

# Updating great expectations: the effect of peer salary information on own-earnings forecasts

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# Motivation

- Bulk of theory assumes prospective workers are well-informed and cognitively-unbiased
- Although existing evidence points otherwise, there is little research on *how* workers respond to new information
- Main question: **how do graduate job seekers in Mozambique respond to information about earnings?**
- Secondary question: **does the type of information matter?**
- Focus on changes in expectations as 1st order response

## Model of updating beliefs

Assume change in beliefs in period  $t + 1$  partially reflect (new) public information about earnings ( $x$ ):

$$w_{it+1} - w_{it} = \beta(x_{t+1} - w_{it}) + \nu_{it+1}$$

... which implies an “update towards signal” model:

$$w_{it+1} = w_{it} + \beta(x_{t+1} - w_{it}) + \nu_{it+1}$$

Extend to allow for unobserved private information ( $z$ ):

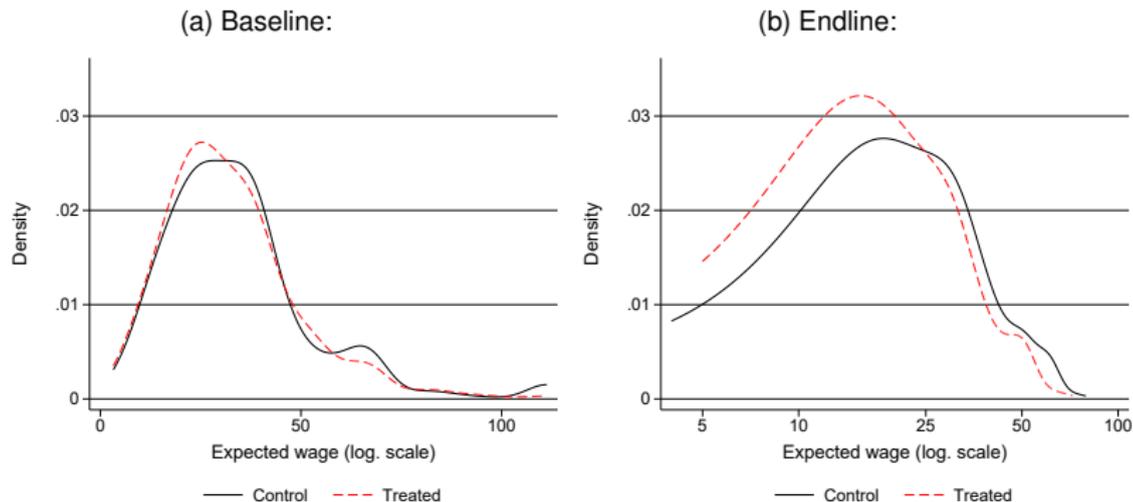
$$\Delta w_{it+1} = \beta(x_{it+1} - w_{it}) + \delta(\hat{z}_{it+1} - w_{it}) + \mu + \lambda_{t+1} + \xi_{it+1}$$

# Data and experiment

- Information experiment embedded in a longitudinal tracking survey in Mozambique
- Representative sample of 2100 final-year university students, followed over 18 months 2018-2019
- Randomized to 5 experimental arms with 3 SMS types:
  - 1 *General message*: mean wage of entire sample
  - 2 *University-specific message*: mean wage of sub-sample that attended the same university
  - 3 *Field-specific message*: mean wage of sub-sample in the same study field

Survey results at Dec.1st: of all graduates in Mozambique (class of 2017), 59% are working and their average wage = 14,000 Mts / mes.

# Result I: Expected wages, highly optimistic



Note: panels (a) and (b) plot empirical distributions of earnings expectations between treatment and control groups at baseline and endline (round 5), respectively.

## Result II: Difference-in-differences (ATT)

	(Ia)	(Ib)	(Va)	(Vb)
Treated	-0.14*** (0.04)		-0.15*** (0.04)	
Gen. treatment		-0.11** (0.05)		-0.10* (0.05)
Uni. treatment		-0.10** (0.05)		-0.17*** (0.05)
Field treatment		-0.17*** (0.04)		-0.16*** (0.05)
Working			-0.13* (0.08)	-0.14* (0.08)
Experience			0.09** (0.04)	0.09** (0.04)
Full-time expect.			0.14** (0.06)	0.14** (0.06)
Spillover			0.05 (0.04)	0.06 (0.04)
SMS employ. rate			-0.00 (0.00)	-0.00 (0.00)
Elapsed time			0.02 (0.05)	0.02 (0.05)
Obs.	3,591	3,591	3,324	3,324
R2 (adj.)	0.06	0.06	0.46	0.46
RMSE	0.56	0.56	0.42	0.42
Controls & indiv. FEs	No	No	Yes	Yes

## Result III: Dynamic analysis

	(Ia)	(Ib)	(Ic)	(IIIa)	(IIIb)	(IIIc)
Prior belief	0.56*** (0.01)	0.61*** (0.02)	0.61*** (0.02)			
Treated	-0.07** (0.03)			-0.04* (0.02)		
SMS wage news		0.07*** (0.02)			0.05*** (0.02)	
Gen. SMS wage news			0.06** (0.02)			0.04** (0.02)
Uni. SMS wage news			0.06** (0.02)			0.04* (0.02)
Field SMS wage news			0.08*** (0.03)			0.08*** (0.03)
Private news (estd.)				0.43*** (0.01)	0.39*** (0.02)	0.39*** (0.02)
Constant	4.07*** (0.17)	3.56*** (0.23)	3.56*** (0.23)	0.01 (0.03)	0.01 (0.03)	0.01 (0.03)
Obs.	9,053	9,053	9,053	9,053	9,053	9,053
AIC	9,760	9,751	9,754	9,756	9,733	9,739
R2 (adj.)	0.435	0.436	0.436	0.269	0.270	0.270
RMSE	0.414	0.414	0.414	0.414	0.414	0.414
Gen. = Field = Uni. Jointly zero			0.759 0.018			0.275 0.045

# Conclusions

- Systematically incorrect (optimistic) wage expectations found in many settings, including Mozambique
- Our results show receiving SMS information about peer earnings caused moderate revisions in beliefs:
  - overall decline in the expected wage  $\sim 15\%$
  - long-term response elasticity  $\sim 16\%$
  - field-specific message largest and most robust responses
- Evidence of complex updating heuristics, including asymmetric responses (see the paper)
- Recommend institutionalizing public access to detailed wage information, by occupation and education
- BUT information not a general panacea for persistent unrealistic optimism