AGRICULTURAL EMPLOYMENT SUPPORT FOR REFUGEES AND TURKISH CITIZENS THROUGH ENHANCED MARKET LINKAGES

Economic analysis

The Agricultural Employment Support project combines labor demand and supply side interventions. As suggested by international experience (World Bank 2013), effective jobs interventions need to stimulate both the demand and supply of the labor market. Based on this global experience, the project combines (i) supply side interventions focused on increasing employability (training, counseling) and facilitating access to jobs (intermediation, matching); and (ii) demand side interventions which would include (a) incentives to employers in the form of wage subsidies (b) technical assistance, (c) monetary and non-monetary support to formalization (d) better market conditions through contract farming which would contribute to increased quality and quantity of inputs.

The project departs from standard labor interventions implemented in other contexts in several respects. The vast majority of existing ALMPs target urban labor markets, where formal wage employment is the norm. Interventions in the rural setting have been typically confined to livelihood interventions in the form of rural self-employment. In contrast, the proposed labor interventions focus on rural wage employment in the agricultural sector. A prominent feature of the agricultural sector in Turkey is the very high levels of informality which, combined wages way below the national minimum wage, leads to very high costs of formalization. In addition, the project targets a very low-skilled and low-employability population among which many are illiterate. Half of the beneficiaries would be refugee workers with often a weak command of the Turkish language, and in some cases lacking a work permit as a pre-condition to formal employment.

As a result, the project is expected to yield larger benefits in the medium and long term, rather than in the short term. While the costs of the project will be incurred in the first years of the project lifespan, benefits are expected to increase over time by placing workers on a higher productivity, higher wage, and higher formality path that will generate cumulative returns beyond the lifespan of the project. In addition, the small scale of the project - which can be considered as a pilot intervention - also contributes to the limited returns of the project in the short run. If the interventions were to be expanded to a broader population of beneficiaries, as it is expected to, the expected returns of the project would be positive also in the short run.

The project is also expected to yield non-monetary benefits that cannot be included in the economic analysis. The project is expected to yield several monetary benefits which are included in the cost effectiveness analysis: (i) increased wages associated with training interventions and skill signaling through certification (ii) creation of additional formal and informal employment through contract farming (iii) transition into formal employment. Beyond these tangible benefits, the project is also expected to yield additional benefits that are not easily quantifiable. Those include: (i) Improving refugees' access to information regarding access to work permit and formal employment which can in itself also facilitate access to formal employment, including off farm employment (ii) Greater command of the Turkish language which is expected to also increase access to jobs and employability but also more broadly integration in rural host communities. (iii) Repeated contacts of refugees with an NGO with expertise in reaching out to refugees, which can lead to future referral to other services offered to refugees such as social assistance or labor intermediation by ISKUR.

The economic analysis uses an ex-ante cost-benefit analysis framework to assess and monetize costs and benefits of the implementation of the proposed project and associated externalities. The cost/benefit analysis is based on a summary of measures of performance, the Internal Rate of Return (IRR) and the Net Present Value (NPV), calculated on the incremental benefits and costs to the entire project. The analysis also calculates the SRR which measures the *economic costs and economic benefits* for the society. It hence introduces in the equations opportunities costs, and *social externalities. To calculate the economic returns in this economic analysis, the* benefits are discounted by a discount rate of 2.5%.

The NPV, on the other hand, can be written as follows with NPV being the net present value of the project, *r* being the discount rate and *Benefit Cost Flows* at time *t* being the net benefits at time *t* accrued to the project. In this analysis, the NPV of the gains projected in the future 5, 10 and 30 years are calculated. The SRR and/or IRR is the discount rate for which the NPV is equal to zero:

$$NPV = \sum_{t=1}^{T} \frac{Benefit\ Cost\ Flows_t}{(1+r)^t}$$

The assumptions considered for this cost/benefit analysis are based on prior international evidence and estimations, estimates from the Turkey's Labor Force Survey, and qualitative information collected from the field. To estimate the project returns, we assume the project beneficiaries have similar characteristics to the average low-skilled agricultural worker or farmer observed in the LFS.[1]

The analysis is broken down in two parts where the effects of the project are separately estimated for the supply side (agricultural workers) and demand-side (farmers). Regarding the demand-side, the project expects to increase the demand for labor through (i) farms' productivity increase and (ii) production expansion (iii) reduced costs of formal employment through wage subsidies. On the workers' side, welfare gains are expected as a result of (i) productivity and wage gains through skill training and certification (ii) gains from formalization productivity of workers by improving their skills (iii) access to additional farm employment for currently not employed individuals. Labor productivity gains will increase farmers' revenues, and the assumption is that part of this additional surplus will be transferred to workers. Regarding formalization, workers and farmers incur private costs to formally register, including SGK contributions and potential social benefit losses. In the long-run, it entitles workers to retirement and health care benefits, in addition to severance pay in the short run. Finally, for the Social Security Institution of Turkey (SGK) more formal workers will increase the revenue and potentially reduce the spending in social assistance. The sections below explore the different potential impacts.

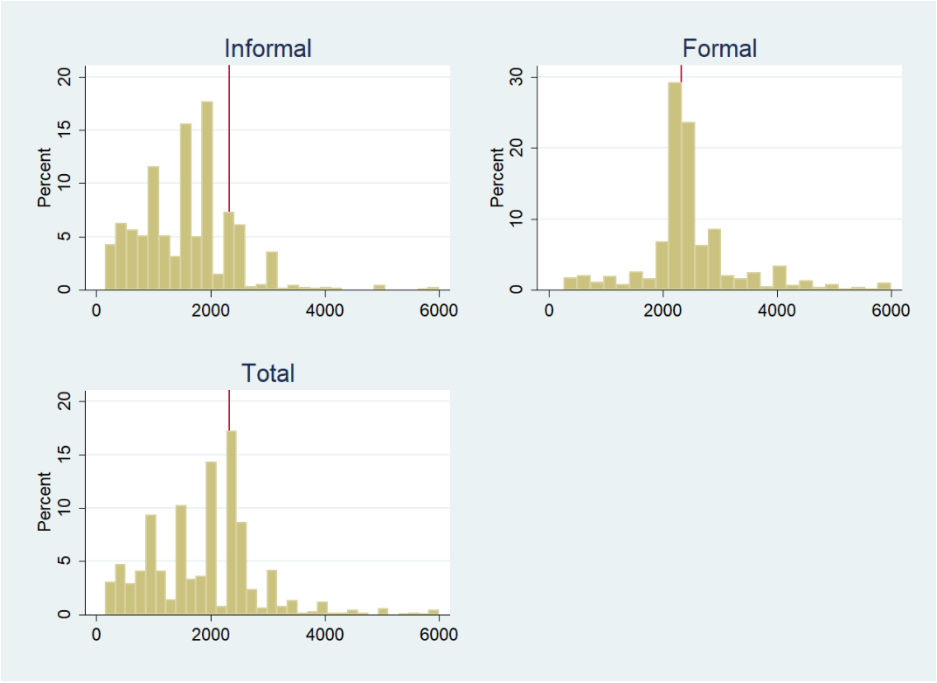
1. Supply-side (agricultural workers)

As the vast majority of agricultural workers earn way below the minimum wage, formalization is an achievable target only for a subgroup of workers. The formality rate is very low (15 percent) among low-skilled workers in agriculture, and the average monthly wage is TKL 1,862.00 (with a median TKL 2,000.00), far below the 2020 net minimum wage of TKL 2,324.00. Figure A.1. displays the distribution of monthly wages for formal and informal workers. As evidenced in the Figure, workers in the agricultural sector, particularly workers who are employed informally, are currently paid way below the minimum wage. The gap between the minimum wage, the legally mandated wage for all agricultural workers, and the average

[1] The characteristics of agricultural workers in the regions targeted by the project are not statically different from the full population of low-skilled agricultural workers in the LFS.

wage for informal workers is TKL 1,577 (median wage TKL 824) which about 67% of the 2020 net minimum wage. This reflect either very low levels of labor productivity for those workers, or farmers paying workers below their marginal productivity level. For the majority of informal workers (half of them earn no more than 35% of the current minimum wage), formalization is not an achievable objective in the short-run.

Figure A.1. Wage distribution among low-skilled workers in agriculture



Source. Turkey Labor Force Survey 2020

Note. The vertical red bar represents the net minimum wage as of 2020.

To estimates the costs and benefits of the project, the analysis breaks down the group of potential beneficiary workers in three groups: (i) the already employed in agriculture that are currently informal and may become formal; (ii) informal workers that would remain informally employed but would increase their productivity through skill training (iii) workers not currently employed who would become employed as the result of additional job creation. It is also assumed that s small proportion of the workers in (ii) would become formal in the long run thanks to increased labor productivity and other interventions included in the project[2]. The costs of Component 1.2 are assumed to be equally distributed across the beneficiaries.

The main hypotheses made to carry out this analysis are the following: (i) 90 percent of the workers complete the training, based on estimates of skill training dropout rates from other context and the short duration of the training intervention planned as part of the project (ii) The average project beneficiaries' wages being similar to the average wages in the formal and informal agricultural sectors (iii) Skill training completion is assumed to increase the overall productivity in the short-run, reflected by an 3.9% increase in wages[3]; (iii) Long-term gains productivity gains are greater than short-term gains[4]; (iv) The share of

[2] Circa 1,400 workers based on analysis on the ground.

[3] Card, David, Jochen Kluve, and Andrea Weber. "What works? A meta-analysis of recent active labor market program evaluations." Journal of the European Economic Association 16, no. 3 (2017): 894-931

[4] Card, David, Jochen Kluve, and Andrea Weber. "What works? A meta-analysis of recent active labor market program

workers initially employed in the formal labor market decreases after the end of the subsidies[5]; (v) We assume that beneficiary workers start with similar share of temporary and permanent contracts as the overall level in the Turkish agricultural sector, but increase overtime as a result of the training and increased demand; (vi) As a result of the implementation of contract farming arrangement, demand for agricultural workers among beneficiary farmers is expected to increase by a minimum of 10%.

1.1 Existing workers already employed in agricultural jobs

Beneficiary group 1: Informal workers becoming formal

A share of the beneficiaries is expected to become formal and receive private gains associated with it. The net wage of this group of workers is assumed to be comparable to current formal agricultural workers in the Turkish labor market, slightly higher than the minimum wage, and their gross wage include the contributions they must make to social security. Private gains for this group of workers are thus the difference between this expected wage and the average wage in the informal market, plus any expected future gains in terms of access to health care and retirement. As in Card, Kluve and Weber (2015), wages are expected to increase in the long run due to labor productivity gains. It is assumed that some of the workers remain formally employed after the end of the project. On the other hand, they face increasing individual costs associated with formalization which consist of contributions to SGK. Those social security contributions, on the other hand, are also social gains as they represent additional revenues for the Government of Turkey.

evaluations." Journal of the European Economic Association 16, no. 3 (2017): 894-931

[5] Evidence on the effectiveness of wage subsidies are mixed, with some studies finding small, but persistent positive results for disadvantaged groups (Kaldor, 1936, Layard and Nickell, 1980, Katz, 1998, and Levinsohn et al, 2014), while others find more disappointing results (Burtless, 1985; Dubin and Rivers, 1993) and for developed countries, the evidence suggest that there is little effect in the long run (Betcherman et al, 2004).

- Bell, Brian, Richard Blundell and John Van Reenen (1999) "Getting the Unemployed Back to Work: The role of targeted wage subsidies", International Tax and Public Finance 6(3): 339-60.
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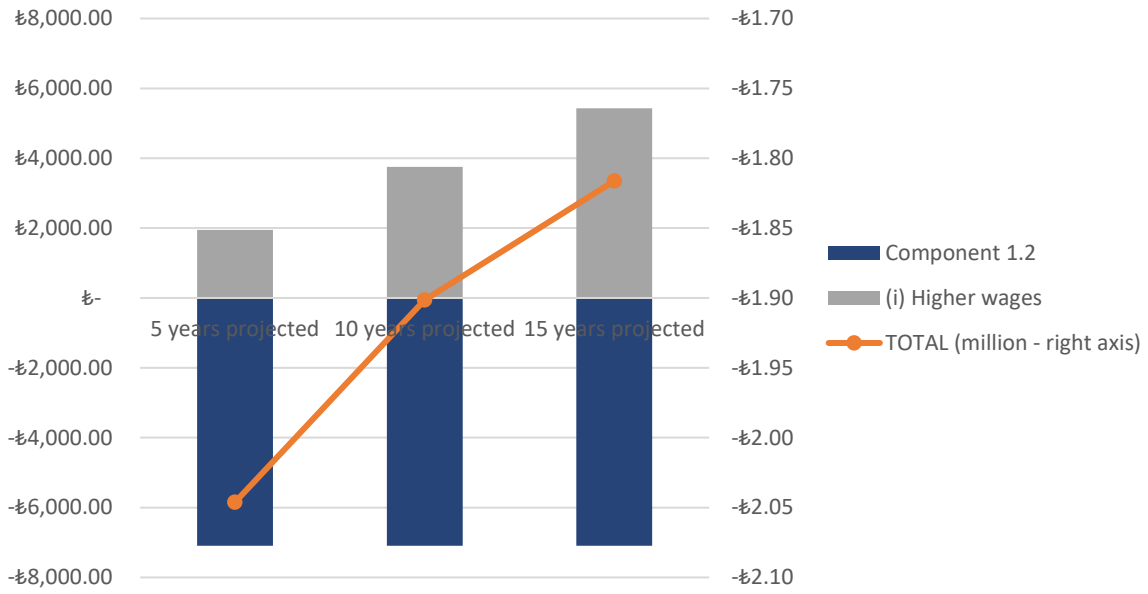
- Dubin, Jeffrey, and Douglas Rivers (1993) "Experimental Estimates of the Impact of Wage Subsidies." Journal of Econometrics, 56(1/2): 219–42.
- Kaldor, Nicholas (1936) "Wage subsidies as a remedy for unemployment", Journal of Political Economy 44(6): 721-42.
- Katz, Lawrence (1998) "Wage subsidies for the disadvantaged", in Richard Freeman and Peter Gottschalk (eds.) Generating Jobs: How to Increase Demand for Less-skilled workers. Russell Sage Foundation: New York, NY.
- Layard, P.R.G. and S.J. Nickell (1980) "The case for subsidizing extra jobs", Economic Journal 90(357): 51-73.

Levinsohn, James, Neil Rankin, Gareth Roberts. and V. Schöer (2014) "Wage subsidies to address youth unemployment in South Africa: Evidence from a randomised control trial", Impact evaluation report 15.

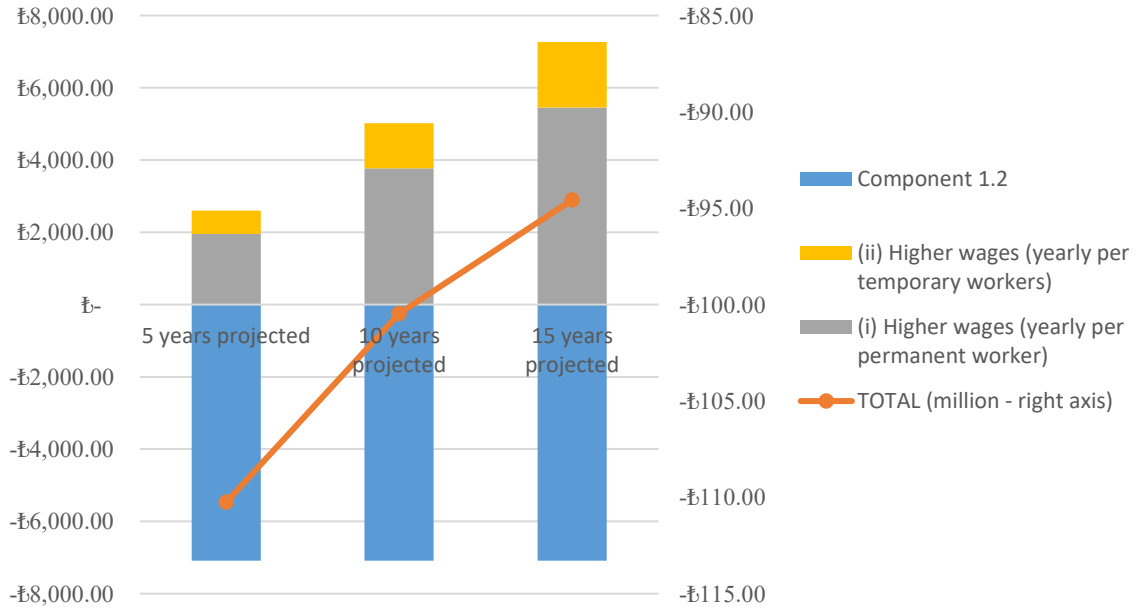
Figure A.2. NPV for workers who become formally employed



Beneficiary group 2: Informal workers remaining informal

The second beneficiary group consists of existing informal agricultural workers that, despite remaining informal, benefit from the training are expected to increase their labor productivity and their likelihood to gain access to more regular and permanent employment. Their immediate private benefits are the expected increase in wages: technical, soft-skill and language training is expected to increase workers' productivity which will be signaled to employers through the delivery of a training certificate. This is expected to increase informal and formal workers' earnings during the course of the project by also lifetime earnings (3.9 percent of gains in wages in the short run, increasing overtime). This is also expected to increase their likelihood to gain access to more regular employment, increase their likelihood to become formal workers in the longer run. The costs are those associated with the training, as well as the opportunity costs of attending the training for workers. The latter will be covered by a daily stipend for training attendance.

Figure A.3. NPV for workers who remain informally employed.



Beneficiary group 3: Not employed and able-to-work individuals

Finally, the last beneficiary group are individuals currently not employed that are able to work. By generalizing the use of contract farming among beneficiary farmers, the project is expected to expand the production of beneficiary farmers by 10%. Assuming the labor intensity of production remains constant after the introduction of contract farming, employment in beneficiary farms is expected to increase by a similar amount. Thus, the project is expected to result in unemployed or out of the labor force workers taking up informal agricultural. This third group of beneficiaries is assumed to be hired initially with informal contracts, at the average wage of informal workers in agriculture, and mostly as temporary workers. They are also expected to have increased productivity overtime due to the training.

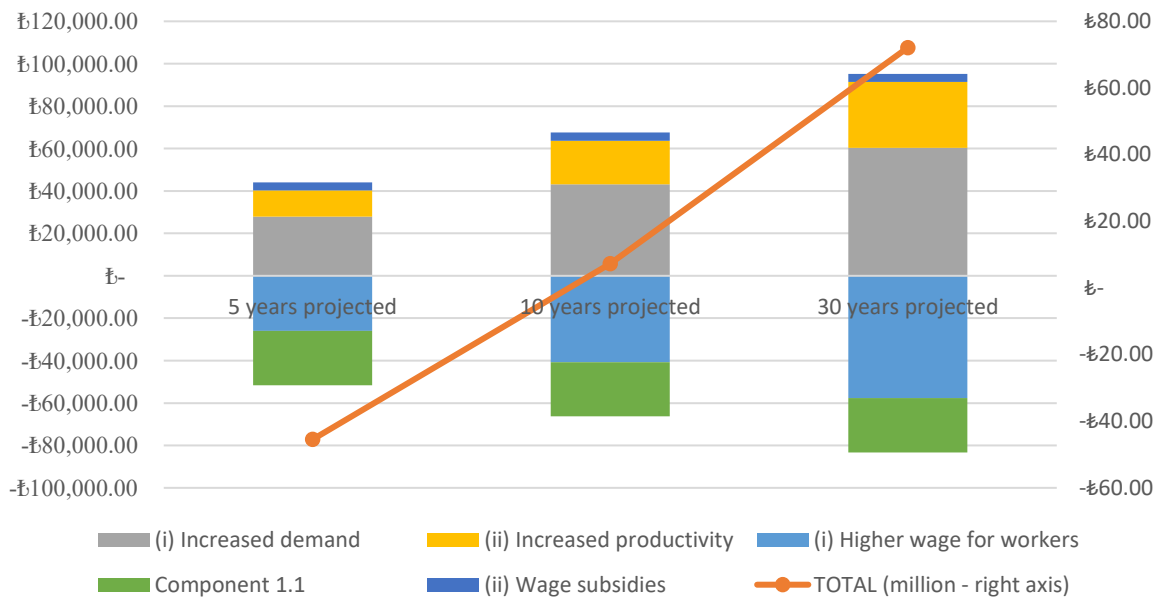
Figure A.4. NPV for workers that becoming employed

2. Demand-side (farmers)

Privately, through contract farming, the availability of a higher-skilled workforce, and strengthened technical assistance to farmers, the project is expected to increase farmers' productivity. On a simple account, this would come in the form of a higher volume of sales and a higher average cost of the produce sold. Although this would be achieved through a one-off package of TA and financial support associated with the contract farming, the benefits could be long-lasting. This analysis assumes that the benefits continue even after the end of the project, however fading overtime[6]. The mark-up of farmers is assumed to be of 20% and was estimated from administrative from the Ministry of Agriculture. According to the Labor Force Survey over 90 percent employ 10 workers or less in their farms. The costs from component 1.1 are equally distributed across farmers.

Figure A.5. NPV for farmers

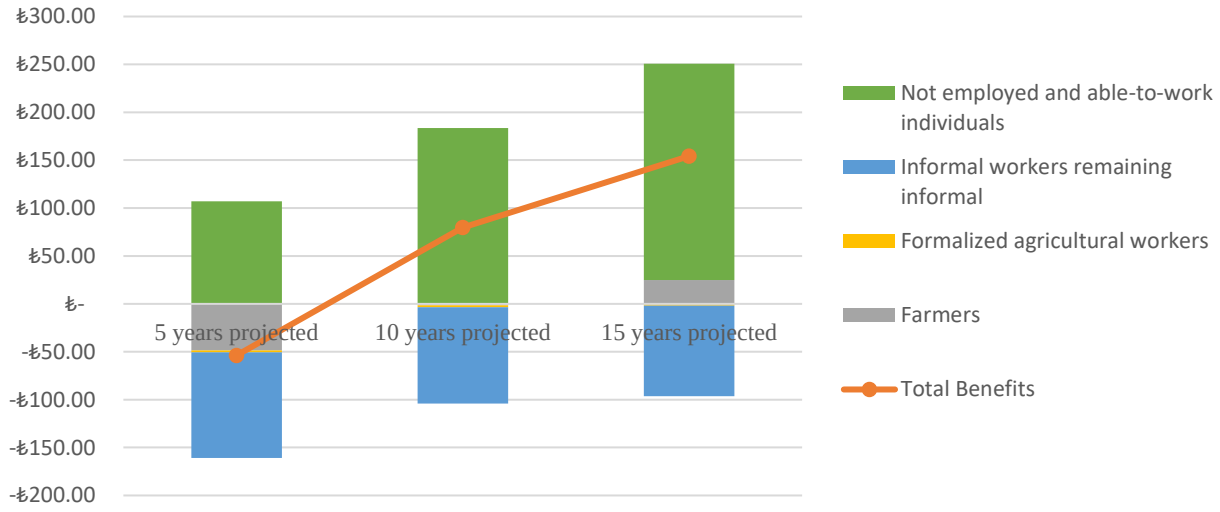
[6] Diminishing returns could be due to the appearance of new technologies not incorporated by farmers for instance.



Aggregate NPV

Figure A.6. displays the overall NPV of the project, the IRR for a 10-year horizon is 14 percent, with benefits fully equalizing costs after 6 years. Although the costs dominate the short-term net returns, costs are only concentrated in the first years, while benefits are expected to be long lasting both for farmers and agricultural workers. In fact, in a 10-year projection, the benefits already surpass the costs and generate a positive IRR (14 percent). On a feasible 30-year horizon projections, benefits have gradually lower marginal returns as detailed by the discount rate of 2.5 percent and the number of workers that leave gradually the market. Benefits equalize the costs on year 6 at the end of the project implementation, meaning that subsequent periods are strictly positive on net returns contributions.

Figure A.6. Total NPV of the project



Parameter values and assumptions used as inputs in the cost-benefit analysis:

	2018
Minimum wage	₺ 2,324.00
Discount rate	2.50%
Exchange rate (EUR-TLR)	₺ 8.89
Share of participants who are informal workers and remain employed at the end of each year after project	95%
Share of participants who are formal workers and remain employed at the end of each year after project	30%
Out of workers who left the formal employment after the end of the project, share that returns to formal employment	30%
Share of workers finishing skills training	80%
Wage increase due to the training – yearly increased productivity translated into higher wages	3.9%
Yearly increase in wages after the completion of the training - workers' productivity continue to increase due to skill training[7]	1%
Informal worker average wage	₺ 1,577.00
Formal worker average wage	₺ 2,501.00
Share of temporary workers - formal	46%
Share of temporary workers - informal	88%
Number of months worked in a year if temporary worker	4.00
Mark-up of farmers	20%
Share of workers formalized by the end of the project	7%
Share of beneficiaries who remained informal, but who become formal each year after the end of the project	1%
Share of beneficiaries who with a temporary contract who become permanent each year after the end of the project	2%

[7] Card, David, Jochen Kluve, and Andrea Weber. "What works? A meta-analysis of recent active labor market program evaluations." Journal of the European Economic Association 16, no. 3 (2017): 894-931