchange of experiences amongst clients, and providing individual counselling to the clients.

ESAF innovation was therefore implemented in 3 steps (for detailed timeline, see Figure 4). First ESAF recruited three Business Development Officers and appointed them to each of the target areas of the three States. Upon recruitment, BDOs were trained on their responsibilities through coaching by the project manager. Second, the BDOs conducted ten information campaigns to promote formalisation and explain the registration process amongst clients. The campaigns were conducted starting May 2010, through posters, meetings at the branch levels and reached 410 selected clients by August 2010. The campaign included the following programmes:

- (1) **Branch and Field Officers Introduction programme:** The branch manager and the field staff besides the exclusive project staff were the facilitators and support team for implementation of the programme. To help them familiarize and orient them about the programme objectives and activities planned, a facilitator introduction training

programme was conducted one time in each of the 3 project areas, namely, Vadanapilly, Valapad and Perinjanam branches in Kerala, Coimbatore in Nadu and Nagpur in Maharashtra. Hence a total of three programmes were conducted towards introduction of the Shram Jyoti programme for the facilitators. The content of the training programme included the background and context of the project, objectives to be attained, activities to be implemented and output indicators expected to result from these interventions. This was basically the launch of the full-fledged programme at the field level. It ensured keeping all the project implementation stakeholders on the same platform before introducing the concept to the microfinance clients who were identified as beneficiaries under the programme.

- (2) **Orientation and Sensitisation programme for clients:** It was vital to sensitize and introduce the programme to the clients for their understanding, cooperation, participation and ownership of the programme activities to ensure maximum impact. There were three batches of around 30-40 client participants in each of the training conducted in the project area in each of the three states of implementation. The clients were also introduced to the process of formalisation of microenterprises through registration with the local district industries centre, government agencies. They were encouraged to expand to markets through fairs, exhibitions and exposure visits.
- (3) **Individual client visits** to reiterate the message on the benefits of getting formalized. The Business Development Officers provided the clients with briefing sessions on marketing and accounting during their regular interaction through weekly meeting with them and individual interaction.

As the innovation took place in India, which has been particularly touched by the so-called “Andhra Pradesh Crisis” with consequences on the whole microfinance sector, it is important to give some contextual background information that might have impacted on the results of the innovation.

During the crisis in India, there were deep speculations on the impact of microfinance and its effects on the lives of the clients. It was a challenging time for all MFIs including EMFIL to address the issue of restricted funding by the financial institutions like banks and to answer the queries raised by the clients on why loans have been reduced. This was an unforeseen time which led to a sudden increase in dropouts among the microfinance clients. During the course of the action research, EMFIL was planning to roll out a higher loan product for graduating enterprising clients to help enhance and grow their business but it was stalled to accommodate and incorporate the new guidelines laid out by the Malegam Committee wherein the interest rate cap was 26 per cent and the loan amount not to exceed Indian rupees (INR) 50,000 from maximum three MFIs.²

The action research therefore suffered from a drastic reduction in the sample base in both control and target groups with a much higher drop out observed in the target group. This is a combination of the external factors as described above, including precautionary measures by the banks in lending out to MFIs, linked to higher expectations from the intervention among the clients, as well as delay in the processing of applications by government agencies. There were clients as well from the target group who had decided to increase their business base, diversify their unit and put in more capital from a larger financial assistance from EMFIL. However, due to these regulations and restricted loan funds clients either discontinued their business activity or stalled their expansion plans for the time being.

² The so-called Malegam Committee (from the name of the Chairperson, Yezdi H. Malegam), was appointed by the Reserve Bank of India as a Sub-Committee of the Central Board of Directors of Reserve Bank of India to study issues and concerns in the MFI sector related to the entities regulated by the Bank. It submitted its report to the RBI in January 2011.

Within six months however, there was an improvement in the situation with bank loans approved and loan disbursements resumed. Gradually the microfinance programme streamlined back into smooth terrains with regular disbursements and repayments taking place. This quick transition back to normality was possible because of the unwavering faith and belief of the many loyal and old clients of ESAF who retained their association and opted to continue with the organization even during hard times.

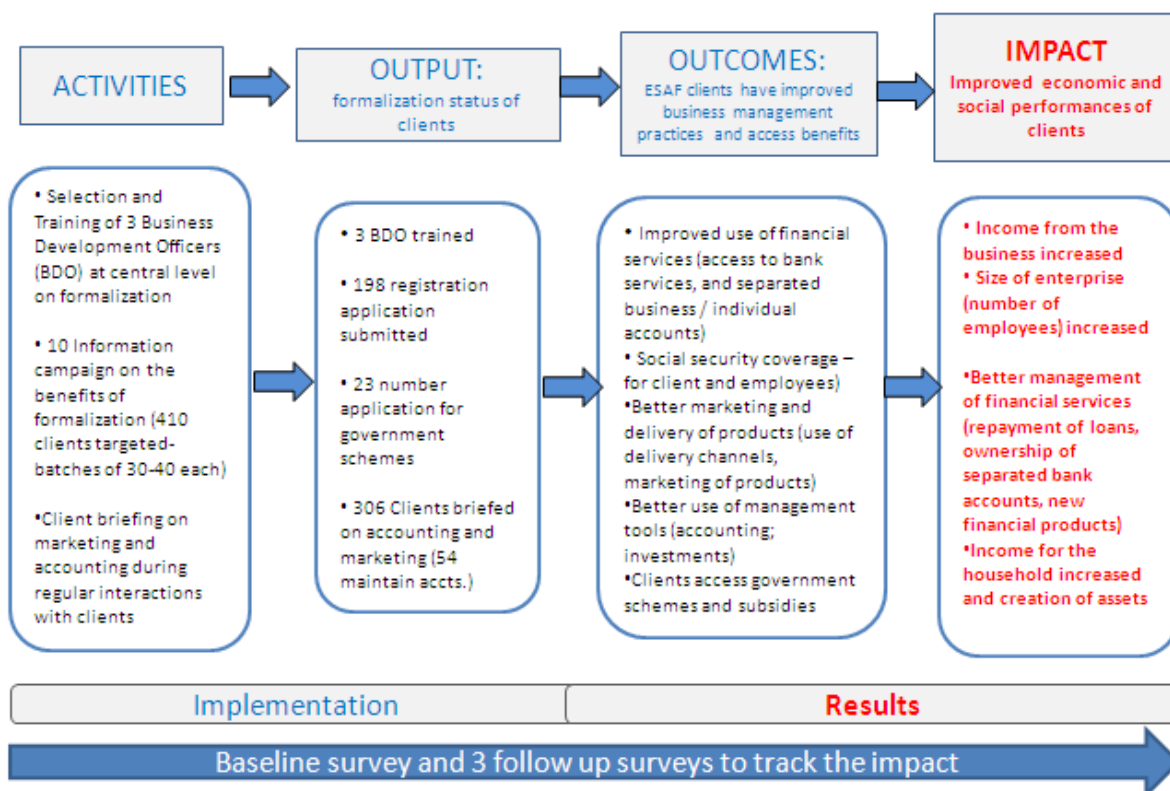
Hence, over all, the Andhra Pradesh Crisis has affected the sample and effectiveness of the intervention making it difficult to observe significant difference in the income levels, in the number of employees or financial improvement in their business. But even after these challenges more than 90 per cent of the clients were enthusiastic and participated in the programmes conducted under this action research.

3. Intended outcomes

The long-term objective of the innovation is to improve the social and economic performance of ESAF clients, which will lead to their economic and social empowerment. This is to be achieved by supporting formalisation of growth oriented clients (not producer companies’ members) which should facilitate their access to government support schemes, access to bank loans, membership in business associations and access to markets.

The figure below represents the expected result’s chain for the ESAF innovation:

Figure 3: Result chain of ESAF formalization innovation



The report presents the final impact results of the awareness raising campaign and BDS provided to clients to promote formalisation:

- (1) ESAF clients have improved business management practices and access to benefits, such as government schemes and subsidies:

-
- Improved use of financial services (access to bank services, and separated business / individual accounts)
 - Better social security coverage – for client and employees
 - Better marketing and delivery of products (use of delivery channels, marketing of products)
 - Better use of management tools (accounting; investments)
 - Increased clients’ access to government schemes and subsidies
- (2) Improved economic and social performances of clients
- Increased business profit
 - Greater number of employees (Size of enterprise)
 - Better management of financial services (repayment of loans, ownership of separated bank accounts, new financial products)
 - Income for the household increased and creation of assets

This report focuses on causal relationships between the innovation and the intended results without imposing ad-hoc relationships within the outcomes. As the impact of the awareness campaign on formalisation and the BDS support services cannot be measured with a single indicator, sets of indicators will be used for each of the intended outcomes in the empirical analysis below.

4. Data and evaluation methodology

4.1. Data

At the baseline survey conducted in April and May 2010 in the six branches selected as indicated above, a total of 670 clients were interviewed. 340 of these were from target branches and 330 from control branches. Overall, the majority of clients interviewed were female. In Tamil Nadu and Kerala they were exclusively females, while in Central India the majority were male. All respondents were among loan clients.

In intervals of six months three follow-up surveys were conducted to construct a panel data set (see below timeline for the dates of the surveys). Attrition, i.e. drop-out of respondents, is a minor problem. In the target group we observe around ten per cent of attrition between baseline and follow-up I. In the control samples the number of respondents even increased by ten per cent. For the follow-up II we observe an increase in the treatment sample to the level of baseline. The control group sample at follow-up II shows an attrition of around six per cent compared to the baseline. For the analysis we use only individuals who were present at all four interviews.

Table 1 lists: (i) the 12 experimental branches chosen either for implementation of the innovation (target branch) or to serve as controls (control branch); and (ii) the number of observation per branch for each of the survey (waves).

Table 1: Observations per branch

Surveys	Control branches				Target branches			
	BS	FSI	FSII	FSIII	BS	FSI	FSII	FSIII
Chalakudi (Kerala)	9	9	9	9				
Eriyad (Kerala)	26	26	26	26				
Kodungalloor (Kerala)	24	24	24	24				
Njarakal (Kerala)	29	29	29	29				
Sironcha (Central India)	98	98	98	98				
Thudiyaloor (Tamil Nadu)	71	71	71	71				
Kuniamuthur (Tamil Nadu)					66	66	66	66
Perinjanam (Kerala)					18	18	18	18
Pollachi (Tamil Nadu)					31	31	31	31
Sadar (Central India)					47	47	47	47
Vadanapally (Kerala)					53	53	53	53
Valapad (Kerala)					27	27	27	27
Total	257	257	257	257	241	241	241	241

Figure 4: Timeline of the project's activities

No.	Activity	2009	2010				2011				2012
		Dec	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	Jan-Mar
I	Information collection and materials preparation										
II	Baseline Survey - Introduction to Action Research										
III	Introduction, orientation and individual advise- (Coordinators and Loan officers meetings)										
1	Coordinators & Facilitators Introduction and Meeting										
2	Sensitisation workshop										
3	Individual advise										
IV	BDS Training - ESPCL										
1	Entrepreneurship Development Training										
2	Entrepreneurship Development Training - Follow up										
3	Orientation and discussion on Marketing and Quality control										
4	Orientation and discussion on Marketing and Quality control - Follow up										
V	Monitoring and Evaluation - ILO										
1	Data Collection and Analysis-1										
2	Data Collection and Analysis -2										
3	End Data Collection and Analysis-Endline										
VI	Final Dissemination Seminar										

Data quality

The data collected by ESAF is fairly complete and of good quality since missing values are negligible. Only very few items show missing values that the econometrician could not explain (amount of last loan, section 5.4). One problem that caused an important delay in the analysis was given by the client ID. In the data the same ID was given to numerous clients (up to 18 clients had the same ID).

Fortunately, ESAF was very precise in collecting the names of the respondents. This allowed us to identify individuals by their name and branch affiliation. Further, there existed substantial variation in the coding of the variables across surveys and across branches. We streamlined the answer options which took a considerable amount of time before the analysis could start.

Some of these issues could have been avoided by using appropriate software for data-entry of survey data. For future investigations ILO and ESAF might consider the use of special data-entry programs which is more appropriate than standard spread-sheet software as it reduces errors and irregularities. However, we acknowledge the time and energy that ESAF put into the collection of the data and we are confident that the cleaning procedures implemented by ILO and the Mannheim University resolved the problems encountered. Still, issue might have slipped the authors' attention and affect the precision of the estimates.

4.2. Evaluation methodology

The optimal evaluation design would ask for a random selection of individuals into target and control group. This would assure that observable and unobservable characteristics of the two groups are similar. Random allocation on the individual level is not feasible in the case of ESAF since spill-over effects within branches would lead to contamination of the control group. This means, control individuals are likely to be affected by the innovation through contact with target clients. Therefore ESAF chose to use as a unit of randomization the branch level instead of the individual client level. This set-up allows us to employ a difference-in-difference methodology to evaluate the impact of the formalization innovation. The major assumption underlying the difference-in-difference approach is parallel trajectories over time. This means in the absence of the innovation target and control group would follow the same path, in other words, target and control would have parallel trends over time.

The difference-in-difference approach, or double-difference, allows estimating causal effects even in the case where the randomization was not completely successful in selecting a target group that has the same characteristics on average as the control group. Other methodologies, e.g. means comparison or simple ordinary-least-squares estimations would produce biased estimates under these circumstances.

5. Results

This section presents the empirical analysis of ESAF's formalization innovation. It starts off by presenting some summary statistics. Thereby, we always distinguish between the target clients, i.e. clients from branches where the innovation was implemented, and control clients who were not subject to the innovation.

Throughout this section the tables presenting descriptive results contain the number of observations in both groups, estimates of the mean for the variable under consideration, the difference in means, i.e. mean of target group minus the mean of the control group, and an estimate of the p-value that indicates whether the difference in means is statistically significant.³

Further, the tables presenting estimation results all contain difference-in-difference coefficient estimates for the impact of the innovation and p-values. The reported coefficient estimates are based either on the double-difference between baseline and all post-baseline observations in columns (1) and (2), called the overall treatment effect. Column one reports estimates from regressions without control variables and column two reports estimates from regressions including control variables. The models in columns three and four present the estimates between baseline and follow-up I as well as between

³ A p-value of zero indicates high statistical significance.

baseline and follow-up II. Columns (5) and (6) report estimates for all three double differences. The control variables included are gender of the client, marital status (married or not), number of household members and number of household members earning any income.

Some of the tables, although referred to in the text, are in the annex for ease of reading.

We start off by presenting summary statistics of the sample. Second, we look at the impact on outcomes relevant for formalization to show that the primary goal of the innovation was achieved.

We then discuss indirect outcomes in the following order:

- first, we present the impact on the clients' enterprise and how linkages with the market were affected;
- second, we look at socio-economic outcomes at household level; and
- thirdly, we turn to outcomes reflecting the clients' financial situation with respect to ESAF.

5.1. A word of caution

All estimates presented in the following rely on the assumption that without the innovation, both target and control group would follow the same trends over time. Violation of this assumption cannot be tested by the econometrician without additional data on a period of time before the innovation was implemented. This data was not available. Further, systematic measurement error could occur through differences in the interviewing procedure across branches as well as across time. Both scenarios mentioned here would lead to a bias in the estimates. It is important to mention also that we use robust standard errors for the inference. Further, some branches have a very low number of clients. In these cases few outliers might influence the mean and coefficient estimates, i.e. respondents with either extremely high or extremely low values for the variable under consideration have a large impact on the branch's mean estimate.

5.2. Summary statistics at baseline

Client's characteristics at baseline

Table 2 shows summary statistics for the target and control group before the launch of the innovation. The sample consists mainly of married women from households of around 4.5 members. The clients' age across target and control group is fairly balanced. Just in the youngest age bracket the control branches have a significantly higher share with 15 per cent of clients being of age 18 to 27 compared to only 3 per cent in the target group. It also shows that the target clients are older on average when we look at the share of clients in age group 48 to 57 where we observe a share of 20 per cent at baseline compared to 11 per cent in the control group. Table 2 shows also imbalances between the two groups when it comes to education. The control group has a higher share of clients with higher secondary education and a lower share of clients who have only primary education.

We conclude that education in the target group is significantly lower in both groups; 40 per cent have secondary and 20 per cent have upper primary education.

Table 2: Summary statistics – Client information at baseline

	Mean (Target)	Mean (Control)	diff	p-val	N (Target)	N (Control)
Female	0.85	0.72	0.13	0.0	245	257
Married	0.91	0.85	0.06	0.03	245	257
Household size	4.47	4.36	0.11	0.41	245	257
HH members earning	1.97	1.76	0.2	0.01	245	257
Client's Age						
18 to 27	0.05	0.15	-0.09	0.0	245	257
28 to 37	0.34	0.39	-0.05	0.28	245	257
38 to 47	0.4	0.34	0.06	0.18	245	257
48 to 57	0.2	0.11	0.09	0.01	245	257
above 58	0.01	0.02	0.0	0.75	245	257
Client's Education						
No formal schooling	0.07	0.07	0.0	0.98	245	257
Primary	0.15	0.07	0.08	0.01	245	257
Upper Primary	0.25	0.19	0.06	0.12	245	257
Higher Secondary	0.1	0.16	-0.06	0.05	245	257
Type of Activity						
Agriculture	0.02	0.04	-0.01	0.36	245	257
Hotel/Restaurant	0.14	0.11	0.03	0.25	245	257
Mobile trading	0.07	0.02	0.05	0.01	245	257
Production	0.08	0.13	-0.05	0.09	245	257
Services	0.03	0.11	-0.08	0.0	245	257
Trade/Commerce	0.44	0.44	0.01	0.84	245	257

With regard to comparability we observe significant differences in age as well as in education across target and control group. However, for both variables these differences concern smaller parts of the sample, i.e. the most prevalent age groups, 28 to 37 years and 38 to 47 years, are balanced across target and control groups. Only for the age brackets with few observations we observe significant differences. For education it is similar. Upper primary and secondary education comprise of over 60 per cent of the sample in both groups. And only the less frequent education levels show significant differences. Higher secondary education for example is five per cent higher in the control group at baseline. Interestingly, it does not remain constant in the control group and rather increases.

When it comes to the type of business a majority of over 40 per cent of the clients engage in trade and commerce activities. The prevalence of agricultural activities is low with only two per cent in both groups. We observe significant differences between the two groups for services and mobile trading. Services are more prevalent in the control sample while mobile trading is in the target branches. Also the share of clients who created their business in partnership with somebody is fairly similar in both groups. The share of clients who had some training for their business is also equally high across the two groups. However, when it comes to the funds that were used to create the business we see that the share of entrepreneurs who used their own funds is about 30 higher in the target group.

Client's business at baseline

This section looks at whether the formalisation innovation has also brought about changes for the clients' enterprise, the business management practices and market linkages. Table 3 presents a selection of baseline summary statistics for the clients' enterprise. Slightly above 30 per cent of the respondents own a production unit. A production unit is a subunit under the microenterprises category which are involved in making food, detergents, soaps, phenol, readymade garments, jewellery, bags, brooms, handicrafts, manufacture of nuts, bolts and other similar activities. The services enterprises are mostly small street side hotels, food canteen, tailoring units and electrical and electronics repair and service centres.⁴ The age of the businesses is at around seven to eight years. Most businesses were created by individuals. Only very few are endeavours that the client created in cooperation with a partner. The share of people who had any specific training before the creation of the business is below 20 per cent at the baseline but increases later on in the target group.

In this section we analyse variables related to formalisation. This includes knowledge about formalisation and the status of registration. In addition, we look at demand for services and products that are likely to be easier accessible for formal entrepreneurs, such as financial products or government support schemes.

Figure 5 shows that awareness about formalisation is low before the start of the innovation in both groups of branches. At follow-up I ESAF's activities to inform about and promote formalisation in the target branches are already successful in improving awareness. The share of informed clients shoots up from virtually zero to 80 per cent while it remains low in the control group.

In Figure 6 we see that actual business registrations increase to over 60 per cent among the target clients. In the control group registrations remain rare despite the fact that at baseline almost 80 per cent of the control respondents stated that they would like to register (Figure 7). Most of which stated to be willing to formalize even if registration came with a cost. The lack of registrations in the control group despite high initial willingness to register suggests again that ESAF's assistance services contributed to the high formalisation outcome in the target group.

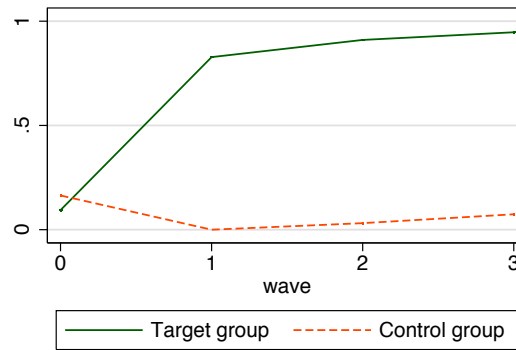
Table 3: Summary statistics – Enterprise characteristics

	Mean (Target)	Mean (Control)	diff	p-val	N (Target)	N (Control)
Owns production unit	0.40	0.32	0.08	0.05	245	257
Age of business	8.54	8.16	0.38	0.27	245	257
Business in partnership	0.16	0.15	0.01	0.73	245	257
Training for business	0.16	0.19	-0.04	0.29	245	257

⁴ Small street side hotel is a mobile food joint where the client sells 'junk' foods and would go from one place to another wherever there is large gathering of people like market place, office, school, college. Some clients have a permanent place at one corner of the street to sell the food to regular customers.

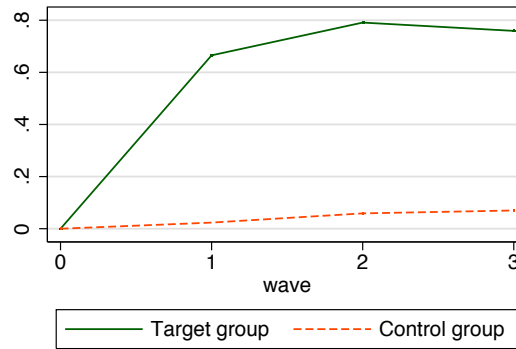
5.3. Impact on formalization

Figure 5: Do you know about formalization?



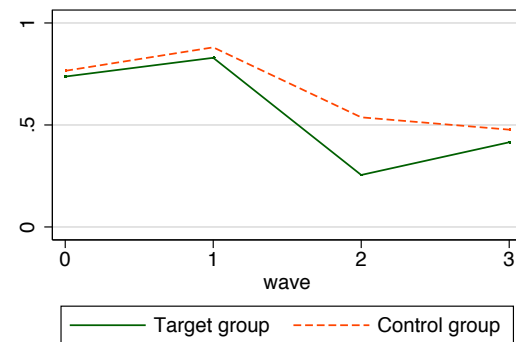
Source: ESAF-ILO data

Figure 6: Have you registered your business?



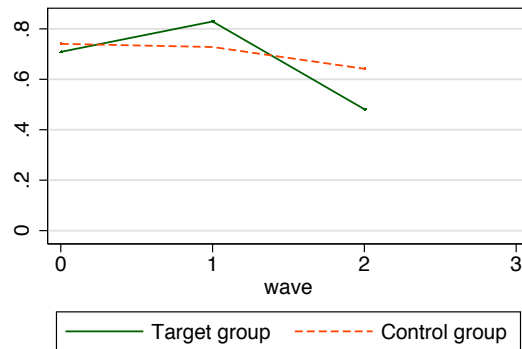
Source: ESAF-ILO data

Figure 7: Do you wish to register your business?



Source: ESAF-ILO data

Figure 8: Are you willing to pay for the registration?



Source: ESAF-ILO data

As hinted by the descriptive picture, the empirical analysis also shows that ESAF’s innovation activities had an important effect on the percentage of clients who are aware about issues of formalisation.⁵ More importantly also the share of clients who registered their business with the authorities was affected positively. The estimate of the overall effect indicates that the share of clients who have knowledge about formalisation increased significantly by 93 per cent due to the innovation. Given the underlying assumptions of the difference-in-difference estimator this effect has a causal interpretation, i.e. the share of target clients who are aware about formalisation increased by 93 per cent as a result of the formalisation innovation.

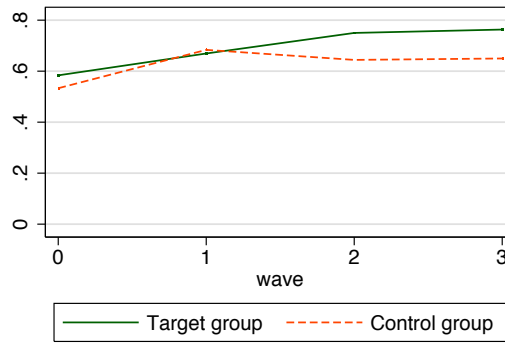
Further, all estimates of the impact on actual registrations are positive and significant. This gives evidence that formalisation increased sharply in the target group. The magnitude of the overall effect is high with a 70 per cent increase in registrations and so is the statistical significance in all six specifications.

Access to financial products

An important set of outcome indicators reflecting the impact of formalisation itself covers access to formal financial products such as bank accounts or purchase of insurance products. Figure 9 presents ownership of bank accounts for the two groups over the period of investigation. At the outset relatively more respondents avail of a bank account in the target branches. The trend over time is slightly positive for both groups. After follow-up I the number of control respondents with bank account still grows but it is less pronounced than in the innovation sample. As one can learn from Table 4 the difference in the shares of clients with bank account are significantly different across target and control group after follow-up I.

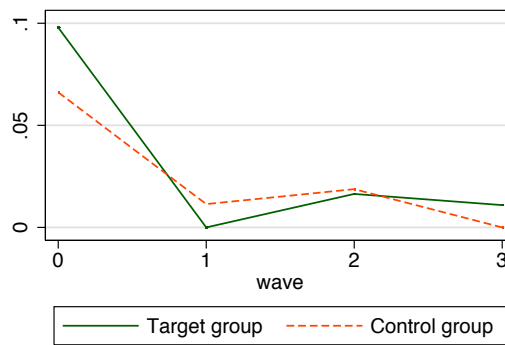
⁵ See Table 19 in Annex 3 for difference-in-difference estimates of the impact on formalization

Figure 9: Do you have a bank account?



Source: ESAF-ILO data

Figure 10: Business bank account



Source: ESAF-ILO data

However, even though more clients open bank accounts in the target group we observe that these accounts are not opened under the name of the business. Figure 10 reveals that bank accounts opened under the name of the business activity are extremely rare. In both groups roughly ten per cent avail of such accounts at baseline and this share drops to almost zero at later points.

Table 4: Summary statistics – Use of financial products

	Mean (Target)	Mean (Control)	diff	p-val	N (Target)	N (Control)
Do you own a bank account? (0/1)						
Baseline	0.58	0.53	0.05	0.25	245	257
FS I	0.67	0.68	-0.01	0.73	245	256
FS II	0.75	0.64	0.11	0.01	244	253
FS III	0.76	0.65	0.11	0.01	245	257
Business bank account? (0/1)						
Baseline	0.1	0.07	0.03	0.34	143	136
FS I	0.0	0.01	-0.01	0.17	163	175
FS II	0.02	0.02	0.0	0.87	183	160
FS III	0.01	0.0	0.01	0.18	183	167
Is your firm insured? (0/1)						
Baseline	0.08	0.06	0.02	0.39	245	257
FS I	0.03	0.01	0.02	0.05	245	256
FS II	0.01	0.01	0.0	0.96	245	255
FS III	0.04	0.04	0.0	0.92	245	257

Though statistically insignificant, the difference-in-difference estimates for the effects on access to financial products suggest a positive impact of ESAF's innovation on access to bank accounts.⁶ But the magnitude of the (insignificant) overall effect is low with a two per cent increase in bank account holders. Further, the number of target clients who open bank accounts specifically for business purposes decreased.

Our estimations suggest that access to insurance products was not affected by the innovation (Table 4). Neither the descriptive nor the empirical results show any evidence for an effect on the outcome variable "Is your firm insured?" After baseline we observe a sharp drop in the share of insured ESAF clients in both groups. The drop being stronger in the control group results in a significant difference between controls and treated. To explain the significant difference at follow-up I one could argue that both groups decreased the demand for insurance products and that the innovation cushioned this decrease for the target group. Regardless of the significant difference at follow-up I the empirical results give no evidence that the innovation improved access or demand to insurance products at this point.

⁶ See Table 20 in Annex 3

Figure 11: Is your firm insured?

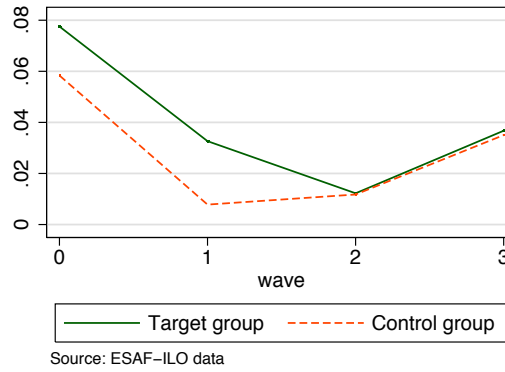
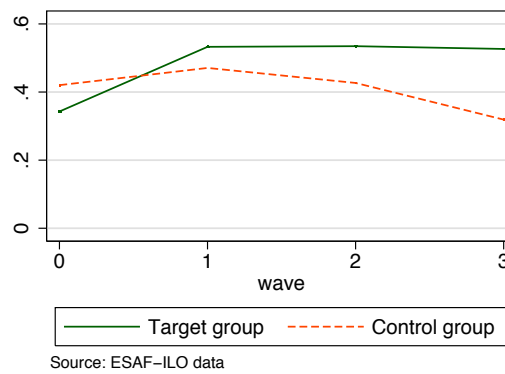


Figure 12: Are you a member in any other network?



Access to government support schemes

For membership in other networks we see high discrepancies between the target and the control group at baseline which would suggest that the control group is better connected from the outset. Among the control clients a share of 44 per cent states to be a member of such a network while this is the case only for 29 per cent of the innovation respondents. However, at follow-up I the share of target clients who are members in any other networks increased to 49 per cent (Figure 12). At follow-up II and III this share remains equally high in the target branches while it drops below baseline level in the control branches.

Figure 13: Awareness about government support schemes

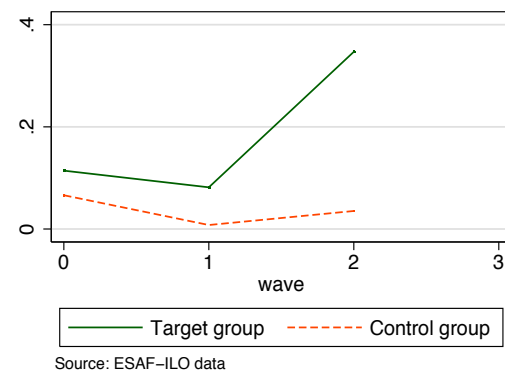
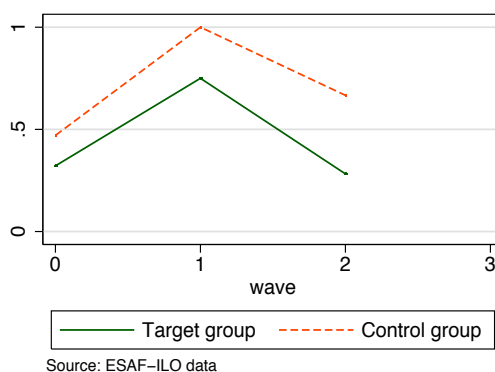


Figure 14: Benefited from government support scheme



Awareness about and access to government schemes increased significantly in the target group (see Figure 13 and Table 5). Compared to 7 per cent of the control group clients we find 11 per cent of the target clients to be aware of such schemes at baseline. This share triples at follow-up II in the target branches while it decreases in the control branches. However, the share of clients who benefited from such programmes is higher in the control group across all waves. But a mere glance at averages is deceiving here since the number of control clients for whom we observe this information is very low.

Table 5: Summary statistics – Awareness about government support schemes

	Mean (Target)	Mean (Control)	diff	p-val	N (Target)	N (Control)
Aware about Govt. support						
Baseline	0.11	0.07	0.05	0.06	245	257
FS I	0.08	0.01	0.07	0.0	245	255
FS II	0.35	0.04	0.31	0.0	245	255
Benefitted from Govt. support						
Baseline	0.32	0.47	-0.15	0.33	28	17
FS I	0.75	1	-0.25	0.45	20	2
FS II	0.28	0.67	-0.38	0.02	85	9

The questionnaires that ESAF used for the survey were consistent over time. However, the phrasing of a few questions was changed over time. At follow-up III the clients were not asked to state their awareness about government schemes, as in the baseline, but whether they had actually applied for such a scheme. Table 6 presents the descriptive results for these questions. We see that 17 per cent of the target group compared to only 4 per cent of the control group had really applied for any scheme. Another new question deals with the satisfaction of having formalized. In the target group 26 per cent state that registration of their enterprise has not brought any benefits while 48 per cent see benefits and another 25 per cent are not sure. In the control group deception with formalisation is high. Close to 90 per cent see no benefits in formalising and only five per cent see benefits.

Table 6: Summary Statistics – Access to Government support schemes at follow-up III

	Mean (Target)	Mean (Control)	diff	p-val	N (Target)	N (Control)
Applied for support in last 2 years	0.17	0.04	0.13	0.0	244	256
Received benefits	0.42	0.45	-0.04	0.83	43	11
Formalisation had no benefits	0.26	0.89	-0.63	0.0	233	186
Formalisation had benefits	0.48	0.05	0.43	0.0	233	186
Not sure whether F. had benefits	0.25	0.05	0.2	0.0	233	186

Section summary:

- Awareness about Formalisation was increased by 93 per cent
- Formalization itself increased by roughly 70 per cent
- Ownership of bank accounts increased but impact insignificant
- No impact on firm insurance
- Awareness about government support schemes was affected positively
- No increase in usage of government support schemes

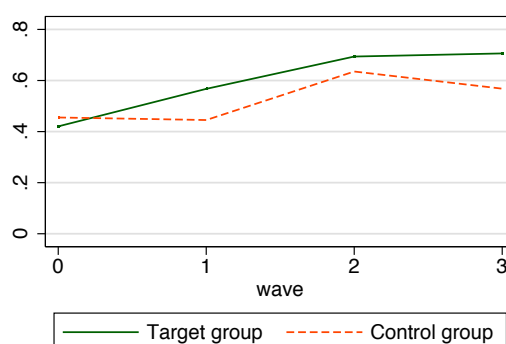
5.4. Impact on clients’ enterprise and market linkages

In this section we analyse variables that reflect the business’ performance (e.g. employment, turnover, etc.) and market integration (e.g. demand, export, etc.). The variables assessed in this and the following sections are rather indirectly affected by the innovation. However, it is expected that changes result from the innovation.

Management practices

The innovation also aimed at improving the clients’ management practices. Descriptively, we see that in both groups roughly forty per cent maintain books of accounts at baseline. While the target group has a slightly lower share of clients who maintain such books we observe that the share surpasses the control group at follow-up I and is roughly ten per cent higher at follow-up III.

Figure 15: Maintains book of accounts?



Source: ESAF-ILO data

The difference-in-difference estimates indicate that the innovation has had a positive impact on this measure of business management practices. The magnitude of the overall impact is fairly large with 15 per cent. The wave-specific effects go up to around 18 per cent at follow-up III (see Table 7).

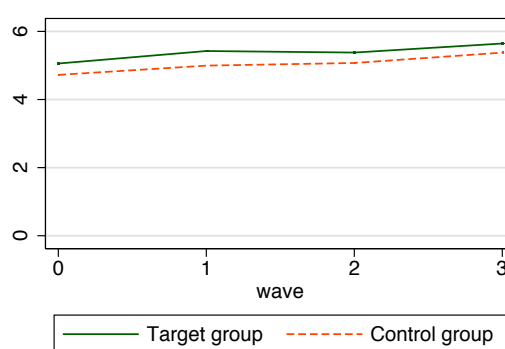
Table 7: Impact on book of accounts

	Model 1	(1) w/X	Model 2	(2) w/X	Model 3	(3) w/X
Overall innovation effect	0.14	0.15				
	0.01	0.00				
Innovation effect FS I			0.07	0.07	0.16	0.16
			0.19	0.18	0.01	0.01
Innovation effect FS II			0.01	0.01	0.09	0.10
			0.89	0.84	0.13	0.11
Innovation effect FS III					0.17	0.18

Annual turnover

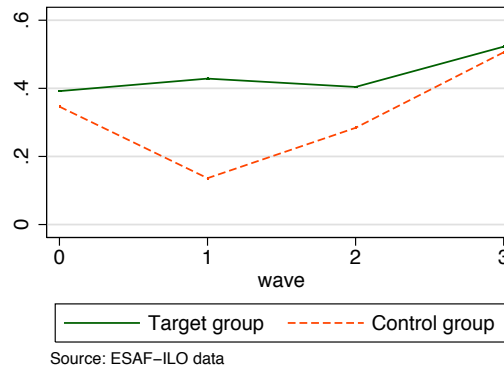
The first outcome indicator presented in Figure 16 is annual turnover. The average lies at around INR70,000-80,000 in both groups at baseline. Though upward sloping, the average is fairly constant from baseline to follow-up III. Turnover in the target group is constantly higher than in the control group which results mainly from a high share of target clients earning more than INR100,000. In the target group this share is constantly at 40 per cent and goes up to even 50 per cent in the last wave. In the control group we observe more fluctuation in the highest turnover group. At baseline there are 40 per cent of clients with such high turnover but for follow-up I and II the share decreases and only picks up at follow-up III.

Figure 16: Annual turnover



Source: ESAF-ILO data

Figure 17: Turnover bracket > or = INR100,000



As suggested by the almost parallel graphs the difference-in-difference estimates of the impact on annual turnover are all insignificant.⁷ The overall estimate for the innovation impact is close to zero. However, once we look at the highest turnover bracket only, i.e. annual turnover above INR100,000, we observe an overall effect of ten per cent with five per cent significance. The wave specific estimations in columns (3)-(6) reveal that this effect is driven by the follow-up I difference, where we observe a highly significant effect of about 25 per cent.

This result is caused rather by a slump in turnover in the control group than by an increase in turnover in the target group (see Figure 17). However, given the parallel time-trends assumption the interpretation of the difference-in-difference estimates is causal. Therefore, in absence of the innovation the target group would have suffered from a similar slump in the anticipated annual turnover.

Expansion plans

Interestingly, we observe that business expansion plans are much more prevalent in the target branches. Even though, in both groups clients with high potential to grow were selected to participate in the action research, we observe already at baseline that the share of entrepreneurs with plans to expand the business is higher in the target group. Further, over the period of the action research this share remains significantly higher despite the slump of around ten per cent at follow-up II that affects both groups. Further qualitative analysis would be required to understand the reason why the two groups have very different trends when it comes to expansion plans.

⁷ Refer to Table 21 in Annex 3.

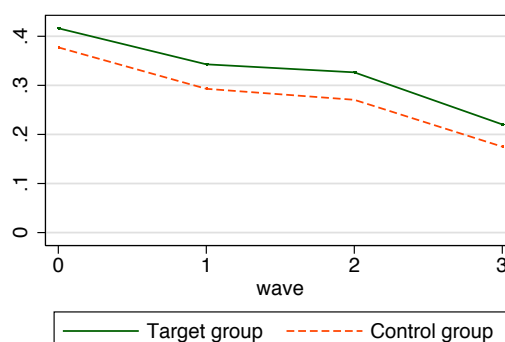
Table 8: Summary statistics – Plans to expand business

	Mean (target)	Mean (control)	diff	p-val	N (target)	N (control)
Plans to expand						
Baseline	0.8	0.61	0.19	0.0	245	257
FS I	0.82	0.63	0.19	0.0	245	256
FS II	0.73	0.53	0.21	0.0	245	255
FS III	0.72	0.62	0.1	0.02	245	257

Investment in new machinery

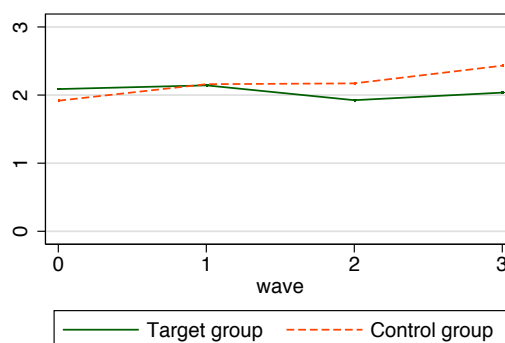
As can be seen from Table 9 descriptively there is only a minor difference in the investment in new productive assets. In both groups around 40 per cent stated at baseline that they bought new machinery. Both groups see a decline in such investments. At follow-up I and II we document decreases to around 30 per cent and at follow-up III even to 20 per cent. Further, in the cost of the acquired machinery both groups have on average fairly similar results. Only at follow-up III we observe a significant difference in the average cost of the new machinery whereby it is the control group that had higher investments.

Figure 18: Bought any new machinery



Source: ESAF-ILO data

Figure 19: Bought any new machinery



Source: ESAF-ILO data

Table 9: Summary statistics – Investment in productive assets

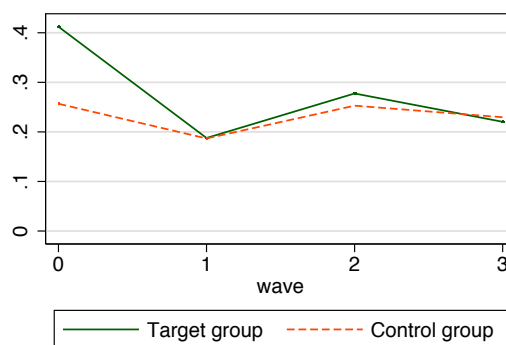
	Mean (Target)	Mean (Control)	diff	p-val	N (Target)	N (Control)
Bought machinery						
Baseline	0.42	0.38	0.04	0.37	245	257
FS I	0.34	0.29	0.05	0.23f	245	256
FS II	0.33	0.27	0.06	0.17	245	255
FS III	0.22	0.18	0.05	0.2	245	257
Cost of machinery						
Baseline	2.09	1.92	0.17	0.25	102	97
FS I	2.14	2.16	-0.02	0.92	84	75
FS II	1.93	2.17	-0.25	0.14	80	64
FS III	2.04	2.43	-0.4	0.05	55	44

The cost at which the clients acquire the new machinery is on average at INR5,000 to 25,000. As depicted in Figure 19 the development over time is constant and similar in both groups. One can thus conclude that innovation did not have a significant impact on investment in new machines.

Employment

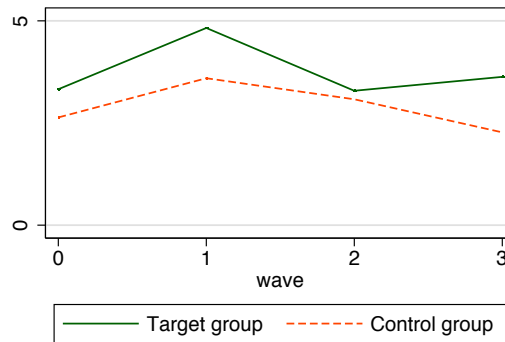
Figure 20 and Figure 21 depict the employment situation in the clients' enterprises over time. Figure 20 shows that the share of ESAF-clients who hire any employees is far lower in the control group with 26 per cent than in the target group where it is at 41 per cent (see also Table 10). However, at follow-up I we observe a decrease in employment in both groups. This decrease is more pronounced in the target group such that at follow-up I both groups have a share of 20 per cent of clients with any employment. Thereafter, employment picks up slightly in both groups and develops almost identically. The size of the enterprise, measured by the number of employees, is slightly higher in the target group whereby the difference is not significant. Only at follow-up III we observe a significant difference in the number of employees (Table 10).

Figure 20: Do you have employees?



Source: ESAF-ILO data

Figure 21: Number of employees



Source: ESAF-ILO data

Table 10: Summary statistics – Employment in client's enterprise

	Mean (Target)	Mean (Control)	diff	p-val	N (Target)	N (Control)
Any employees (yes/no)						
Baseline	0.41	0.26	0.16	0.0	245	257
FS I	0.19	0.19	0.0	0.98	245	257
FS II	0.28	0.25	0.02	0.53	245	257
FS III	0.22	0.23	-0.01	0.81	245	257
Number of employees						
Baseline	3.33	2.64	0.69	0.18	101	66
FS I	4.83	3.6	1.23	0.46	46	47
FS II	3.29	3.08	0.21	0.8	45	62
FS III	3.63	2.27	1.36	0.07	54	59

For the impact of the innovation on the share of clients who have any employees we observe a strong negative overall effect. The descriptive results indicate that this effect must be attributed in part to the strong decrease in clients who have employees.⁸ “Do you have employees” decreases from 40 per cent to 20 per cent in the target group at follow-up I. Similarly, specifications (5) and (6) result in negative and significant estimates of the impact on employment. The negative impact suggests that formalisation gives incentives to reduce the number of employees (to zero) or not to declare any employees. The former could be considered a negative side-effect of the innovation itself or of formalisation. The latter would mean that formalized respondents feel obliged to lie during the interview about the number of employees if they have not registered them.

Concluding, one can say that employment decreased in the sense that fewer business are willing to hire. But among those that hire, the number of employees was not affected.

⁸ See Table 24 in Annex 3

Access to electricity

As shown in Figure 22 the availability of electricity in the business at baseline is lower in the target group with a share of 55 per cent compared to 65 per cent in the control group. While the control group share remains constant it increases for the innovation respondents. Though statistically insignificant, at follow-up III we observe even a slightly positive difference in favour for the target group (Table 11).

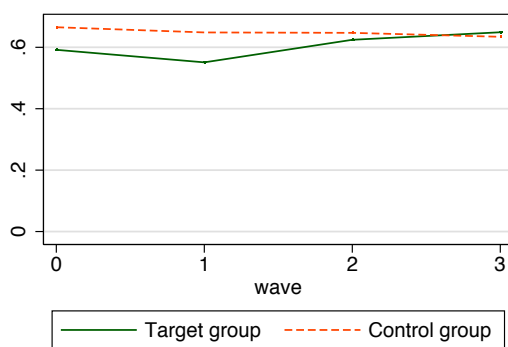
Table 11: Summary statistics – business electricity

	Mean (Target)	Mean (Control)	diff	p-val	N (Target)	N (Control)
Business has electricity						
Baseline	0.59	0.67	-0.07	0.09	245	257
FS I	0.55	0.65	-0.1	0.03	245	256
FS II	0.62	0.65	-0.02	0.6	245	255
FS III	0.65	0.63	0.01	0.73	245	257
Concession on tariff						
Baseline	0.06	0.01	0.05	0.01	157	190
FS I	0.03	0.01	0.02	0.15	158	170
FS II	0.0	0.15	-0.15	0.0	213	239
FS III	0.03	0.01	0.02	0.12	224	248

Interestingly, it is unlikely that this increase would be driven by the access to tariff reductions.⁹ As we see that from baseline to follow-up II the share of clients who benefit from tariff reductions decreases in the target group. This variance could be attributed to the change in business from electricity dominant activities to less power intensive wherein some entrepreneurs diversified and changed their business activities. It is also possible that by the time of the 1st follow up survey, the clients were more familiar with the questionnaire and able to provide clearer answer on their business finances. Hence the possible business diversification and perception of the questions on electricity tariff might explain this discrepancy. Otherwise it appears that formalisation of business did not lead to real discounts in terms of electricity tariffs. The control group clients on the other hand increasingly benefit from such reductions but their share of businesses with electricity remains almost constant (Figure 23).

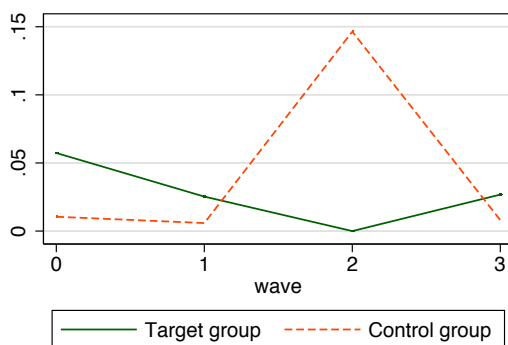
⁹ Usually, the electricity department of the Government provides some reduction in the electricity charges if a micro and small entrepreneur has a production unit with a considerably high usage of machineries that run on electricity for the production purposes. Such a reduction is provided if the entrepreneur produces a registration certificate with the Government. In our case there were not many clients who use machineries with a good usage of electricity. Here the slight shift in the access to electricity for the innovation client is due to the diversification of business from non-electric work to the one that might require power to some extent.

Figure 22: Business has electricity?



Source: ESAF-ILO data

Figure 23: Tariff reduction on electricity bill



Source: ESAF-ILO data

Table 12: Impact on business electricity

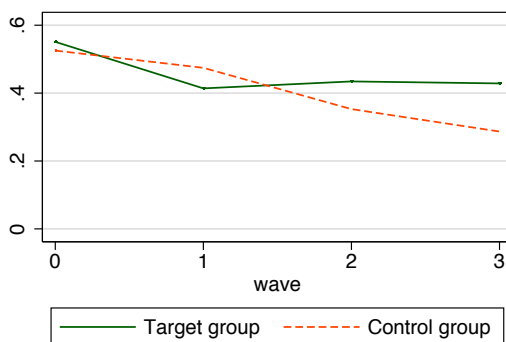
	Model 1	(1) w/X	Model 2	(2) w/X	Model 3	(3) w/X
Overall innovation effect	0.04	0.04				
	0.44	0.42				
Innovation effect FS I			-0.07	-0.07	-0.02	-0.02
			0.20	0.21	0.70	0.72
Innovation effect FS II			0.01	0.01	0.05	0.05
			0.90	0.86	0.40	0.38
Innovation effect FS III					0.09	0.09
					0.15	0.15

Demand, advertisement and market linkages

We now turn to the descriptive and empirical results in relation with market linkages. Figure 24 and Figure 25 present the share of ESAF clients who report that their product is in high or low demand, respectively. The share of clients who report that their product is in high demand is at roughly

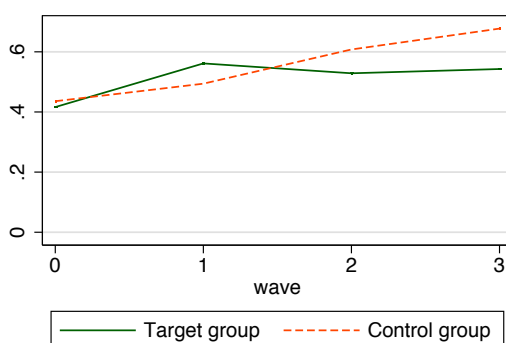
55 per cent at baseline for both groups. Both target and control groups see a decline in this share at follow-up I. This decline is stronger for the target group. However, after follow-up I, the indicator remains constant while it further declines in the control group. At follow-up III the share of clients who have high demand for their product is 14 per cent higher in the target group (Table 13).

Figure 24: Is your product in high demand?



Source: ESAF-ILO data

Figure 25: Is your product in low demand?



Source: ESAF-ILO data

The difference-in-difference estimates paint a similar picture.¹⁰ While there is an insignificant overall effect of the innovation on the indicator variable "product is in high demand" (columns (1) and (2)), the effect for the last follow-up is significant at the 10 per cent level (columns (5) and (6)), i.e. target group clients have an 11 per cent higher probability to state that there is high demand for their products. We observe the same pattern but with reversed sign for low demand. The overall effect is insignificant but the estimate for the last follow-up is significant and amounts to an 11 per cent decrease in the probability to state that demand is low.

¹⁰ See Table 25 in Annex 3

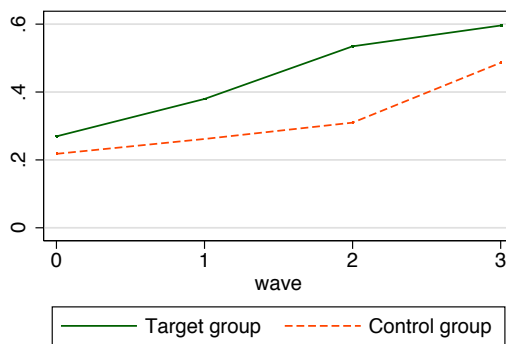
Table 13: Summary statistics – Demand and advertisement

	Mean (Target)	Mean (Control)	diff	p-val	N (Target)	N (Control)
High						
Baseline	0.55	0.53	0.03	0.56	245	257
FS I	0.41	0.47	-0.06	0.17	244	255
FS II	0.43	0.35	0.08	0.06	244	255
FS III	0.43	0.29	0.14	0.0	245	251
Low						
Baseline	0.42	0.44	-0.02	0.66	245	257
FS I	0.56	0.49	0.07	0.13	244	255
FS II	0.53	0.61	-0.08	0.07	244	255
FS III	0.54	0.68	-0.13	0.0	245	251
Do you advertise?						
Baseline	0.27	0.22	0.05	0.18	245	257
FS I	0.38	0.26	0.12	0.0	245	256
FS II	0.53	0.31	0.22	0.0	245	255
FS III	0.6	0.49	0.11	0.01	245	257

In part the observed pattern might be directly related to advertisement activities. Figure 26 shows clearly that advertisement increased more strongly in the target group over the period of investigation. The share of advertising clients was already higher at baseline for the target group with 27 per cent to 22 per cent in the control group but this difference was not significant (Table 13). At follow-up I however, the mean difference amounting to 12 per cent becomes significant. At the second follow-up the difference increases to 22 per cent and then drops again at follow-up III to 11 per cent. At follow-up III the majority of 60 per cent of the target group claims to engage in advertising.

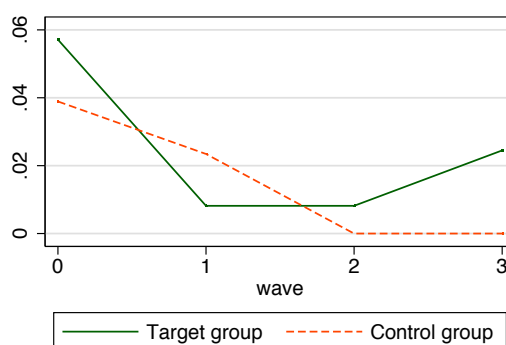
Our estimations provide evidence for the causal effect of the innovation on advertisement activities. This outcome is of special interest since the training conducted in the target group also treated the subjects marketing and advertising. Any effect here can be attributed directly to the formalisation activities. The estimate of the overall innovation effect is 9.9 per cent and has a p-value indicating significance at the five per cent level.

Figure 26: Do you advertise?



Source: ESAF-ILO data

Figure 27: Do you export your products?



Source: ESAF-ILO data

Figure 27 shows the share of clients who export their products. Almost six per cent of clients in the target group export their products at baseline. In the control group the share is lower at four per cent. In both groups product exports decline at follow-up I but stronger so in the target group. However, the target group sees an increase in exports after follow-up II while it drops to zero in the control group. Though not depicted here, the estimates for the impact on exports are all insignificant and close to zero.

Section summary:

- Enterprise characteristics at baseline are balanced across target and control group
- No impact on annual turnover
- Significant impact on highest turnover bracket: Control group suffered a slump that but not target group
- No impact on investments in machinery
- Significant negative impact on employment, i.e. share of firms that have employees decreased significantly (fewer businesses are willing to hire)
- However, among those that hire, the number of employees was not affected.
- Expansion plans more prevalent in target group (even at baseline)
- Management practises as captured by maintaining books of accounts improved significantly by 15 percent
- Access to electricity improved but not significantly
- Positive significant impact on demand at follow-up III
- Significant positive impact on advertisement activities

5.5. Impact on socio-economic characteristics

This sections looks at the impact on socio-economic outcomes. We will proceed by first looking at the descriptive results of the variables under scrutiny and then turn to the empirical analysis that tries to determine a causal effect of the innovation.

Figure 28 presents monthly household income.¹¹ For both groups the graphs have positive slopes, whereby it is interesting to see that though the control group peaks at follow-up I it is the target group that has overall a higher income growth from baseline to follow-up III.

Figure 28: Monthly household income

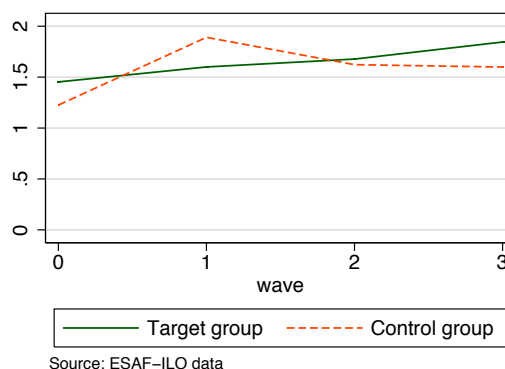
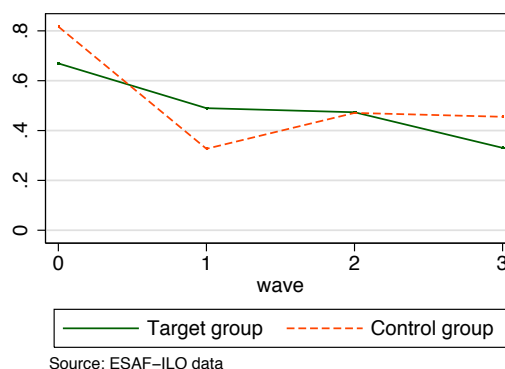


Figure 29: Share of clients with income inf or equal to INR10,000



As Figure 29 shows, the share of clients in the lowest income class declines in both groups but the decrease is steeper for the control group between baseline and follow-up 1. This decrease is accompanied by increases in the other two income brackets. Especially, for the income bracket "INR20,001 – 30,000" we observe a large difference in the increase between target and control group. For the control group the share of clients in this income class increases from virtually zero to 20 per cent.

¹¹ The variable used to assess monthly household income is a categorical variable taking on three values “ \leq INR10,000 “ , “ INR10,001 – 20,000 “ and “ INR20,001 – 30,000 “

Figure 30: Share of clients with income INR10,001 – 20,000

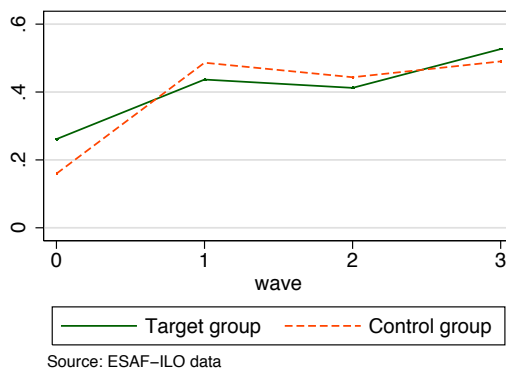


Figure 31: Share of clients with income INR20,001 – 30,000

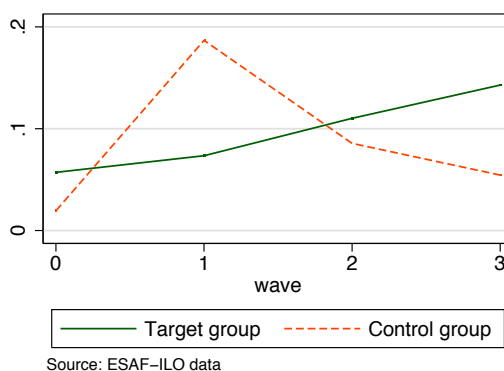


Table 14 allows a more thorough look at the income situation. Among the target clients 67 per cent have monthly household income below INR10,000 at baseline. Among the control clients this share is significantly higher at 82 per cent. Both groups see large shifts from the lowest to the next income group (INR10,001-20,000). In the control branches it is around 50 per cent of clients who have a higher income already at follow-up I. Further, in the target group the shift goes only to the second income class (INR10,001 – 20,000) while in the control group we observe that the decrease in the first income class (<INR10,000) is accompanied by increases in income groups above INR10,000. In income group two (INR10,001 – 20,000) the difference is insignificant but in income group three (INR20,001 – 30,000) the control group has a significant ten per cent higher share at follow-up I. However, the steady growth in household incomes in the target group combined with a drop in the control group leads to a significant difference in income group three (INR20,001 – 30,000) in favour for the target group. Though the share of clients with monthly household income higher than INR30,000 is significantly higher in the target group its mere size of two per cent is negligible.

Table 14: Summary statistics – Monthly household income

	Mean (Target)	Mean (Control)	diff	p-val	N (Target)	N (Control)
≤ INR10000						
Baseline	0.67	0.82	-0.15	0.0	245	257
FS I	0.49	0.33	0.16	0.0	245	257
FS II	0.47	0.47	0.0	0.95	245	257
FS III	0.33	0.46	-0.12	0.0	245	257
INR10001-20000						
Baseline	0.26	0.16	0.1	0.01	245	257
FS I	0.44	0.49	-0.05	0.27	245	257
FS II	0.41	0.44	-0.03	0.48	245	257
FS III	0.53	0.49	0.04	0.42	245	257
INR20001-30000						
Baseline	0.04	0.01	0.03	0.02	245	257
FS I	0.06	0.16	-0.1	0.0	245	257
FS II	0.09	0.08	0.02	0.52	245	257
FS III	0.11	0.05	0.06	0.02	245	257
INR30001-40000						
Baseline	0.01	0.01	0.0	0.96	245	257
FS I	0.01	0.02	-0.01	-0.45	245	257
FS II	0.01	0.01	0.0	0.96	245	257
FS III	0.02	0.0	0.02	0.01	245	257
INR40001-50000						
Baseline	0.0	0.0	0.0	0.31	245	257
FS I	0.0	0.01	0.0	0.59	245	257
FS II	0.01	0.0	0.01	0.15	245	257
FS III	0.0	0.0	0.0	0.31	245	257
≥ INR50001						
Baseline	0.01	0.0	0.01	0.29	245	257
FS I	0.0	0.0	0.0	na	245	257
FS II	0.0	0.0	0.0	0.31	245	257
FS III	0.0	0.0	0.0	na	245	257

Possible explanations for the change in income between baseline and first follow-up are seasonal fluctuations, e.g. in fruit or vegetable sales, which see large increases during harvest season.

Also an increase in household income might be attributed to additional household members who generate income. One might bring forward seasonal migration of household members, too.¹²

Table 15 tries to assess whether the increase in income, i.e. the shift from income group one to higher income groups, is constrained to certain economic activities. In both groups we see all clients with agricultural businesses are in the first income group at baseline. In the target group the hypothesis of seasonal affects causing the increase in income is descriptively supported as we see that for the agricultural business in the first income bracket the share goes down from 100 to 29 per cent but also mobile trading sees a large decrease. In the control group the increase is less pronounced for agriculture and it is rather every profession that shifts from lowest to a higher income bracket. Important to mention though that the total share of clients who are active in agriculture/animal husbandry is at a mere 2 per cent in the target and four per cent in the control group.

Table 15: Share in lowest income class (<10,000), by type of business and innovation status

Wave	Control branches				Innovation branches			
	0	1	2	3	0	1	2	3
Agriculture/Anim. husbd.	1.00	0.83	0.60	0.67	1.00	0.29	0.50	0
Hotel/Restaurant	0.79	0.45	0.46	0.52	0.57	0.38	0.39	0.28
Mobile trading	0.80	0.39	0.29	0.44	0.88	0.42	0.70	0.43
Others	0.84	Na	Na	Na	0.66	Na	Na	Na
Production	0.80	0.46	0.55	0.58	0.55	0.44	0.31	0.27
Services	0.79	0.31	0.50	0.53	0.75	0.46	0.55	0.44
Trade /Commerce	0.81	0.23	0.47	0.35	0.67	0.59	0.44	0.36
Total	0.82	0.33	0.48	0.46	0.67	0.49	0.47	0.34

We present the difference-in-difference estimates for the impact of the innovation on monthly household income in Table 26, Annex 3. The overall effect of the innovation in columns (1) and (2) is negative and significant. This would suggest that the innovation has caused a decrease of incomes of households in the target group. A glance at columns (3) to (6) reveals that the drop in incomes at follow-up I drives this result. Also the coefficients for follow-up II are negative though lower in size and in significance. Since the increase in incomes is observed in the control group for all professions the explanation of seasonal fluctuation would only be a valid one if all professions were subject to these fluctuations. Another explanation focuses on the target clients' capacities to keep records of their finances in business and household. If these were better planned and more factual, e.g. through keeping records of expenses, costs, purchases, profits and income this could be a factor bringing out more realistic figures in the follow-up surveys. In the control group, on the other hand, clients continued to follow their usual procedure. Since they were not keeping finance transaction records they were not aware about how much the business was bringing them profits or losses. One can therefore conclude that, as a result of the innovation, target clients tend to better keep records and have a more accurate assessment of their business and household finance including expenses, costs, purchases, profits and income.

¹² Possible explanations for decreases in income: Migration/shifting of earning members to other places with no remittance leading to less income in the household. Some members of the household besides the enterprising clients have stopped working/earning (lost/left/changed jobs). Seasonality of business activities e.g. vegetables or fruits (mangoes). Some change business, takes time to settle down. Some clients who are old/sick have reduced their scale of business. The mobile/street vendor clients face problem of frequently being forced to vacate their places thus up and down changes in their income.

When it comes to the source of household income, we observe that the household enterprise plays an important role for the majority of clients in both groups (Figure 32). Over 70 per cent generate the main income through household enterprises and 30 per cent do so through casual wage labour. The target group starts off with a share of 69 per cent of clients at baseline generating the main source of income from the household enterprise and peaks at 94 per cent in follow-up I (see Table 16). At follow-up II we observe a slight decrease to 91 per cent and to 86 per cent at follow-up III but still the share remains constantly above that in the control group.

Casual wage labour is the second most important source of income in both groups. As Figure 33 shows and as one would assume this income source is less stable. For both groups we observe fluctuations whereby mere visual inspection suggests a declining trend over time.

Figure 32: Main income source: Household enterprise

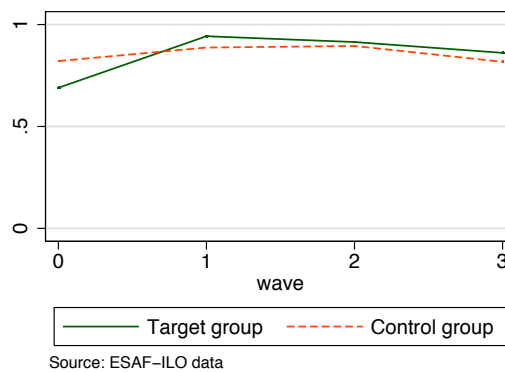
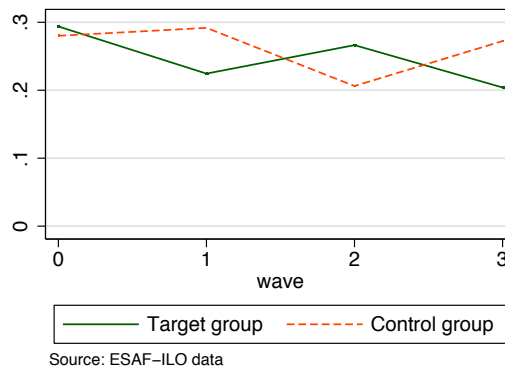


Figure 33: Main income, casual wage labour



The descriptive results for the main source of income are presented in Table 16. In both groups, around ten per cent of clients generate their main income through regular wage labour. The shares for commissioned/contracted work as well as for remittances are below 5 per cent in both groups. Only at follow-up II do we observe a significant difference for remittances. Around 5 per cent of the target group clients state that their main income source comes from remittances.

Table 16: Summary statistics – Main income source

	Mean (Target)	Mean (Control)	diff	p-val	N (Target)	N (Control)
Casual Wage Labour						
Baseline	0.29	0.28	0.01	0.73	245	257
FS I	0.22	0.29	-0.07	0.09	245	257
FS II	0.27	0.21	0.06	0.11	244	257
FS III	0.2	0.27	-0.07	0.07	245	257
Household enterprise						
Baseline	0.69	0.82	-0.13	0.0	245	257
FS I	0.94	0.89	0.06	0.03	245	257
FS II	0.91	0.89	0.02	0.46	245	257
FS III	0.86	0.82	0.04	0.18	245	257
Regular salary/wage labour						
Baseline	0.09	0.11	-0.02	0.57	245	257
FS I	0.13	0.08	0.05	0.06	245	257
FS II	0.14	0.11	0.03	0.38	245	257
FS III	0.11	0.11	0.0	0.97	245	257
Commissioned/Contract work						
Baseline	0.03	0.01	0.02	0.11	245	257
FS I	0.03	0.02	0.02	0.21	245	257
FS II	0.02	0.03	-0.01	0.45	245	257
FS III	0.04	0.05	-0.01	0.45	245	257
Remittances						
Baseline	0.01	0.02	-0.01	0.45	245	257
FS I	0.04	0.02	0.02	0.14	245	257
FS II	0.02	0.02	0.0	0.95	245	257
FS III	0.05	0.02	0.03	0.03	245	257

Considering the estimates of the innovation's impact on the role that the client's enterprise plays for her household we find positive and significant evidence throughout all estimated models.¹³ The overall innovation effect in columns (1) and (2) tells us that as a result of the innovation the share of clients who state that the household enterprise is the main income source increased by 17 per cent. The effects for follow-up I and follow-up II in columns (3) and (4) are all positive and significant as well.

While casual wage labour was not affected we observe a small but significant impact of 3 per cent on the importance of remittances. Specifications (5) and (6) indicate that this effect appears only in follow-up III. The causal interpretation of this effect suggests that the innovation has (indirectly) increased the dependence or necessity of remittances in the target group. This change observed in the

¹³ See Table 26 in Annex 3.

incidences of remittance could be attributed to the random migration of people – mainly young men - from Kerala state, to the Gulf countries which is a common norm here. Hence this factor has to be considered while analysing the differences in remittance figures. This is also a sign of improved status in living where the household was able to finance members’ movement abroad for livelihood purpose. Further analyses are needed to back up this result.

The next set of outcome indicators covers the acquisition of assets by the household. The purchase of new durable goods for the household develops fairly similar in the target and control group when it comes to sewing machines, pressure cookers or mixer-grinders. Only for television sets we observe a sharp increase in the control group from 3 per cent at baseline to almost 20 per cent at follow-up 1 that diverts from the target group. The target group on the other hand has a significantly higher share of clients who purchase washing machines in follow-up survey I and follow-up survey III.

Section summary:

- Negative impact on monthly household income: control group sees larger shift from lowest to next income group.
- Positive impact on Indicator “household enterprise is main income source”, i.e. improved perception of importance of enterprise for household.
- Positive impact on remittances as most important income.

5.6. Impact on clients’ loan size and repayment capacity

As can be seen from Figure 34 and Table 17 the loan size differs only by a small amount (INR 513) at the start of the innovation. The amount of the last loan remains almost constant in the target group until follow-up survey II and only slightly picks up towards follow-up survey III. The control group sees more fluctuation in this outcome. At first, loan size decreases by about INR1,700 and then, at follow-up survey II, it increases by INR5,400. The decrease we observe in follow-up survey III is small again.

Figure 34: Amount of last ESAF loan

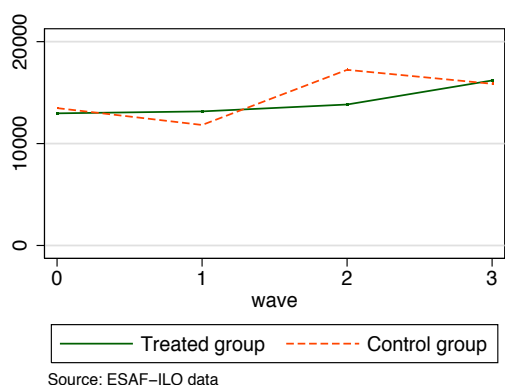
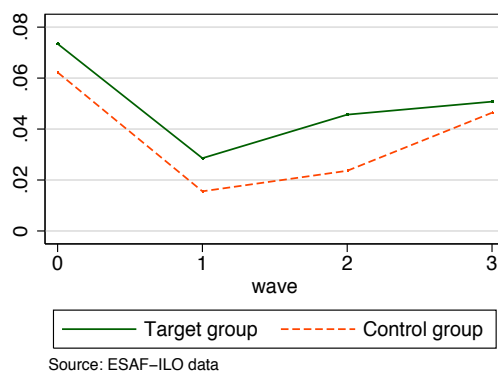


Figure 35: Repayment difficulties

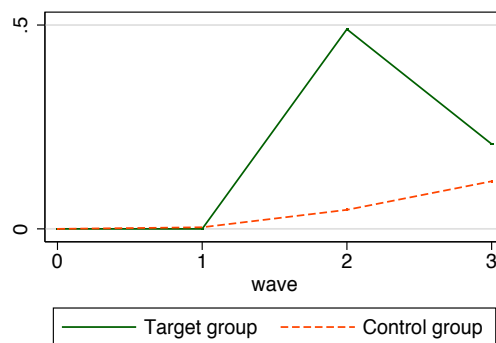


The direct comparison between target and control group for this outcome is difficult. As mentioned, at baseline the difference is only small and insignificant. At follow-up survey I we observe that on average the target group takes out higher loan and significance here is given but only at the ten per cent level. A mere glance at the averages for follow-up survey II suggests a highly significant difference, with the control group taking out loans that are on average INR3,400 higher but for this variable we observe many missing values in the target group. About 100 target clients state to have either “Loan expired” or “Loan closed”. All missing values come from branches Kuniyamuthur and Pollachi in Tamil Nadu. At follow-up survey III the significant difference disappears and both groups have loans of on average INR16,000. The problem is less pronounced here with only 50 observations having missing value. Still missing values in the target group come exclusively from Tamil Nadu. The variable “No ESAF loan” captures whether the individual has either missing value for “Amount last loan” or zero. We observe that at baseline and follow-up survey I every respondent stated that she had a positive loan. At follow-up survey II nearly half of the target group has no “last loan”. At follow-up III this share is at 20 per cent. One explanation for the high occurrence of missing values is that clients who formalize become eligible for loans from formal banks. This in addition to the argument that they might require loans of a size that ESAF cannot deliver might explain the phenomenon starting at follow-up survey II. However, a comparison of means within the target group at follow-up survey II shows that among those who registered the share of “no ESAF loan” is lower than among those who did not register. A t-test also provides significant evidence that the share of clients without loan is higher among unregistered clients.

Table 17: Summary statistics - Clients' relation to ESAF

	Mean (Target)	Mean (Control)	diff	p-val	N (Target)	N (Control)
Amount last loan						
Baseline	12,967	13,481	-513	0.03	245	257
FS I	13,157	11,827	1,330	0.01	245	256
FS II	13,833	17,237	-3,403	0	144	245
FS III	16,193	15,866	327	0.07	197	232
No ESAF loan						
Baseline	0.0	0.0	0.0		245	257
FS I	0.0	0.0	0.0		245	257
FS II	0.49	0.05	0.44	0.0	245	257
FS III	0.21	0.12	0.09	0.01	245	257
Difficulties repaying loan						
Baseline	0.07	0.06	0.01	0.62	245	257
FS I	0.03	0.02	0.01	0.32	245	257
FS II	0.05	0.02	0.02	0.19	219	254
FS III	0.05	0.05	0.0	0.83	197	237
Unforeseen expenses						
Baseline	0.43	0.53	-0.10	0.02	245	257
FS I	0.37	0.24	0.13	0.00	245	257
FS II	0.30	0.45	-0.15	0.00	245	256
FS III	0.34	0.41	-0.08	0.07	244	256

Figure 36: Share of respondents without loan



Source: ESAF-ILO data

Figure 37: Large unforeseen expenses

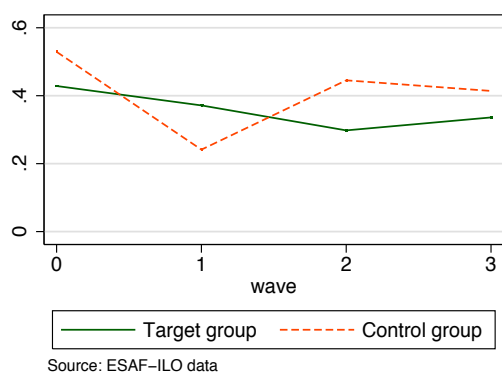


Table 18: Share of clients without ESAF loan within target group

Registered	No ESAF loan		
	FS II	FS III	
		0.65	0.20
Yes		0.45	0.21

When we consider the estimations for the impact on loan size (See Table 17) we need to take into account the prevalence of missing values. The overall effect on loan size is insignificant which comes with no surprise since the differences at baseline and follow-up survey III are only small. The effect at follow-up survey I, however, is positive and significant when estimated by model 3, i.e. as a result of the intervention clients from target branches took out loans that were about INR1,800 higher than in the control group. At follow-up survey II the effect reverses, with control clients having loans that are about INR3,000 higher. At follow-up survey III the impact is at only INR 800 and insignificant. The fact that the sign switches for different points in time becomes apparent when looking at Figure 34. It shows that the amount of the last loan fluctuates in opposing directions at follow-up survey I and II.

Figure 35 shows that repayment difficulties are slightly more prevalent in the target branches. However, we learn from Table 18 that the difference is not significant at any point of investigation. The difference-in-difference estimates for repayment difficulties are all close to zero indicating that the capacity to repay a loan was not affected by the innovation.

Section summary:

- Mixed impact on size of last loan
- No impact on repayment difficulties

6. Lessons learned and recommendations

This report presents findings from an evaluation of an innovation geared towards the promotion of formalisation of enterprises. We employ a difference-in-difference approach to evaluate the effect of the innovation on outcomes such as formalisation, business management practices, social

security coverage of clients. We conclude that there is clear difference for certain outcomes between target and control groups, in particular, formalisation status, business practices, and it is reasonable to attribute this impact to the awareness raising activities and business development services piloted through the innovation. More limited results relate to the longer term impact, such as improvement of the social outcomes for the clients.

Based on the overall research process and the conclusions presented above, the Social Finance Programme of the ILO would like to make the following recommendations to ESAF regarding the future of the formalisation innovation:

(1) A key factor in the design of the innovation and early findings that lead to a change in the target group point to the importance to target growth-oriented clients for this kind of innovation. We would therefore like to recommend that ESAF deepen further its knowledge about the key indicators that differentiate growth oriented clients from clients that do not have this potential, to be able to provide differentiated services depending on respective needs.

(2) Access to benefits such as government social security schemes and/or bank services is a major motivation for enterprises to go into the formalisation process. As the innovation process has shown, reaping the fruits of formalisation takes time and the support provided by the Business Development Officers (BDOs) in giving tailor made advice to clients has been key. We hope that ESAF will continue the practice and expand the function of BDOs. We would also suggest that the results of the project are shared with relevant authorities, with evidence of the lengthy processes in accessing benefits for small entrepreneurs.

(3) Based on the conclusions which illustrate that formalisation can contribute to improved business practices, we hope that ESAF will continue track its progress in improving well-being of clients, as part of its social performance agenda.

(4) Additionally, the Social Finance Programme of the ILO would like to recommend that ESAF share their tools, methodologies, and findings from the action research through national and international networks of microfinance institutions in order to encourage similar work in promoting formalisation and the campaign for Decent Work around the world.

Annex I

The empirical model

This section presents the empirical strategy applied for the analysis of the innovation's effect on a series of outcome indicators. The ideal impact assessment would measure the net difference in the outcome variables between randomly assigned target and control individuals. In the present case three branches were randomly selected for implementation of the innovation. Within these branches the innovation was available to all clients. Hence, the variation is on branch-level, not on the individual level. In absence of random assignment of the innovation to ESAF's clients a series of other evaluation methods are available to identify the effect on the target clients. E.g. a naive estimate of the impact would simply compare the levels of outcome variables of interest before and after the innovation was conducted. Of course this estimate would only require information on clients from target branches. The drawback of this strategy lies in the incapacity to tell whether the resulting difference is solely attributable to the innovation. Other (unobservable) factors could have affected the outcome variables and hence lead to an over- or underestimate of the innovation's impact.

The availability of baseline information, i.e. information before the innovation was implemented, and information gathered at several points in time after the innovation allows us to follow a difference-in-difference (DD) evaluation strategy. We obtain the DD estimator of overall treatment effect by ordinary-least-squares (OLS) regression of the following equation:

$$Y_{ijt} = \alpha_j + \lambda d_t + \gamma Innovation_i + \beta (Innovation_i * after_{t>0}) + u_{ijt} \quad (1)$$

The outcome variable is Y_{ijt} . For individual i , in group j we observe every variable at time t i.e. at baseline, follow-up I, follow-up II and follow-up III. The coefficient of interest is β , an interaction-term between the indicator variables d_t and $Innovation_i$, that is equal to one for individuals from target branches and an indicator for post-treatment periods. β . This coefficient is the overall treatment effect displayed in column (1). Its estimation does not take into account individual client or business characteristics. In column (2) of the estimation tables we present the overall treatment effect when control variables are included in the estimation:

$$Y_{ijt} = \alpha_j + \lambda d_t + \gamma Innovation_i + \beta (Innovation_i * after_{t>0}) + \theta X_{ijt} + u_{ijt} \quad (2)$$

In columns (3) and (4) of the estimation tables we present estimates of wave-specific treatment effects. More specifically this means we estimate coefficients that indicate the impact at follow-up I and follow-up II. Here, the following specification was applied:

$$Y_{ijt} = \alpha_j + \lambda d_t + \gamma Innovation_i + \beta_1 (Innovation_i * t_1) + \beta_2 (Innovation_i * t_2) + u_{ijt} \quad (3)$$

Again we provide estimates of these effects with and without individual control variables. The models estimated in columns (5) and (6) add a third interaction term, β_3 , such that we can estimate β_3 the effect at the third follow-up.

Under the coefficient estimates we also present the associated p-value. The p-value documents the significance of the estimate. A value closer to zero indicates higher significance. All p-values are constructed using heteroskedasticity-robust standard errors.

Annex II

Maps of the States of implementation

Figure 38: Map of Kerala with target and control groups

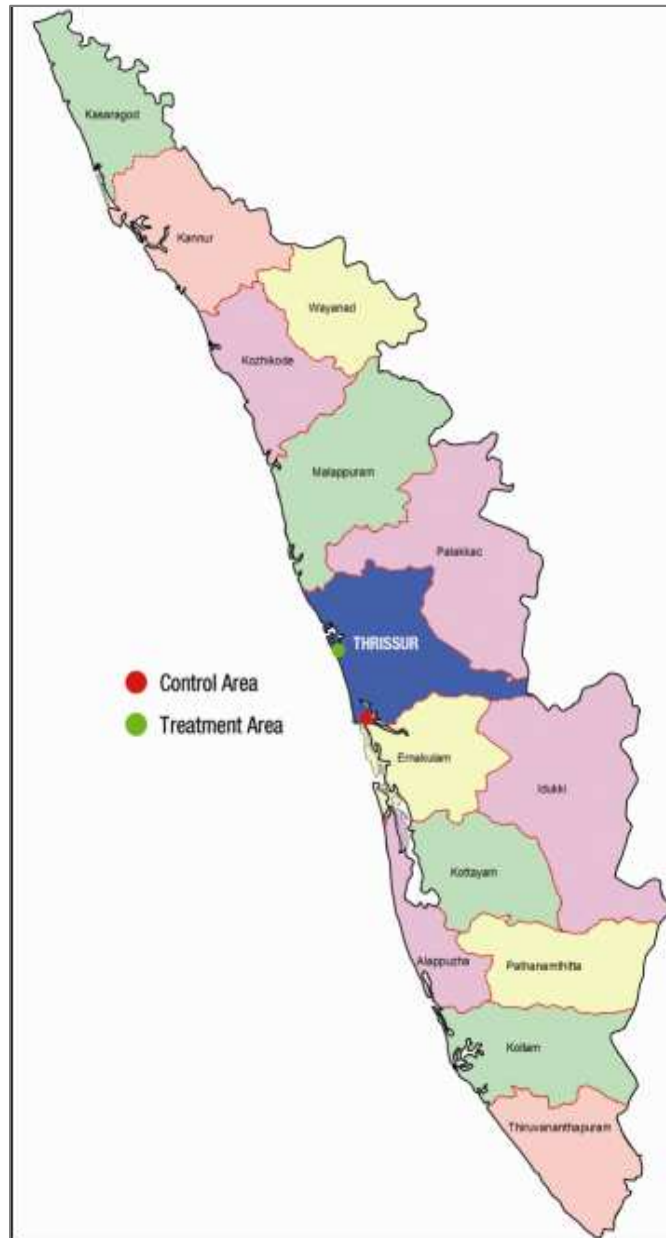


Figure 39: Map of Maharashtra with control and target groups

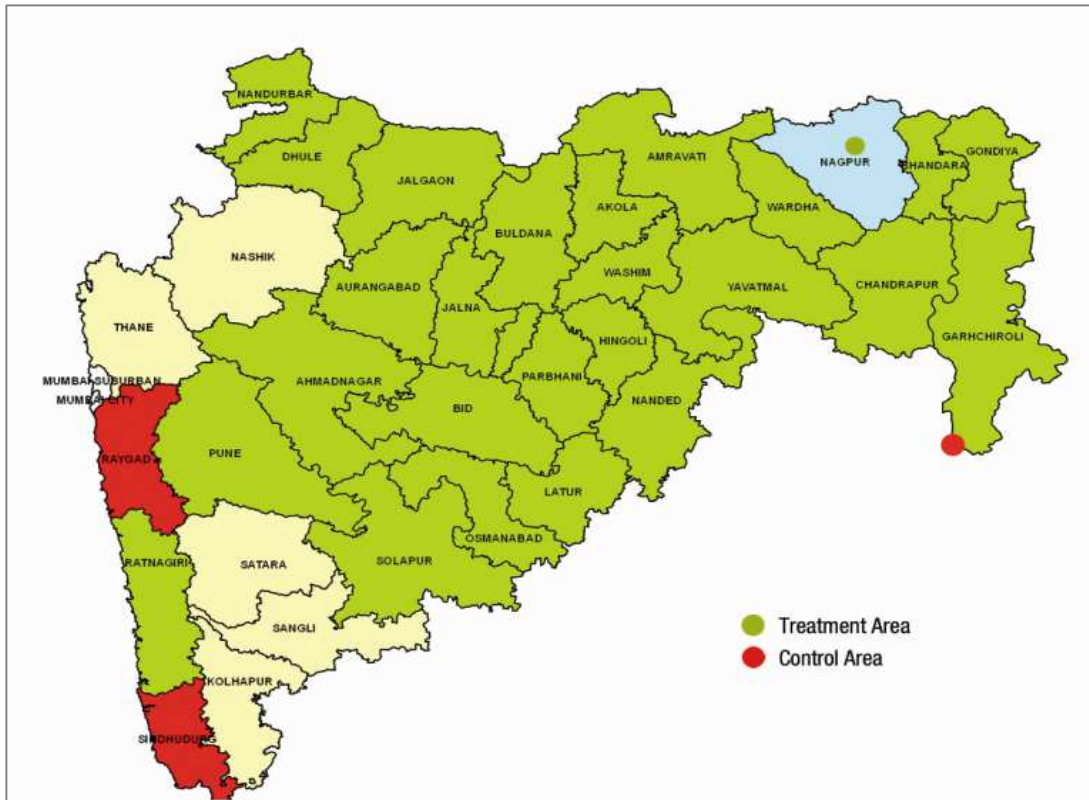
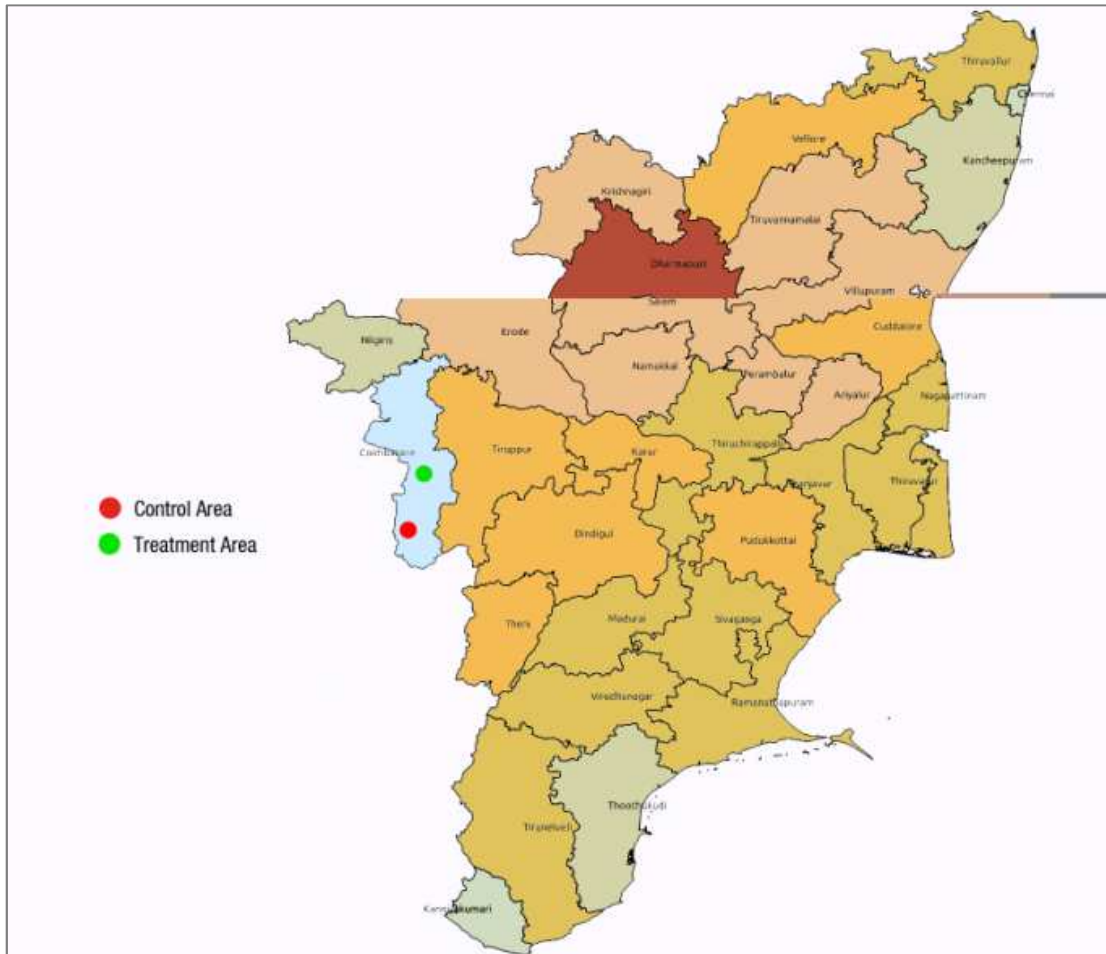


Figure 40: Map of Tamil Nadu with Control and Target groups



Annex III

Additional tables

Table 19: Impact on formalisation

	Model 1	(1) w/X	Model 3	(3) w/X	Model 4	(4) w/X
Knows about formalisation						
Overall innovation effect	0.93	0.93				
	0.00	0.00				
Innovation effect FS I			0.43	0.43	0.90	0.90
			0.00	0.00	0.00	0.00
Innovation effect FS II			0.48	0.48	0.95	0.95
			0.00	0.00	0.00	0.00
Innovation effect FSIII					0.94	0.94
					0.00	0.00
Registered business						
Overall innovation effect	0.69	0.69				
	0.00	0.00				
Innovation effect FS I			0.30	0.30	0.64	0.64
			0.00	0.00	0.00	0.00
Innovation effect FS II			0.39	0.39	0.73	0.73
			0.00	0.00	0.00	0.00
Innovation effect FSIII					0.69	0.69
					0.00	0.00

Table 20: Impact on ownership of bank account

	Model 1	(1) w/X	Model 2	(2) w/X	Model 3	(3) w/X
Bank account						
Overall innovation effect	0.018	0.016				
	0.73	0.74				
Innovation effect FS I			-0.096	-0.099	-0.065	-0.067
			0.06	0.05	0.29	0.27
Innovation effect FS II			0.024	0.021	0.055	0.053
			0.64	0.68	0.36	0.38
Innovation effect FS III					0.063	0.064
					0.29	0.29
Account is for business						
Overall innovation effect	-0.033	-0.031				

	0.33	0.34				
Innovation effect FS I			-0.032	-0.031	-0.043	-0.042
			0.07	0.07	0.2	0.22
Innovation effect FS II			-0.023	-0.022	-0.034	-0.033
			0.28	0.29	0.34	0.36
Innovation effect FS III					-0.021	-0.02
					0.54	0.55
Have you insured your firm?						
Overall innovation effect	-0.01	-0.01				
	0.67	0.71				
Innovation effect FS I			0.01	0.01	0.01	0.01
			0.45	0.45	0.83	0.81
Innovation effect FS II			-0.01	-0.01	-0.02	-0.02
			0.56	0.58	0.45	0.48
Innovation effect FS III					-0.02	-0.02
					0.53	0.57

Table 21: Impact on annual turnover

	Model 1	(1) w/X	Model 2	(2) w/X	Model 3	(3) w/X
Annual turnover						
Overall innovation effect	0.00	0.02				
	0.99	0.92				
Innovation effect FS I			0.13	0.14	0.10	0.11
			0.50	0.48	0.68	0.63
Innovation effect FS II			0.01	0.02	-0.03	0.00
			0.98	0.91	0.90	0.98
Innovation effect FSIII					-0.07	-0.05
					0.79	0.83
Turnover ≥INR100,000						
Overall innovation effect	0.10	0.10				
	0.05	0.04				
Innovation effect FS I			0.26	0.26	0.25	0.25
			0.00	0.00	0.00	0.00
Innovation effect FS II			0.09	0.09	0.08	0.08
			0.09	0.08	0.22	0.19
Innovation effect FSIII					-0.03	-0.03
					0.64	0.68

Table 22: Summary statistics - Sales turnover a year

	Mean (Target)	Mean (Control)	diff	p-val	N (Target)	N (Control)
≤ INR10000						
Baseline	0.01	0.02	-0.01	0.35	245	257
FS I	0.02	0.02	-0.01	0.57	245	257
FS II	0.01	0.0	0.0	0.54	245	257
FS III	0.03	0.07	-0.03	0.08	245	257
INR10001-30000						
Baseline	0.1	0.14	-0.04	0.19	245	257
FS I	0.04	0.06	-0.01	0.5	245	257
FS II	0.05	0.06	-0.01	0.66	245	257
FS III	0.04	0.06	-0.01	0.5	245	257
INR30001-50000						
Baseline	0.2	0.2	0.0	0.96	245	257
FS I	0.12	0.09	0.03	0.29	245	257
FS II	0.09	0.15	-0.06	0.03	245	257
FS III	0.09	0.09	0.0	0.89	245	257
INR50001-70000						
Baseline	0.09	0.12	-0.03	0.25	245	257
FS I	0.15	0.09	0.05	0.06	245	257
FS II	0.19	0.14	0.04	0.19	245	257
FS III	0.1	0.11	-0.01	0.59	245	257
INR70001-80000						
Baseline	0.08	0.11	-0.02	0.37	245	257
FS I	0.08	0.32	-0.24	0.0	245	257
FS II	0.13	0.2	-0.07	0.03	245	257
FS III	0.07	0.06	0.01	0.61	245	257
INR80001-100000						
Baseline	0.12	0.07	0.06	0.03	245	257
FS I	0.16	0.27	-0.11	0.0	245	257
FS II	0.13	0.16	-0.03	0.42	245	257
FS III	0.14	0.11	0.04	0.2	245	257
≥ INR100001						
Baseline	0.39	0.35	0.05	0.29	245	257
FS I	0.43	0.14	0.29	0.0	245	257
FS II	0.4	0.28	0.12	0.0	245	257
FS III	0.52	0.51	0.02	0.71	245	257

Table 23: Impact on investment in machinery

	Model 1	(1) w/X	Model 2	(2) w/X	Model 3	(3) w/X
Bought machinery						
Overall innovation effect	0.01	0.01				
	0.82	0.79				
Innovation effect FS I			0.01	0.01	0.01	0.01
			0.88	0.87	0.86	0.84
Innovation effect FS II			0.01	0.02	0.02	0.02
			0.78	0.76	0.78	0.75
Innovation effect FS III					0.01	0.01
					0.91	0.89

Table 24: Impact on employment

	Model 1	(1) w/X	Model 2	(2) w/X	Model 3	(3) w/X
Any employees						
Overall innovation effect	-0.15	-0.16				
	0.00	0.00				
Innovation effect FS I			-0.07	-0.08	-0.15	-0.16
			0.11	0.09	0.00	0.00
Innovation effect FS II			-0.05	-0.05	-0.13	-0.14
			0.32	0.28	0.02	0.02
Innovation effect FSIII					-0.17	-0.17
					0.00	0.00
Number of employees						
Overall innovation effect	0.24	0.01				
	0.75	0.99				
Innovation effect FS I			0.26	-0.47	0.54	-0.12
			0.88	0.79	0.75	0.94
Innovation effect FS II			-0.76	-1152.00	-0.48	-0.81
			0.37	0.17	0.58	0.36
Innovation effect FSIII					0.67	0.83
					0.45	0.36

Table 25: Impact on demand and advertisement

	Model 1	(1) w/X	Model 2	(2) w/X	Model 3	(3) w/X
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High demand

Overall innovation effect	0.03	0.02				
	0.58	0.65				
Innovation effect FS I			-0.14	-0.15	-0.09	-0.09
			0.01	0.01	0.17	0.15
Innovation effect FS II			0.00	0.00	0.06	0.05
			0.97	0.95	0.37	0.40
Innovation effect FS III					0.12	0.11
					0.06	0.07

Low demand

Overall innovation effect	-0.03	-0.02				
	0.57	0.64				
Innovation effect FS I			0.14	0.15	0.09	0.09
			0.01	0.01	0.17	0.14
Innovation effect FS II			0.00	0.00	-0.06	-0.06
			0.96	0.98	0.34	0.37
Innovation effect FS III					-0.12	-0.11
					0.06	0.07

Do you advertise?

Overall innovation effect	0.10	0.10				
	0.03	0.03				
Innovation effect FS I			0.04	0.04	0.07	0.07
			0.46	0.42	0.24	0.23
Innovation effect FS II			0.14	0.15	0.17	0.17
			0.01	0.00	0.00	0.00
Innovation effect FS III					0.06	0.05
					0.32	0.36

Table 26: Impact on monthly household income

	Model 1	(1) w/X	Model 2	(2) w/X	Model 3	(3) w/X
Overall innovation effect	-0.22	-0.22				
	0.00	0.00				
Innovation effect FS I			-0.53	-0.52	-0.52	-0.51
			0.00	0.00	0.00	0.00
Innovation effect FS II			-0.18	-0.17	-0.17	-0.16
			0.02	0.03	0.06	0.06
Innovation effect FS III					0.02	0.01
					0.83	0.87

Table 27: Impact on main income source

	Model 1	(1) w/X	Model 2	(2) w/X	Model 3	(3) w/X
Household enterprise						
Overall innovation effect	0.17	0.17				
	0.00	0.00				
Innovation effect FS I			0.10	0.10	0.19	0.19
			0.01	0.00	0.00	0.00
Innovation effect FS II			0.06	0.06	0.15	0.15
			0.08	0.08	0.00	0.00
Innovation effect FS III					0.18	0.17
					0.00	0.00
Casual wage labour						
Overall innovation effect	-0.04	-0.03				
	0.40	0.47				
Innovation effect FS I			-0.04	-0.04	-0.08	-0.08
			0.40	0.39	0.15	0.16
Innovation effect FS II			0.09	0.09	0.05	0.06
			0.06	0.04	0.40	0.32
Innovation effect FS III					-0.08	-0.08
					0.14	0.16
Remittances						
Overall innovation effect	0.03	0.03				
	0.04	0.04				
Innovation effect FS I			0.01	0.01	0.03	0.03
			0.63	0.68	0.10	0.11
Innovation effect FS II			-0.01	-0.01	0.01	0.01
			0.40	0.37	0.58	0.62

Innovation effect FS III	0.04	0.04
	0.03	0.03

Table 28: Summary statistics - New durables in HH

	Mean (Target)	Mean (Control)	diff	p-val	N (Target)	N (Control)
Sewing machine						
Baseline	0.01	0.02	-0.01	0.53	243	257
FS I	0.03	0.05	-0.02	0.32	245	257
FS II	0.07	0.04	0.03	0.18	244	256
FS III	0.05	0.04	0.01	0.43	244	257
Pressure cooker						
Baseline	0.04	0.02	0.03	0.09	245	257
FS I	0.02	0.05	-0.03	0.07	245	257
FS II	0.05	0.04	0.01	0.44	245	257
FS III	0.04	0.03	0.01	0.42	245	257
Almirah (Cupboard)						
Baseline	0.01	0.01	0.0	0.95	245	257
FS I	0.01	0.16	-0.14	0.0	245	257
FS II	0.02	0.13	-0.11	0.0	245	257
FS III	0.03	0.04	-0.01	0.68	245	257
Mixer-grinder						
Baseline	0.03	0.03	0.01	0.72	245	257
FS I	0.08	0.1	-0.02	0.36	245	257
FS II	0.04	0.05	0	0.92	245	257
FS III	0.06	0.05	0.01	0.47	245	257
Television						
Baseline	0.09	0.03	0.06	0.0	245	257
FS I	0.04	0.19	-0.15	0.0	245	257
FS II	0.05	0.09	-0.04	0.11	245	257
FS III	0.04	0.04	0.01	0.74	245	257
Washing machine						
Baseline	0.03	0.02	0.01	0.5	245	257
FS I	0.04	0.01	0.03	0.03	245	257
FS II	0.03	0.03	0.01	0.72	245	257
FS III	0.07	0.02	0.05	0.01	245	257

Table 29: Impact on Clients' relation to ESAF

	Model 1	(1) w/X	Model 2	(2) w/X	Model 3	(3) w/X
Last loan amount						
Overall innovation effect	180.25	253.59				
	0.8	0.71				
Innovation effect FS I			1458	1453	1843	1830
			0.11	0.09	0.04	0.04
Innovation effect FS II			-3276	-3016	-2890	-2638
			0.0	0.0	0.0	0.0
Innovation effect FS III					840	819
					0.4	0.41
Difficulties repaying loan						
Overall innovation effect	0.00	0.00				
	0.93	0.95				
Innovation effect FS I			0.00	0.00	0.00	0.00
			0.81	0.83	0.95	0.96
Innovation effect FS II			0.01	0.01	0.01	0.01
			0.54	0.57	0.70	0.73
Innovation effect FS III					-0.01	-0.01
					0.82	0.82

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