

Entrepreneurship training and self-employment among university graduates: **Evidence from a randomized trial in Tunisia**



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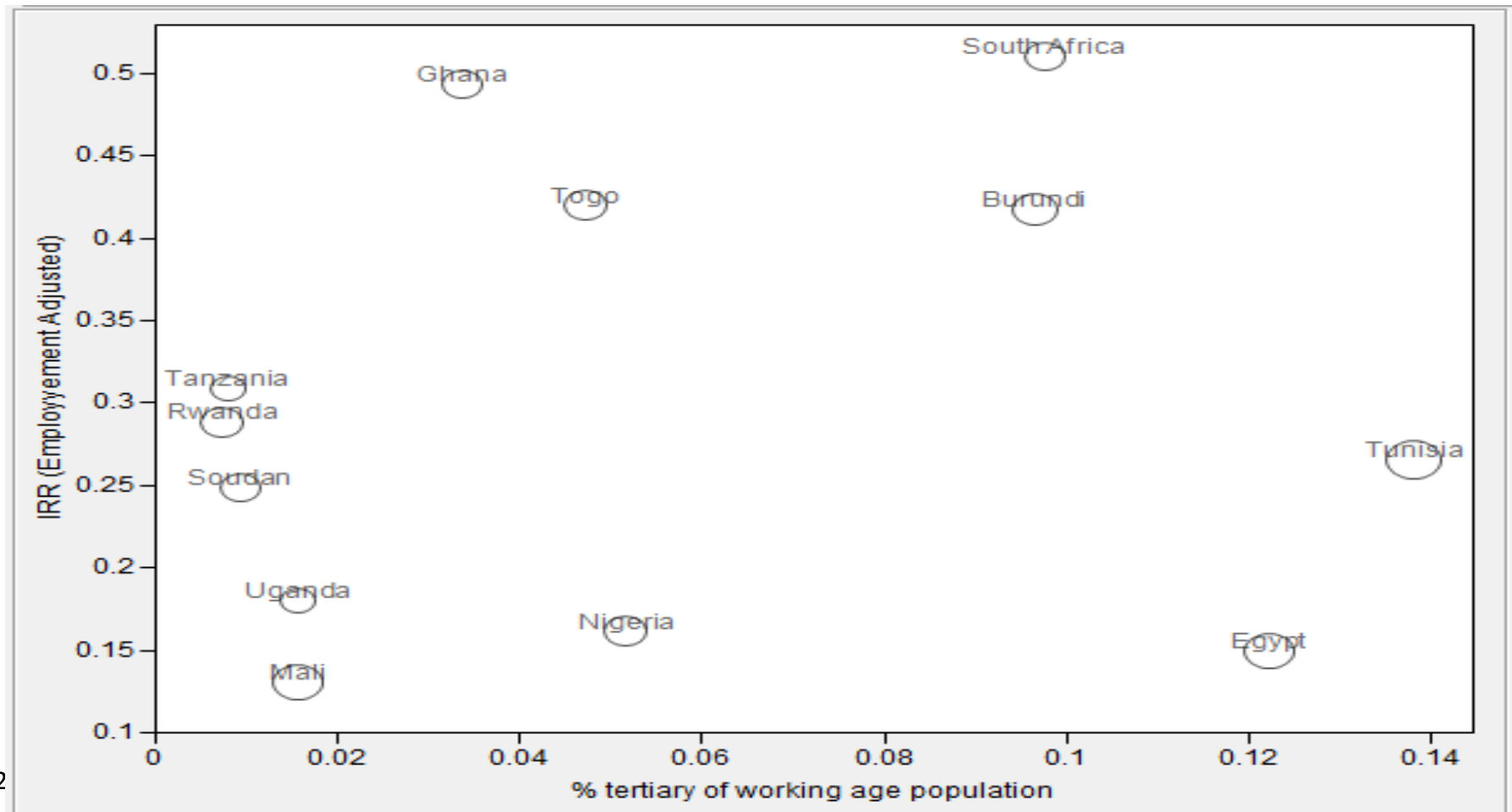


Doha Evidence Symposium : “What Works” To
Improve Youth Labour Productivity?
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High Youth Unemployment



- Low return to higher education in Tunisia

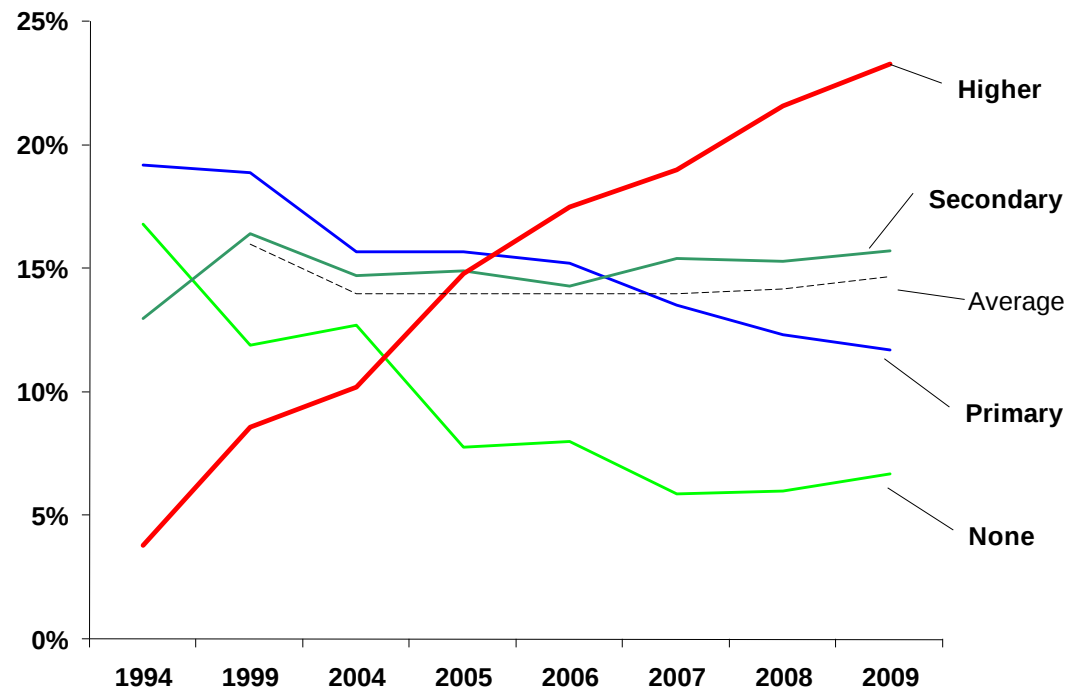


High Youth Unemployment



- 23% among all higher education graduates (in 2009)
- And ... hits particularly young women
- Is particularly rampant for recent graduates (reaching 46% 18 months after graduation)
- Catalyst of the Tunisian Revolution.

Unemployment rates by Education Levels



Source: INS, 2009

High Youth Unemployment



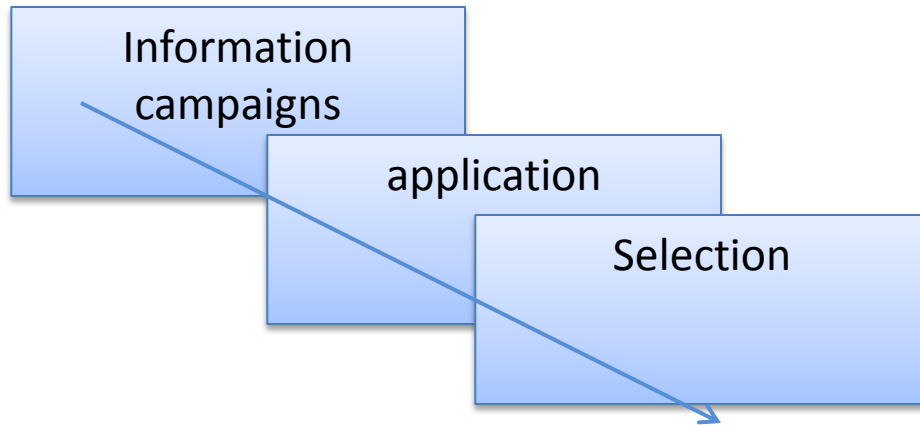
- Constraints hindering graduates' labor-market insertion relate with labor demand *and* labor supply:
 - Lack of relevant skills. Graduate curricula and education often criticized for not addressing private sector needs. And lack of relevant job experience.
 - Queuing for public sector and high wage formal jobs.
- Challenge: Design and evaluate an intervention that fosters entrepreneurship among cohort of young graduates, by promoting their interest in setting up their own business and eventually creating more jobs.

Intervention: The “entrepreneurship track”



- National reform during 09-10 academic year (inter-ministerial committee: Min of Vocational Training & Employment; Higher Education; Industry)
- Entrepreneurship track for third year university students in “applied programs” (it’s about 18000 students)
 - Business plan replace the internship or the traditional academic thesis (last 4 - 6 months)
 - Can applied individually or in pairs
 - Possibility to participate to a competition and receive seed capital

Implementation of the intervention



Implementation of the intervention



1920 Applicants
(1702 eligible students,
1506 projects)

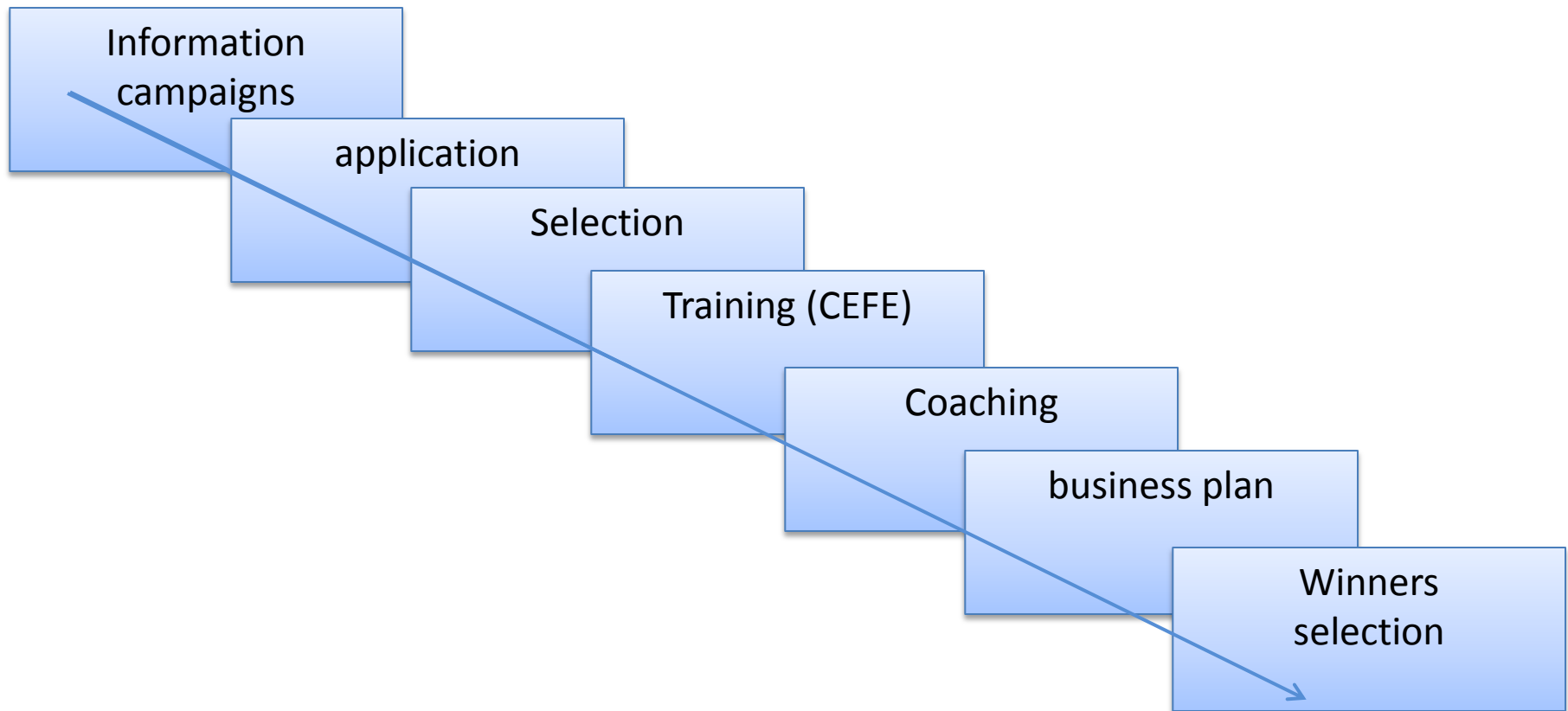
Block
Randomization

Treatment Group
(856 students,
757 projects)

Control Group
(846 students,
749 projects)

- No resources to reach all interested students
- Given over-subscription of interested students, randomized selection of 750 projects to participate in the pilot.
- Randomization conducted at project level
 - stratified by gender and subject (15 groups of licences)

Implementation of the intervention



Data



- Baseline Application Survey (online and paper, December 2009)
- Baseline Entrepreneurship Survey (phone, January – February 2010)
 - Capture broader range of characteristics, particularly on personal traits, preferences, attitudes towards entrepreneurship,...
 - 90% re-contact rate
- Qualitative work (October - November 2010)
 - To finalize content of follow-up survey instrument and provide feedback on program implementation
- Follow-up survey (face-to-face; April-June 2011)
 - 93% re-contact rate (uncorrelated with treatments status)
 - 1-year after graduation
 - First labor-market survey after the revolution.

Results: Labor-Market Outcomes

Labor-market Outcomes: Self-Employment



	Mean	Mean	ITT	SE	TOT	SE
	C	T				
Self-employed (last 12 months)	0.05	0.09	0.04***	0.01	0.07***	0.02
Self-employed, including seasonal (last 7 days)	0.04	0.08	0.03**	0.01	0.05**	0.02
Self-employed, excluding seasonal (last 7 days)	0.03	0.04	0.01*	0.01	0.02*	0.01
Note: n = 1580.						

- The intervention led to an increase in self-employment
- Small absolute effects
- Effect sizes ranging between 48%-81% for ITT

Labor-market Outcomes: Employment



	Mean C	Mean T	ITT	SE	TOT	SE
Employed (last 7 days)	0,28	0,29	-0,00	0,02	-0,00	0,04
Self-employed (last 7 days)	0,04	0,08	0.03**	0,01	0.05**	0,02
Salaried worker (last 7 days)	0,21	0,18	-0,03	0,02	-0,05	0,03
Unemployed (last 7 days)	0,48	0,49	0,01	0,03	0,01	0,05
Studying (last 7 days)	0,19	0,18	-0,00	0,02	-0,01	0,03
Inactive (last 7 days)	0,03	0,03	0,01	0,01	0,01	0,01

- No evidence that the program significantly affected overall employment
- Suggests substitution between employment and self-employment (as in Fairlie et al. (2012) in the US)

Labor-market Outcomes: Quality of Employment



	Mean	Mean	ITT	SE	TOT	SE
	C	T				
Monthly labor earnings	74.79	88.97	17.51	33.86	29.80	56.38
Reservation wage (private sector)	473.50	491.20	17.13*	8.73	28.85**	14.68
Reservation wage (public sector)	487.86	491.45	4.15	7.30	6.99	12.00
Has contract	0.12	0.10	-0.02	0.02	-0.03	0.03
Covered by Social Security	0.05	0.06	0.01	0.01	0.01	0.02
Work in large firm	0.07	0.07	0.00	0.01	0.00	0.02
Hours worked in last week	8.55	9.35	0.66	0.98	1.12	1.64
N= 1580						

- No evidence of impacts on earnings
- Increase in reservation wage for private sector wage jobs (but not public sector wage jobs)
- No effects on other measures of “quality” of employment

Results: Channels

What is behind these employment results?



Channels	
Business skills	+++
Networks	++
Preferences	
Behavioral skills: Big Five	++
Behavioral skills: Entrepreneurial skills	+
Attitudes towards the future	+++
Access to credit	

Behavioral skills (Big Five Personality traits)



- Measures of Behavioral Skills (10-item Big Five Scale from Gosling, 2003)

	Mean C	Mean T	ITT	SE	TOT	SE
Agreeable	-0.00	-0.23	-0.24***	0.05	-0.40***	0.08
Extraversion	-0.00	0.11	0.10**	0.05	0.18**	0.07
Conscientiousness	-0.00	-0.14	-0.14**	0.05	-0.24***	0.08
Emotionally Stable	0.00	-0.11	-0.11**	0.04	-0.18***	0.07
Openness	0.00	-0.02	-0.03	0.04	-0.05	0.06

N = 1580; controls include behavioral measures from baseline phone survey.

- Suggests the intervention affected a range of behavioral skills (personality traits)
- Agreeableness negatively associated with probability of being a manager or business professional

Access to credit?



- Entrepreneurship track did not directly aim to alleviate credit constraints
- Training involved providing information to students about credit applications, as well as connecting them to bankers

	N	Mean	Mean	ITT	SE	TOT	SE
		C	T				
Knows how to apply for credit	1,580	0.20	0.22	0.02	0.02	0.03	0.03
Expect to be able to obtain credit	1,568	0.30	0.39	0.08**	0.04	0.14**	0.06
Has applied for credit (business idea)	674	0.04	0.08	0.04**	0.02	0.06**	0.02

- Treatment group more confident to be able to obtain credit and more likely to have actually applied for credit (conditional on business idea)
- Many applications remain pending, too few observations to identify impact on access to credit at follow-up

Conclusions



- Business plan reform promoting entrepreneurship attracted attention and interest from Tunisian graduate students, especially females, with very diverse course backgrounds.
- In spite of the implementation challenges, the program reached a reasonable group of students (approx 800) allowing a rigorous evaluation through a small randomized pilot. Data was collected before and after the program started for both beneficiaries and interested applicants not selected.
- Although we only observe short term effects of the program (less than one year after the intervention), the program is associated with higher self employment activity among selected beneficiaries. There is no evidence of the program yielding higher earnings though.

Thank you



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