Face-to-face vs. Virtual Assistance to Entrepreneurs: Evidence From a Field Experiment in Brazil —Supplementary Materials—

Cesar Zucco[a,*], Anna Katharina Lenz[b], Rafael Goldszmidt[a], Martn Valdivia[c]

[a] *Getulio Vargas Foundation, Rio de Janeiro*
[b] *RMIT University, Melbourne*
[c] *GRADE, Lima*

These materials, not intended for print publication, provide more detailed information on attrition and on alternative specifications of the analysis. This document, along with data and code to replicate the analyses, will be permanently posted to the corresponding author's repository on the Dataverse Network and can be accessed through this URL: https://doi.org/10.7910/DVN/HLAGNR.

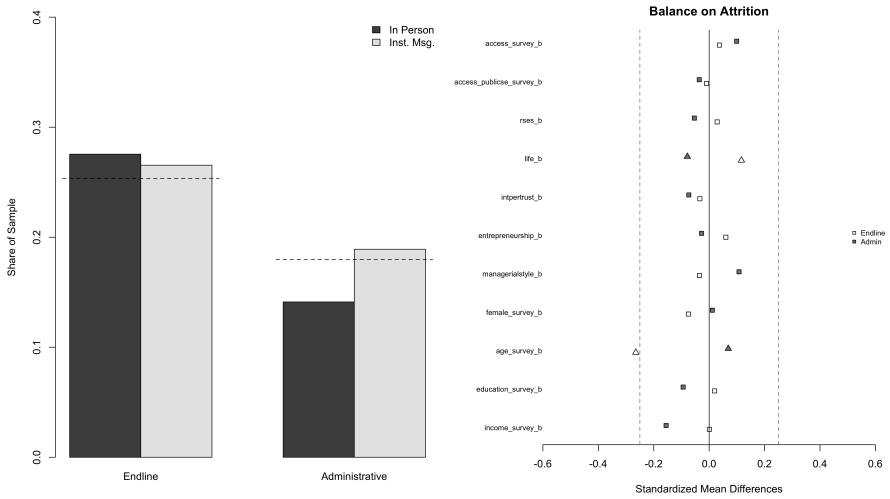
We also report that the field experiment was reviewed approved by the Getulio Vargas Foundation committee for Ethics in Research with Human Subjects on May 2017 (*Parecer* 02/2017). The pre-analysis-plan for the broader project of which this study is a part of was pre-registered and can be accessed at `http://egap.org/registration/3160`.

1. Attrition

In this section we report some details on attrition in the field experiment. Figure A1(a) reports attrition levels in each treatment condition, for outcomes based on the endline survey and on administrative data. The dashed horizontal segments indicate attrition levels in the control group. Even the larger difference of 0.038 found between individuals assigned to the in person treatment and those assigned to control with respect to administrative outcomes, is not statistically significant ($p = 0.123$).

Moreover, attrited individuals do not differ significantly from non-attrited individuals in a number of pre-treatment observable characteristics, as indicated in Figure A1(b). As mentioned in footnote in the main body of the paper, attrition cannot be predicted from these same pre-treatment observables.

*Corresponding author
Email addresses: `cesar.zucco@fgv.br` (Cesar Zucco), `anna-katharina.lenz@rmit.edu.au` (Anna Katharina Lenz), `rafael.goldszmidt@fgv.br` (Rafael Goldszmidt), `jvaldivi@grade.org.pe` (Martn Valdivia)



(a) Attrition by Treatment Condition

(b) Balance Between Attrited and Non-attrited

Figure A.1: Differential Attrition

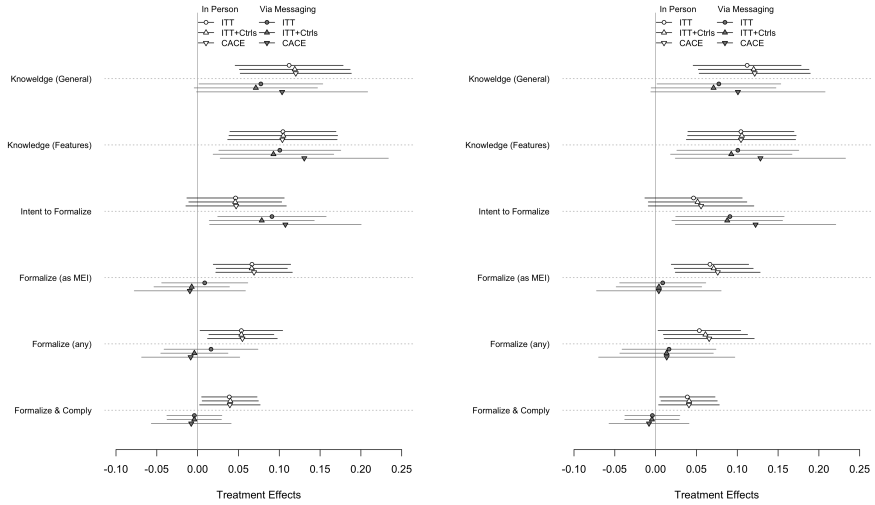
2. Alternative Specifications

In the main body of the paper we presented only ITT effects estimated with controls, but we mentioned simple differences (without controls) and CACE estimates in passing. In Figure A2(a) we report these two specifications alongside the same ITT estimates with controls that were already reported. These extended results do not affect the substantive conclusions.

Estimates reported in the main body of the paper include an unplanned control for ineligibility to the study. Ineligibility was unanticipated, and affected 10% of the sample. Figure A2(b) reports estimates without controlling for ineligibility. Results are substantively the same.

In Table we report the full set of estimates that were presented graphically in Figure . The p-values reported in the table control for FWER through the Benjamini and Hochberg (1995) algorithm (implemented in R using the function `p.adjust()`).

After controlling for the FWER, the substantive interpretation of the results remains the same. The treatment via instant messaging produced statistically significant effects for "feature" knowledge that were substantively very similar to those observed in the in person treatment. It also produced effects on "general" knowledge that were comparable in size with those of the in person treatment, but more noisily measured. Effects on intent to formalize were about twice of what we observed with the in-person treatment and also statistically significant. Effects of the instant messaging treatment, however, were very close to zero for all "hard" formalization outcomes.



(a) Controlling for Ineligibility

(b) Without control for Ineligibility

Figure A.2: Alternative Specifications

Feature knowledge was originally a continuous standardized indicator, produced by combining correct mentions to six specific features of the MEI program. In the paper, we arbitrarily dichotomized the index by dividing respondents that were above and below the mean value observed in the control group. We did this to facilitate comparability of the treatment effects on different outcomes. Results, however, are not sensitive to this rescaling. Estimates of treatment effects for the continuous version of the variable are reported in Table A.2.

3. Back-of-the Envelope Cost Calculations

The in-person one-on-one consultancy took on average around 40 minutes, leading to one viable consulting per hour max. The real-world cost of consultants to do this job is of approximately R$ 80 per hour.[1]

For the online assistance, based on the feedback loops and the types of questions received during our field work, we estimate that one full time employee can handle the work-flow associated with two standardized messages per week for a group of up to 2,500 different entrepreneurs. The salary of a junior analyst to do such a job would be approximately R$ 4,000, which implies a monthly cost to about R$ 7,000 if the analyst is hired as a full time formal employee.

[1] At the time of the field research, the exchange rate was about R$3.60 to the dollar, and at the time of writing R$4.10.

Table A.1: Table of Coefficients (with Benjamini & Hochberg adjusted p-values)

	In Person			Via Messaging		
	ITT	ITT (ctrls)	CACE (ctrls)	ITT	ITT (ctrls)	CACE (ctrls)
Knowledge (General)	0.112	0.119	0.120	0.077	0.071	0.103
(S.E.)	(0.040)	(0.041)	(0.042)	(0.046)	(0.046)	(0.064)
P-value (BH)	*0.026*	*0.025*	*0.004*	*0.188*	*0.244*	*0.106*
Knowledge (Features)	0.104	0.105	0.104	0.101	0.093	0.131
	(0.040)	(0.041)	(0.040)	(0.046)	(0.045)	(0.063)
	0.026	*0.023*	*0.011*	*0.082*	*0.136*	*0.038*
Intent to Formalize	0.046	0.046	0.047	0.092	0.079	0.107
	(0.036)	(0.035)	(0.038)	(0.040)	(0.041)	(0.057)
	0.202	*0.184*	*0.209*	*0.103*	*0.136*	*0.058*
Formalize as MEI	0.067	0.066	0.069	0.009	-0.007	-0.010
	(0.029)	(0.027)	(0.029)	(0.032)	(0.028)	(0.041)
	0.043	*0.026*	*0.016*	*0.846*	*0.873*	*0.819*
Formalize (any category)	0.054	0.054	0.055	0.016	-0.004	-0.009
	(0.031)	(0.024)	(0.026)	(0.035)	(0.025)	(0.037)
	0.100	*0.041*	*0.036*	*0.846*	*0.873*	*0.816*
Formalize and Comply	0.039	0.040	0.039	-0.004	-0.004	-0.008
	(0.021)	(0.021)	(0.023)	(0.021)	(0.020)	(0.030)
	0.091	*0.068*	*0.081*	*0.846*	*0.873*	*0.793*

Table A.2: Treatment Effects on Feature Knowledge Index

	In Person		Via Msg.	
	ITT	CACE	ITT	CACE
Estimate	0.24	0.24	0.17	0.24
(S.E.)	(0.08)	(0.08)	(0.09)	(0.12)
P-value	*<0.01*	*<0.01*	*0.05*	*0.05*

The online assistance was provided over three months for the same group of entrepreneurs, taking the per-individual cost to about R$ 8.40.

As each individual who formalizes brings in about R$ 50.00 in taxes a month, the rate of formalization and tax-compliance for two months reported in Figure 1 (in the main body of the paper) implies an expected return for each individual of approximately R$ 1.85 a month. The investment would pay-off in overall tax revenues if formalized entrepreneurs kept up with tax payments for just under four years. However, if we could reach similar formalization and compliance rates with the online treatment, the initiative would break even with less than five months of sustained contributions.

References

Benjamini, Yoav, Hochberg, Yosef , 1995. Controlling the false discovery rate: a practical and powerful approach to multiple testing. Journal of the Royal Statistical Society Series B 57, 289–300. doi:10.1111/j.2517-6161.1995.tb02031.x.