

Entrepreneurship Training and Self-Employment Among University Graduates:

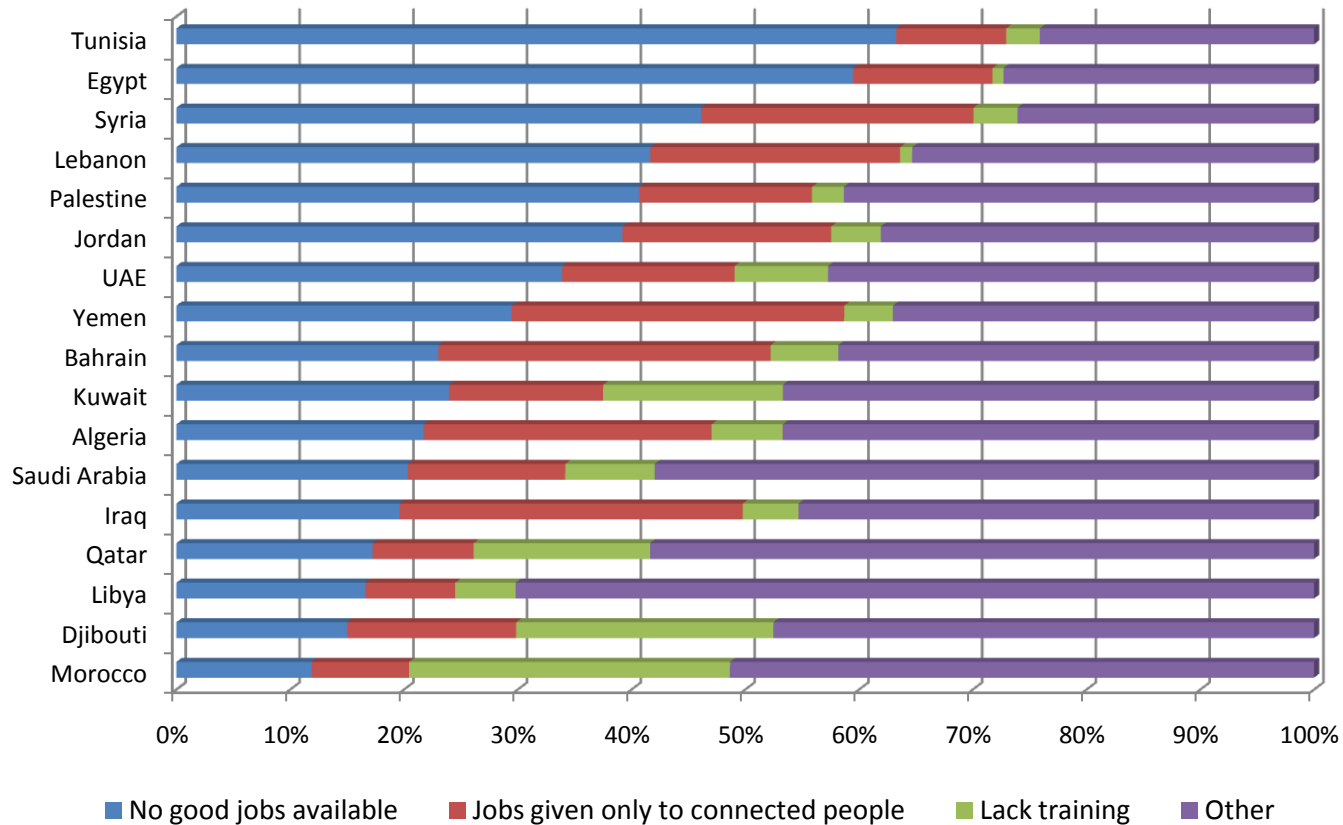
Evidence from a Randomized Trial in Tunisia

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'No Good Jobs Available'

What is the primary obstacle in (country) for youth to get a job or a better job that enables them to start a family?



Source: Gallup opinion poll

Intervention: The “Entrepreneurship Track”

Objective: Increase self-employment among graduates, by improving skills and affecting attitudes towards entrepreneurship

- National reform during 09-10 academic year (inter-ministerial committee: Min of Vocational Training & Employment; Industry; Education & Higher Education)
- Entrepreneurship track for third year university students in “applied programs”
 - Business training
 - Entrepreneurship courses offered by the public employment office
 - Practical research on the ground/ interactive sessions to foster:
(i) behavioral skills; (ii) business skills; and (iii) networking skills
 - Initial business idea: modified after evaluation by bankers and experts
 - Personalized coaching
 - Private sector entrepreneurs or specialized coaches (8 sessions, either individually or in small groups)
 - University professors
 - Supervision in development and finalization of the business plan
 - Graduation and possibility to enter into “business plan thesis competition”

Evaluation Design, Data & Empirical Strategy

Impact Evaluation: Design

- Beginning of the 2009/10 academic year:
 - Students enrolled in the third year of their *licence appliquée* invited to apply
 - 1,702 students applied (out of 18,000), 1506 projects
- Given over-subscription of interested students and limited capacity:
 - Half of the students randomly assigned to entrepreneurship track, other half assigned to standard curriculum
- Stratification by gender and study subject (14 “licences”)
 - 757 projects assigned to treatment group; 742 to control group
- 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,...
- Follow-up survey 1 year after graduation (face-to-face; April-June 2011)
 - 93% re-contact rate (uncorrelated with treatments status)

Intent-to-Treat Estimates (ITT)

Impact of *offering* business training and coaching:

$$Y_i = \beta T_i + \gamma X_i + \pi_{is} + \varepsilon_i$$

With:

Y_i = employment outcomes

T_i = randomized assignment to entrepreneurship track

X_i = baseline controls

π_{is} = strata fixed effects (by gender and subject)

Standard errors clustered by strata

Treatment on the Treated Estimates (TOT)

Impact of actually *completing* entrepreneurship training and coaching:

IV estimation:

(1st Stage)

$$U_i = \beta T_i + \gamma X_i + \pi_{is} + \eta_i$$

With: U = Actual program take-up (from administrative data)

(2nd Stage)

$$Y_i = \phi \hat{U}_i + \xi X_i + \pi_{is} + \varepsilon_i$$

With: \hat{U} = Predicted Program take-up (from (1))

- Actual take-up considered as *completing* training and coaching (59%)
- In practice, take-up among control very low (3.4%)

Results

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. | | | | | | |

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

Labor-market Outcomes: Employment

| | Mean | Mean | ITT | SE | TOT | SE |
|-------------------------------|------|------|--------|------|--------|------|
| | C | T | | | | |
| 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 |
| N=1580 | | | | | | |

- 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: Characteristics 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

Channels: What is Behind these Employment Results?

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

Channels: Behavioral skills (Big Five Personality Traits)

| | Mean | Mean | ITT | SE | TOT | SE |
|--------------------|------|-------|----------|------|----------|------|
| | C | T | | | | |
| 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 |

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

- Suggests the intervention affected a range of behavioral skills (personality traits)
- Consistent with Cobb-Clark and Tan (2010): agreeableness negatively associated with probability of being a manager or business professional
- Trade-off in soft-skills for wage employment and self-employment?

Channels: Attitudes Towards the Future

- Subjective measures of optimism and attitudes towards the future (inspired by de Mel et al. (2010) and positive items from a depression scale)

| | Mean | Mean | ITT | SE | TOT | SE |
|--|------|------|---------|------|---------|------|
| | C | T | | | | |
| Optimism (normalized) | 0.00 | 0.12 | 0.13*** | 0.04 | 0.21*** | 0.07 |
| # days during which subject felt moving forward (last week) | 3.79 | 4.09 | 0.28** | 0.11 | 0.47*** | 0.17 |
| # days during which subject thought about how to move forward (last week) | 5.62 | 5.87 | 0.23** | 0.11 | 0.39** | 0.19 |
| Higher faith in future now than last year | 0.52 | 0.57 | 0.04* | 0.02 | 0.08* | 0.04 |
| Note: N=1578 | | | | | | |

- Suggests beneficiaries have higher optimism and more positive attitudes towards the future

Conclusions

Conclusions

- **Diagnostics:** Insufficient labor demand / high youth UE among graduates
- **Impact:** Entrepreneurship track led to higher self-employment
 - Employment rate among beneficiaries remained unchanged
 - Affected a range of behavioral skills
 - Confirms (at least some) non-cognitive skills are malleable
 - Potential trade-offs between skills for self-employment and wage employment?
- **Scalability:**
 - Scaled up and expanded to engineering and masters program
 - Despite large effect size, not a mass effective channel given low base
- **Way forward:**
 - What are the additional constraints faced by graduates? How did the firms created develop? What are the constraints to entrepreneurship?
 - Qualitative survey (March 2013) and quantitative follow up among pilot participants (May-June 2013, 3 years after graduation) to understand long term impact of intervention

Thank you!