

Jobs and digital platforms: experimental evidence from Mozambique

Sam Jones, UNU-WIDER

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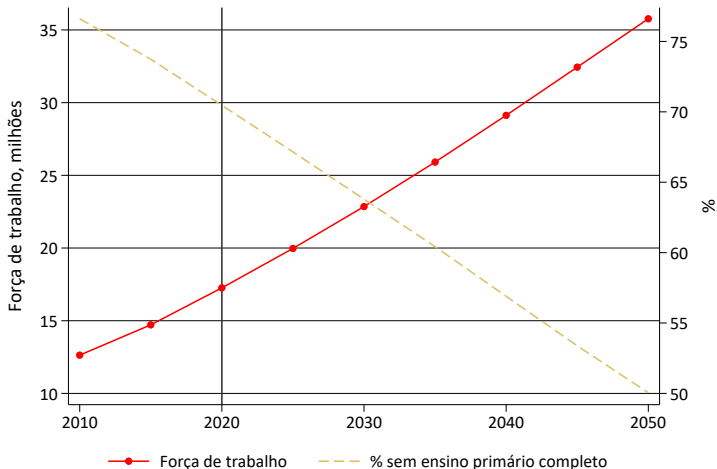
Agenda

- 1** Background
- 2** Experiment with TVET graduates
- 3** Data & Methods
- 4** Results
- 5** Conclusion

(1) Background

Mozambique: demographic dividend or delusion?

Rapid expansion of labour force & education system, but little is known about employability.



University graduates tracer survey, 2017-2019

Longitudinal survey of university graduates as they entered the labour market:

- Baseline face-to-face survey in final year (N = 2174), 2017
- Follow-up telephone survey (6 waves): Mar/2018-Sep/2019
- Track multiple outcomes : e.g., employment status, job quality, earnings, search behaviour

Main findings:

- By endline 60% of graduates had some kind of work
- But half of these were in 'bad' jobs; and 23% were unemployed
- Very large gaps between expected and realized earnings

(More information: [final survey report](#).)

Employment Mismatches Drive Expectational Earnings Errors among Mozambican Graduates

Sam Jones , Ricardo Santos, and Gimelgo Xirinda

Abstract

Biased beliefs about future labor-market earnings are commonplace. Based on a longitudinal survey of graduate work transitions in Mozambique, this study assesses the contribution of employment mismatches to a large positive gap between expected (ex ante) and realized (ex post) earnings. Accounting for the simultaneous determination of pecuniary and non-pecuniary work characteristics, employment mismatches are found to be material and associated with large earnings penalties. A decomposition of these expectational errors shows that around two-thirds are attributable to employment mismatches, suggesting job seekers systematically overestimate the ease of securing “good jobs.”

JEL classification: J20, J31, D91

Keywords: job mismatch, Mozambique, biased beliefs, tracer study, wage expectations



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Regular article

Can information correct optimistic wage expectations? Evidence from Mozambican job-seekers

Sam Jones ^{a,*}, Ricardo Santos ^b

^a *UNU-WIDER, Mozambique*

^b *UNICEF, Mozambique*



ABSTRACT

Forward-looking expectations are central to job search but often inaccurate. To test whether public information can help correct beliefs, we embed an experiment in a longitudinal survey of Mozambican graduates. We quantify responses of own-earning expectations to information about peers' current earnings, sent by SMS. Optimistic beliefs were revised downward by a larger margin in the treatment group. But, consistent with a theoretical on-the-job search model, responses to news do not conform to a linear updating framework, with strong evidence for limited responses to negative news. This explains the moderate impact of our intervention and why optimistic expectations remained persistent.

(2) Experiment with TVET graduates

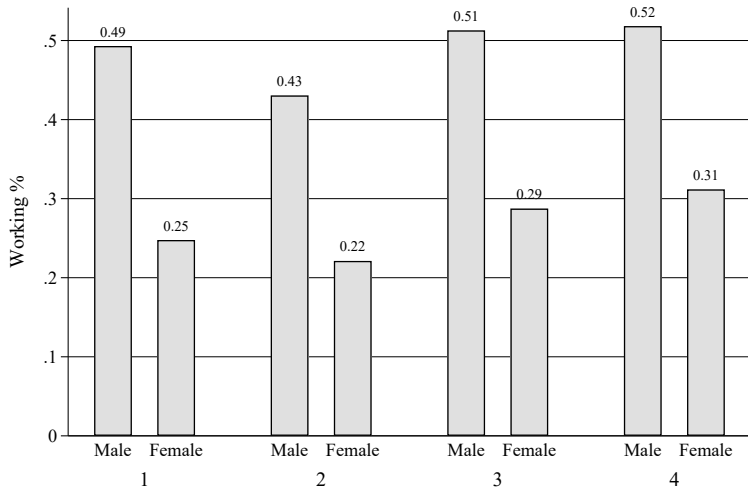
Another tracer survey!

Replicate tracer survey with TVET graduates (*Ensino Técnico Médio*) as they entered the labour market:

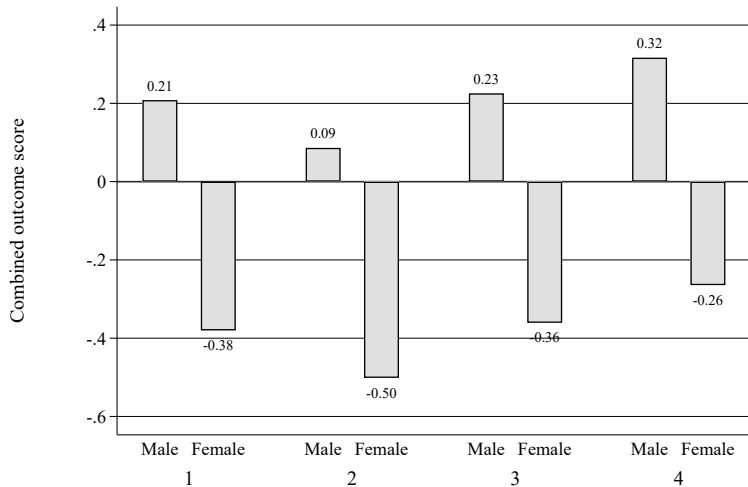
- All regions and types of schools (public/private) – Maputo City, Maputo Province, Tete, Nampula and Cabo Delgado
 - Wide range of different courses, agriculture/industry/services
 - Baseline face-to-face survey (N = 1639): October-Nov. 2019
 - Follow-up telephone survey (4 waves): January-Nov. 2020
 - Track multiple outcomes : e.g., employment status, job quality, earnings, search behaviour, life satisfaction
- ⇒ Focus primarily on **combined outcome score** (1st principal component of 9 sub-variables)

(More information: [final survey report](#).)

Weak employment outcomes overall



Weak employment outcomes overall



What can be done?

Puzzle – un(der)employment often coincides with unfilled vacancies.

Interest in policies to address ‘matching frictions’:

- Vacancy information (Dammert et al., 2015)
- Transport subsidies (Franklin, 2018)
- Subsidized skills screening (Abebe et al., 2021)
- Supported job search (Altmann et al., 2018; Belot et al., 2019)
- Wage information (Jones & Santos, 2022)

Our focus: **digital jobs matching platforms.**

Encouragement (nudge) intervention

At start of Round 2 we sent (tailored) SMS messages inviting participants to register on one of two local digital labour platforms:

- 1 **Emprego**: employers post formal (professional) jobs
 - 2 **Biscate**: clients contact workers for informal tasks
- ... plus a control group (no SMS)

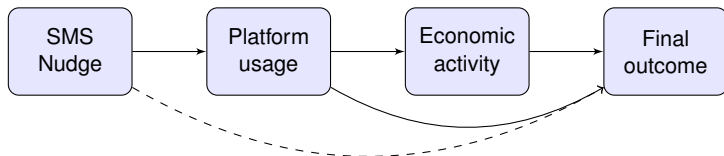
SMS invite example:

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Mensagem para finalistas do curso Geologia:  
regista-te no Biscate para receberes oport-  
-unidades de trabalho. Liga gratuito para *770#
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(3) Data & Methods

Empirical strategy

Schematic:



Hypothesis 1 – nudges stimulate platform usage:

$$\text{Usage}_{it}^p = \alpha_j + \beta_p \text{Nudge}_{it}^p + \mathbf{X}'_{it} \theta^p + \lambda_t + \varepsilon_{it}^p \quad (1)$$

Hypothesis 2 – platforms improve outcomes (intent-to-treat):

$$y_{it} = \alpha + \sum_p \delta_p \text{Nudge}_{it}^p + \mathbf{X}'_{it} \gamma + \mu_i + \lambda_t + \phi_{it} \quad (2)$$

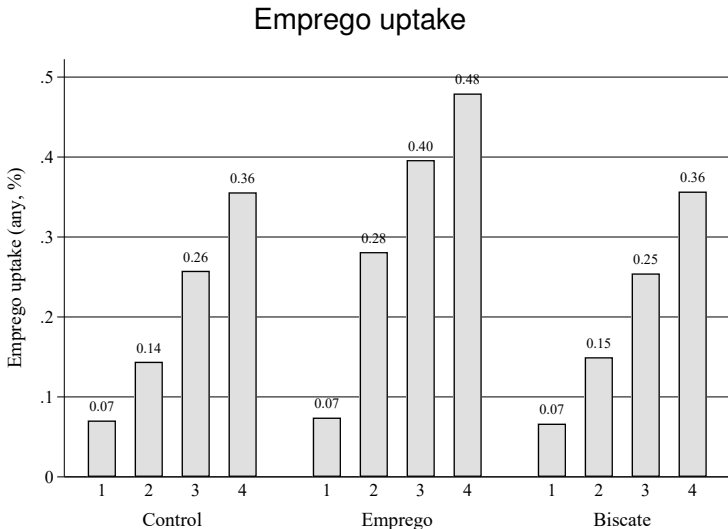
(4) Results

(1) Positive effect of the SMS nudge on usage

	Emprego	Biscate	Either
Emprego SMS	0.08*** (0.02)	0.06*** (0.01)	
Biscate SMS	-0.01 (0.01)	0.26*** (0.01)	
Any SMS			0.14*** (0.01)
Female	-0.06*** (0.01)	-0.02** (0.01)	-0.06*** (0.01)
Manual course	-0.02* (0.01)	0.01 (0.01)	0.00 (0.01)
Speaks English	0.03*** (0.01)	0.01 (0.01)	0.03*** (0.01)
Academic internship	0.04*** (0.01)	0.01 (0.01)	0.04*** (0.01)
Mother second. edu	0.00 (0.01)	-0.01* (0.01)	-0.01 (0.01)
Obs	5,321	5,321	5,321
R ² adj.	0.15	0.32	0.23

significance: * 10%, ** 5%, *** 1%

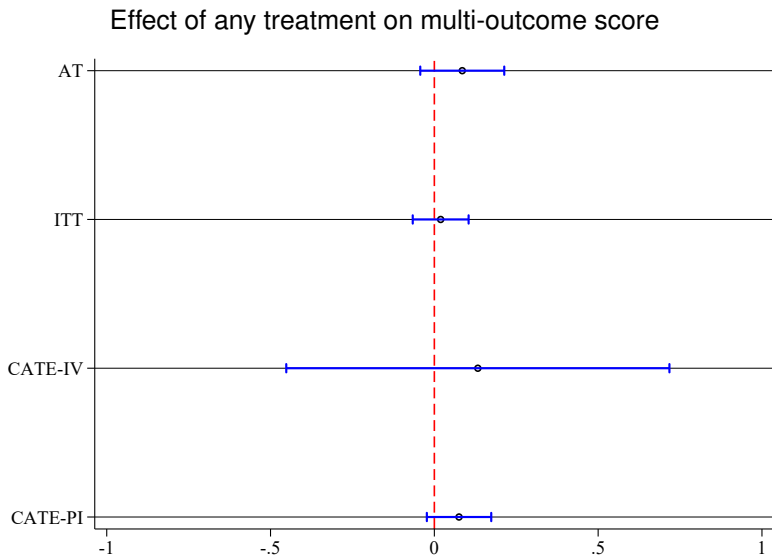
(2) But imperfect \implies 'two-way non-compliance'



(3a) Treatment effects generally close to zero

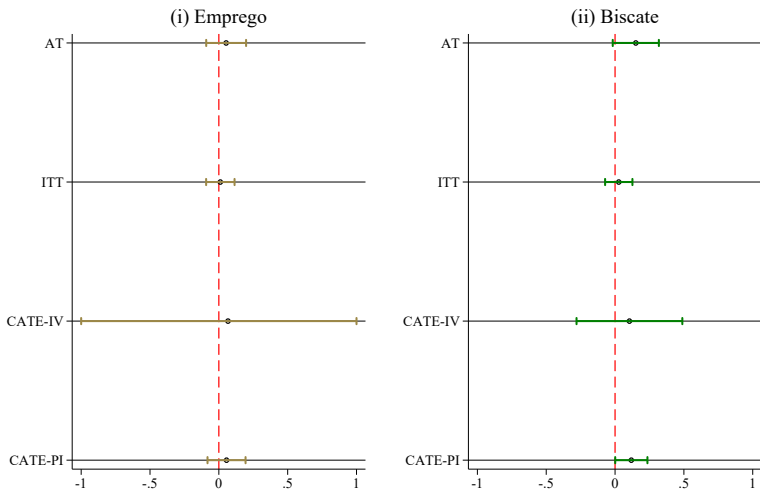
Effect →	As-treated (A-T)		ITT	CATE-IV	CATE-PI
	(I)	(IV)	(V)	(VI)	(VII)
<i>(a) Combined assignment/usage:</i>					
Any platform	0.33*** (0.08)	0.09 (0.08)	0.02 (0.05)	0.13 (0.36)	0.08 (0.06)
N	5,325	5,325	5,325	5,325	4,037
R ²	0.11	0.59	0.59	0.02	0.60
<i>(b) Platform-specific assignment/usage:</i>					
Emprego	0.36*** (0.09)	0.05 (0.09)	0.01 (0.06)	0.07 (0.76)	0.06 (0.08)
Biscate	0.14 (0.10)	0.15 (0.10)	0.03 (0.06)	0.10 (0.23)	0.12* (0.07)
Diff. (prob.)	0.22 (0.13)	-0.10 (0.50)	-0.02 (0.81)	-0.04 (0.96)	-0.06 (0.50)
N	5,325	5,325	5,325	5,325	3,809
R ²	0.11	0.59	0.59	0.02	0.60
Full baseline controls	N	Y	Y	Y	Y
Time-varying controls	N	Y	Y	Y	Y
Individual FEs	N	Y	Y	Y	Y

(3b) Treatment effects generally close to zero



(4) *Hint of a more positive effect of Biscate*

Effect of specific treatments on multi-outcome score



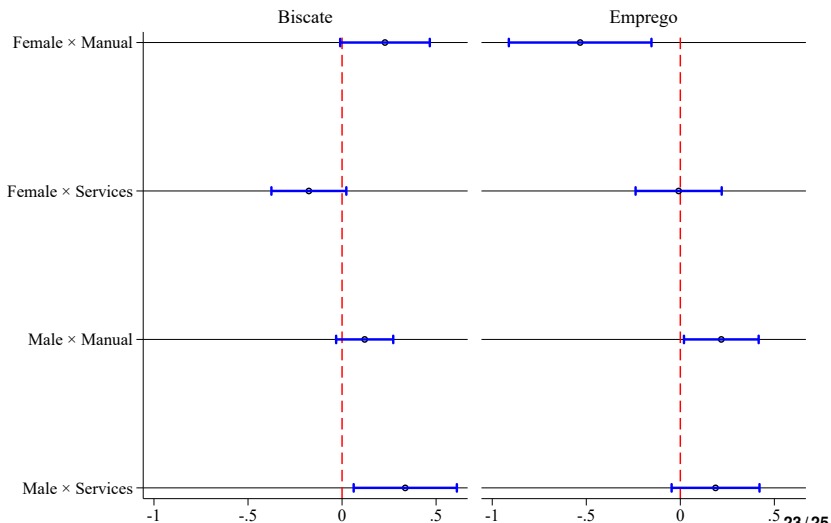
(5a) Differences by gender appear important

Effect →	ITT			CATE-PI		
	(I)	(II)	(III)	(IV)	(V)	(VI)
Emprego	0.11 (0.08)	-0.01 (0.07)	0.01 (0.06)	0.21** (0.10)	0.10 (0.10)	0.03 (0.08)
Emprego × Female	-0.21** (0.10)			-0.41*** (0.15)		
Emprego × Manual		0.06 (0.10)			-0.07 (0.14)	
Emprego × Conditions			0.06 (0.11)			0.30* (0.15)
Biscate	0.02 (0.07)	-0.00 (0.08)	0.04 (0.06)	0.16* (0.08)	0.03 (0.11)	0.11 (0.07)
Biscate × Female	0.01 (0.10)			-0.11 (0.12)		
Biscate × Manual		0.04 (0.09)			0.12 (0.12)	
Biscate × Conditions			-0.16 (0.12)			0.06 (0.14)
Obs	5,325	5,325	5,325	3,809	3,809	3,809
R ² adj.	0.59	0.59	0.59	0.60	0.60	0.60

significance: * 10%, ** 5%, *** 1%

(5b) Differences by gender appear important

CATE-PI effects of specific treatments on multi-outcome score



(5) Conclusion

Conclusions

- 1 Getting young people into good jobs remains a huge challenge – education NOT a guarantee
- 2 Added new evidence on contribution of digital platforms, covering platforms for formal jobs and informal tasks
- 3 Overall, no evidence nudges to use digital platforms yield better jobs outcomes, but weak +ve effects of *Biscate*
- 4 Also, important gender differences in impacts:
 - Average man but not woman benefits from platform usage
 - Benefits of *Biscate* accrue to women with manual qualifications \implies task-based digital platforms may help serve specific market niches with high search frictions
 - BUT negative effects of *Emprego* for same group also suggests platforms can reproduce gender barriers
 - Risk that platforms can displace other (offline?) search efforts