Extra-curricular internships and sorting by socioeconomic status

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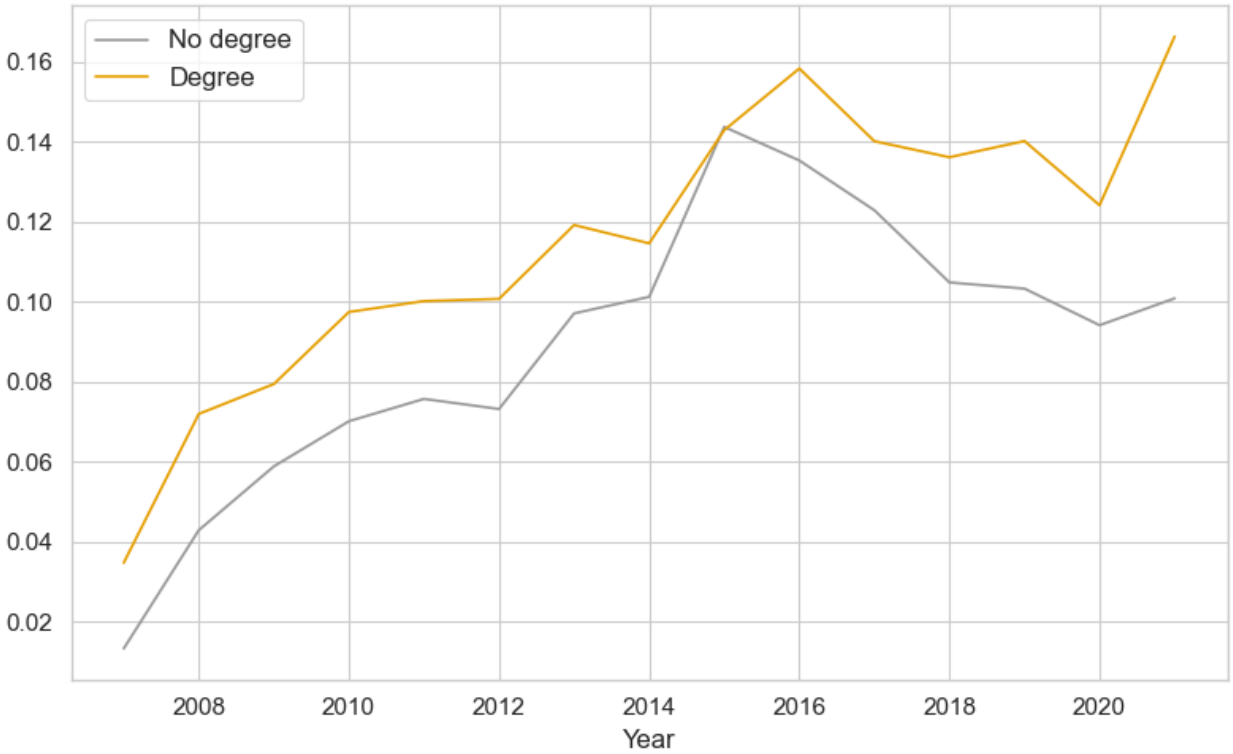
Extra-curricular internships as fraction of first contracts



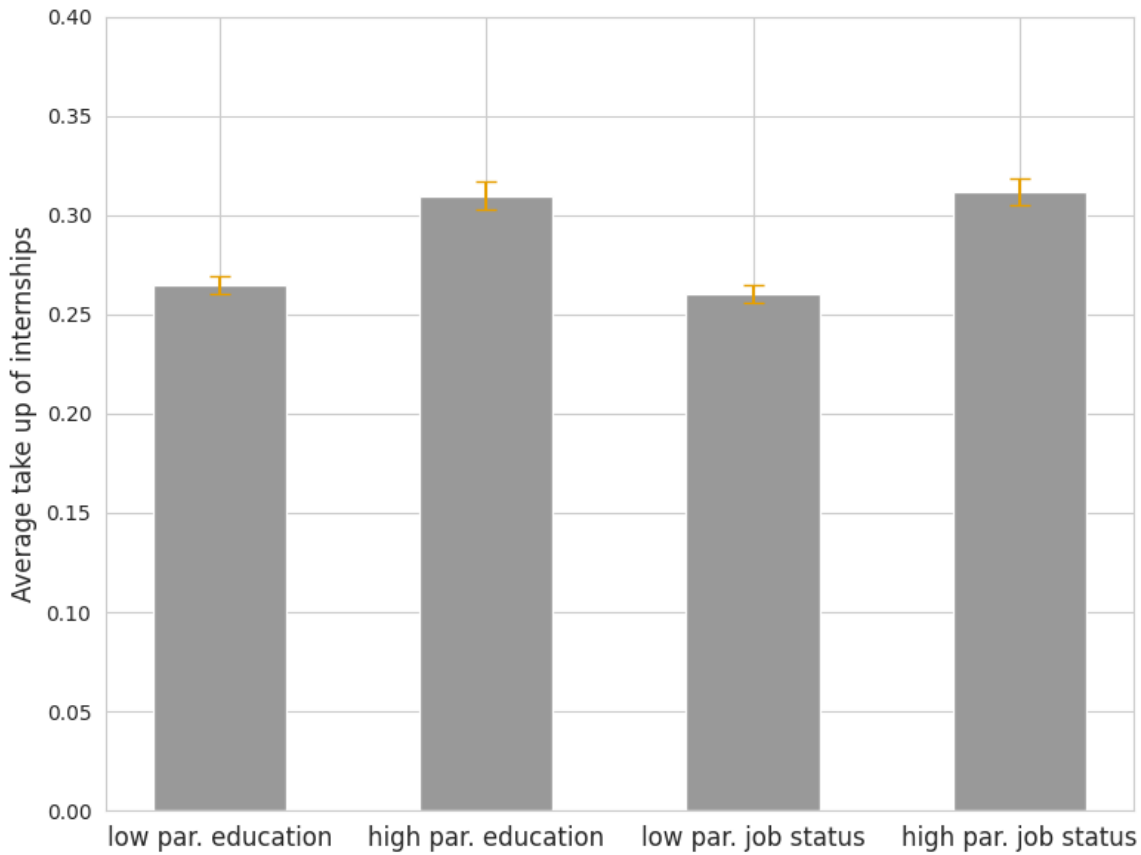
Note: Internships out of all first contracts, *Comunicazioni Obbligatorie*, 2007 to 2021

Internships in the EU

The role of internships in the labor market

- Form of on-the-job training, complementing the general knowledge provided by the education system
  - Very low or no compensation as an efficient way to provide sector-specific or general practical training (Becker, 1962; Garicano and Rayo, 2017) Regulation
- Signalling mechanism for young workers (and screening mechanism for firms)
  - If positive signal, internships may become an *expensive prerequisite* to access the most prestigious positions (Curiale, 2010; Bennett, 2011; Leonard et al., 2016)

Sorting according to the socioeconomic status of the family of origin



Data description | Effects on labor market outcomes

Research question

- What are the channels driving the different take-up of internships across socio-economic backgrounds?
  - → Focusing on the supply side, what aspects are most considered in the choice?
  - → Are liquidity constraints or heterogeneous beliefs on returns the main driver of the socioeconomic difference in internships take-up?

My contribution

Socio-economic background and education-related choices

(Manski, 1992; Stinebrickner and Stinebrickner, 2008; Rothstein and Rouse, 2011; Lochner and Monge-Naranjo, 2012; Boneva et al., 2021a,b; Hotz et al., 2021):

- I focus on young workers' access to the labor market

Elicitation of probabilistic choices in hypothetical scenarios

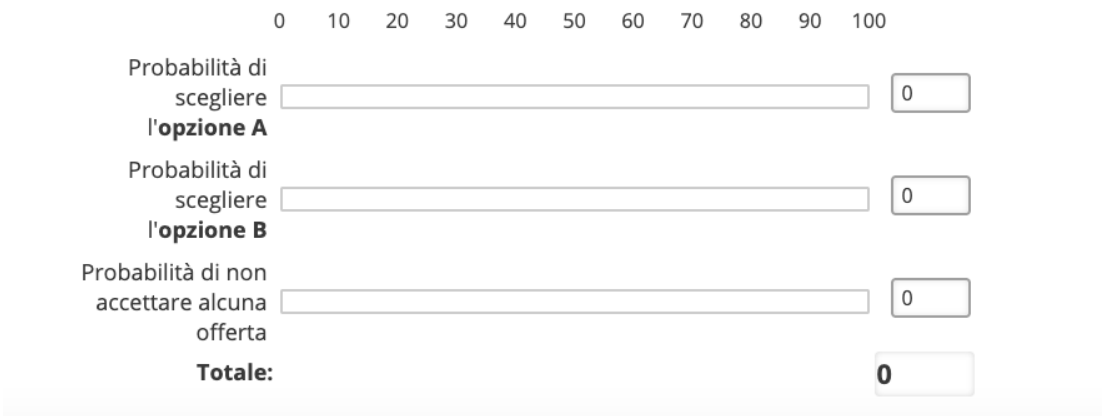
(Manski, 2004; Giustinelli, 2016; Wiswall and Zafar, 2015; Maestas et al., 2017; Mas and Pallais, 2017; Wiswall and Zafar, 2018; Arcidiacono et al., 2020):

- I formulate and estimate a model of choice between labor market options
- I implement a survey experiment of contract choice in hypothetical but realistic scenarios among university students
- I combine immediate contract features with beliefs on long-term outcomes

Model and survey structure

An example of option choice

	A	B
Tipo di contratto	Stage a fini di assunzione	Contratto di lavoro di 12 mesi
Tipo di azienda	Multinazionale o leader nel settore	Medio-piccola
Compenso mensile netto	540	1550



Individual choice model

The value of each option V_j depends on

- Immediate outcomes:
  - Wage, compensation or monetary value of unemployment
  - Residual individual taste for the option type (contract and firm)
- Beliefs on future outcomes conditional on the initial choice:
  - Wage
  - Probability of permanent employment

Utility from choosing contract j

Utility of accepting an offer of type j, with compensation w:

$$V_j(w) = \frac{1-\beta_g^{\tau_j}}{1-\beta_g}\left[\frac{w_{oj}^{1-\rho_g}}{1-\rho_g} + \gamma_{ij}\right] + EV_{ij}$$

- β_g: time discount factor
- τ_j: duration of contract j
- ρ_g: risk aversion parameter
- w_j: wage of contract j
- γ_{ij}: individual taste for the option type
- EV_{ij}: belief on future utility conditional on choosing contract j today

Contract types | Value of unemployment | Future utility

Estimation

- I elicit from respondents:
  - The probability of choosing each contract, p_{ij}:

$$ln\left(\frac{p_{ij}}{p_{ij'}}\right) = V_{ij} - V_{ij'}$$

  - Individual conditional beliefs about expected wage and probability of permanent employment Survey question
- I estimate:
  - The group-specific preference parameters η_g, β_g and ρ_g
  - The individual-level monetary value of unemployment
  - The residual individual-level taste for each contract type

Information treatment

- Potential endogeneity: expectations conditional on current contract type might be correlated with unobservable preferences for different contract types
- Information treatment based on administrative (INPS) data to create an exogenous variation in beliefs

Survey screen | Relative belief improvement

Survey structure

- 500 Bocconi University students, recruited through the Bocconi Experimental Laboratory for Social Sciences (BELSS). Sample characteristics
- 4 main sections:
  1. General demographic information and detailed questions on socioeconomic background
  2. Elicitation of conditional beliefs on future labor market outcomes Survey question
  3. Choice experiment: eight hypothetical scenarios of contract choice Scenarios
  4. Information treatment (or blank screen for control subjects) and repetition of sections 2 and 3 Survey screen

Results and discussion

Main results

1. No difference between groups in the overall take-up of internships Go to table
   - But low-SES students from master's programs are more likely to choose internships with hiring purposes in big firms
2. Beliefs on future outcomes are similar across groups Go to table
   - For both groups internships for hiring in big firms are associated with higher outcomes than job contracts in small firms

3. Predictors of individual contract choices from OLS regression: Go to regression table
   - Contract wage, firm size and future job stability are the main predictors of choice for both groups
   - But long-term employment stability matters the most for high SES students
4. Model parameters estimation:
   - Low SES respondents assign lower weight to employment stability Parameter estimates
   - Their monetary benefit from unemployment is significantly lower Unemployment benefit

Conclusion

- Students from different socioeconomic backgrounds do not qualitatively differ in their beliefs about future conditional outcomes
- However, they differ in their structure of preferences
  - $\Rightarrow$ Confirmed presence of liquidity constraints channel
  - $\Rightarrow$ Low SES students seem to be less interested in employment stability

Discussion

- Bocconi students are positively selected in terms of ability (as measured by High school type and grades) and parental wealth
  - $\Rightarrow$ Some of the results might be driven by relatively low-SES individuals being positively selected in terms of (unobservable) ability and/or ambition (given they face a larger relative investment)
  - $\Rightarrow$ Extension of the survey to students from different Italian universities

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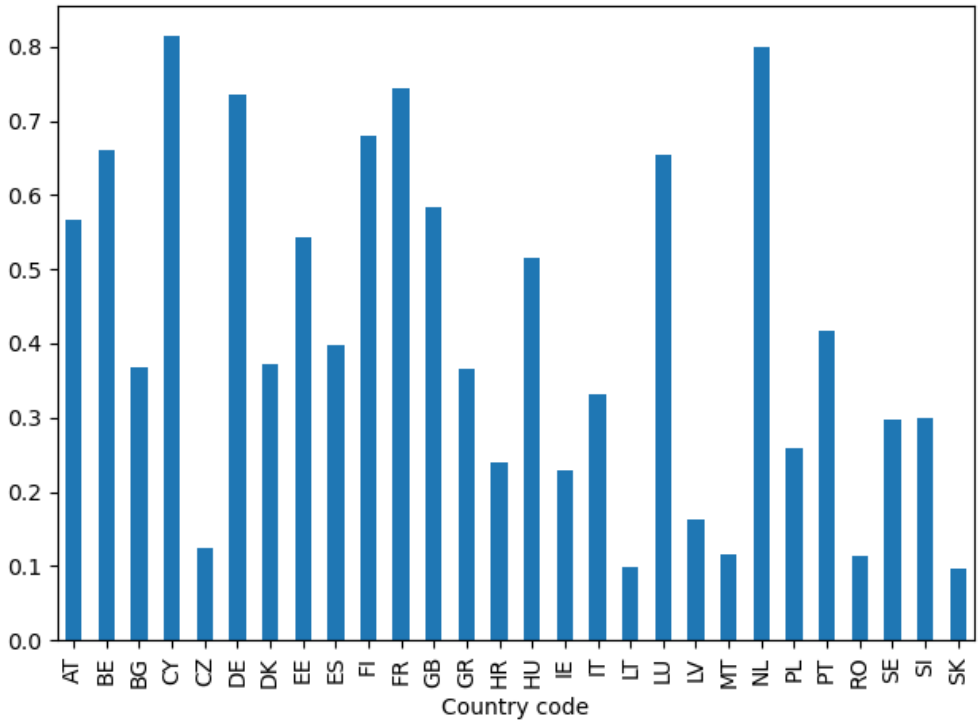
Go back

The prevalence of internships in EU countries



Fraction of EU residents aged 18-35 reporting to have concluded an internship, Eurobarometer 2013

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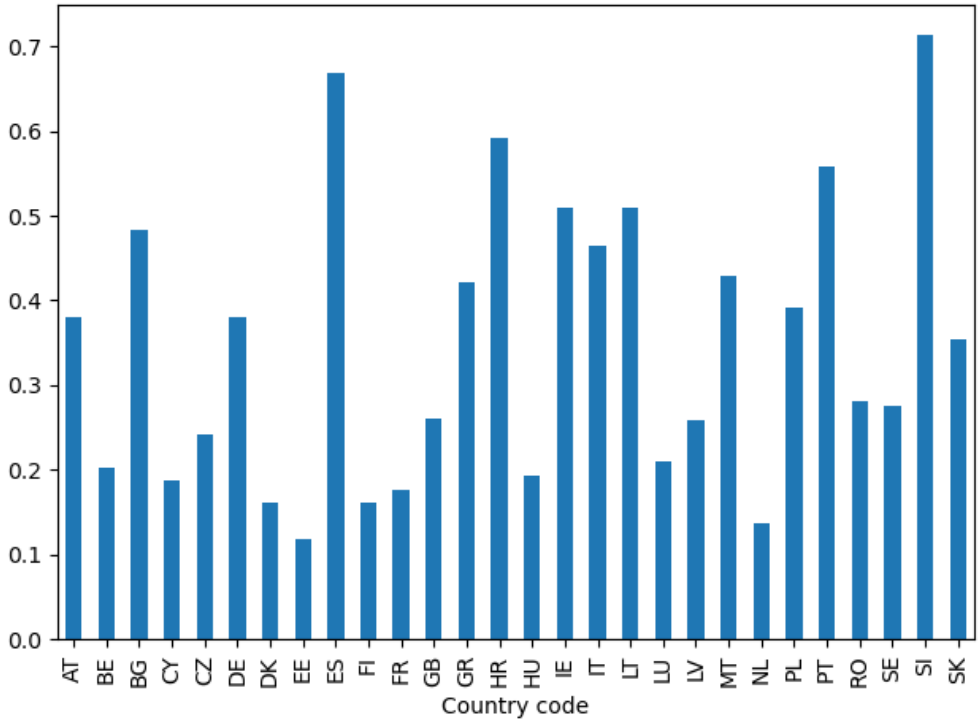
The prevalence of extra-curricular internships in EU countries



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Regulatory framework in the Italian setting

1997	Treu Law: internship contract defined as a period of training not equivalent to a job relationship
2007	Distinction between curricular and extra-curricular internships
2013	Introduction of a minimum compensation (€300/month)
2017	Homogenization of the maximum duration of internships to the EU standard of 12 months (with some exceptions)
2017-2019	Regional adoption of national guidelines, with some regions raising the minimum compensation above the national level

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Main sources of data

- INPS, Comunicazioni Obbligatorie from 2007 to 2021
  - ⇒ Dataset reporting the universe of activations and terminations of contracts subject to compulsory communication
- ISTAT, Survey on graduates' integration into employment (Indagine sull'inserimento professionale dei laureati), 2015
  - ⇒ Detailed individual-level information on family background, university path and labor market outcomes 3 years after graduation (including internship experiences)

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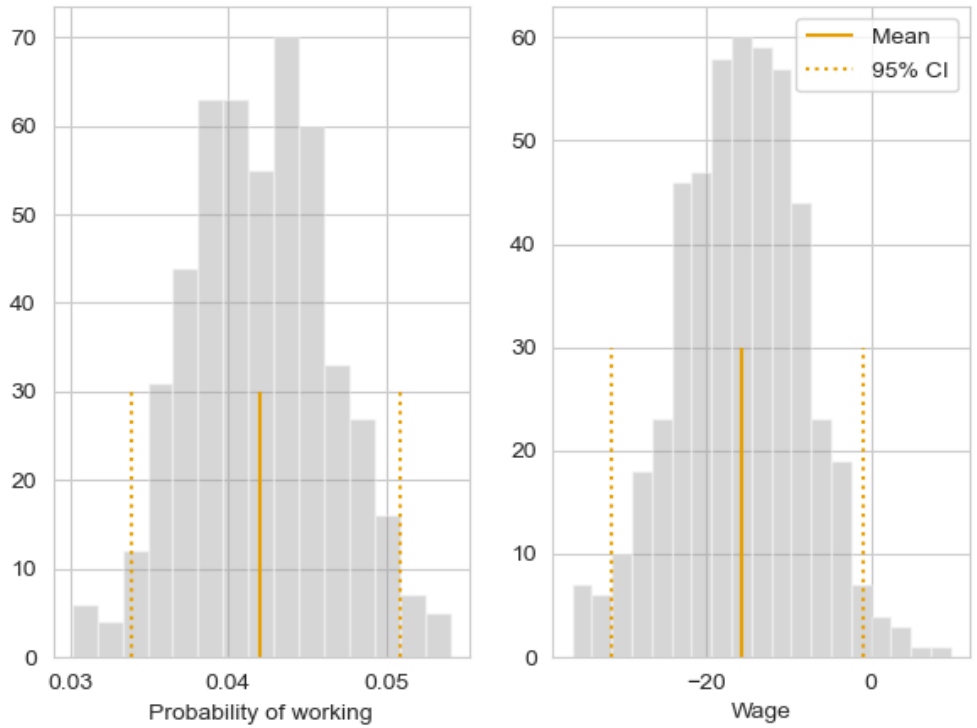
Propensity Score Matching results: wage and fraction working



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Future utility from contract j

$$EV_{ij} = \sum_{t=\tau_j}^{\infty} \beta_g^t \left[\frac{w_{tij}^{1-\rho_g}}{1-\rho_g} + \eta_g Pr_i(l_t = 1|j) \right],$$

- w_{tij}: wage in period t conditional on choosing contract j today
- η_g: weight of the non-monetary component

Back to model

- $Pr_i(l_\tau = 1|j)$: probability of having an open-term contract in τ, the stability-related non monetary component considered in the analysis

Value of unemployment

Utility of being unemployed (i.e. of not accepting any offer), V_{iU}:

$$V_{iU} = \frac{1-\beta_g^{\tau_U}}{1-\beta_g}\left[\frac{b_i^{1-\rho_g}}{1-\rho_g} + \gamma_{iU}\right] + EV_{iU_{\tau_U}}$$

- b_i: monetary benefit of unemployment (unemployment benefit or parental support)
- τ_U: duration of unemployment (time until next contract)

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Contract types

Type	Purpose	Firm size	Type code
Internship	Not specified	Medium-small	InS
		Multinational firm	InB
	For hiring purposes	Medium-small	IhS
		Multinational firm	IhB
Fixed-term job	-	Medium-small	FS
		Multinational firm	FB
Unemployment			U

Back to model | Back to mapping | Back to beliefs elicitation | Firm size and internships

Choice scenarios

Contract A	Contract B	Size A	Size B	Wage range A	Wage range B	γ_A	γ_B
Internship, No hiring purposes	Internship, Hiring purposes	Multinational	Small-medium	€450-1000	€450-1000	γ_{IBN}	γ_{ISH}
Fixed term	Internship, Hiring purposes	Small-medium	Multinational	€1000-1900	€450-1000	γ_{FS}	γ_{IBH}
Internship, Hiring purposes	Fixed term	Multinational	Small-medium	€450-1000	€1000-1800	γ_{IBH}	γ_{FS}
Fixed term	Internship, No hiring purposes	Small-medium	Multinational	€1000-1900	€450-1000	γ_{FS}	γ_{IBN}
Internship, No hiring purposes	Fixed term	Multinational	Small-medium	€450-1000	€1000-1900	γ_{IBN}	γ_{FS}
Fixed term	Fixed term	Small-medium	Multinational	€1000-1900	€1100-2000	γ_{FS}	γ_{FB}
Internship, No hiring purposes	Fixed term	Small-medium	Small-medium	€450-1000	€1100-2000	γ_{INS}	γ_{FS}
Internship, No hiring purposes	Fixed term	Multinational	Multinational	€450-1000	€1100-2000	γ_{INB}	γ_{FB}

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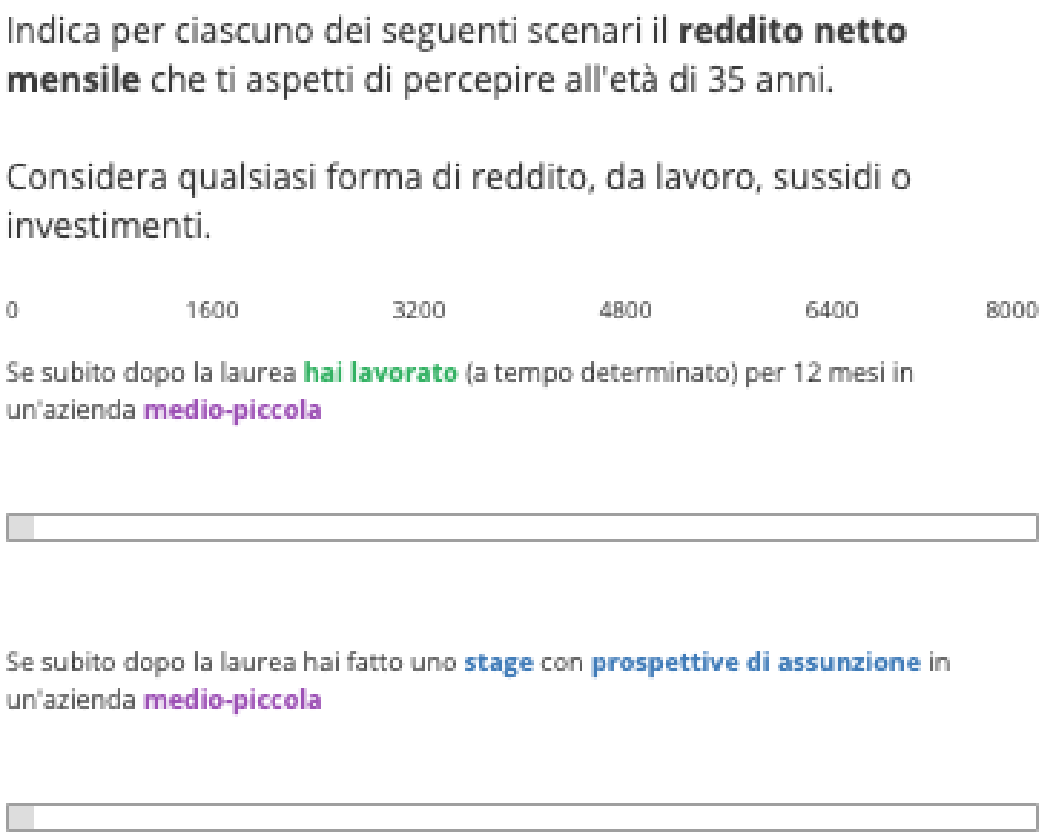
Example of survey question on beliefs elicitation



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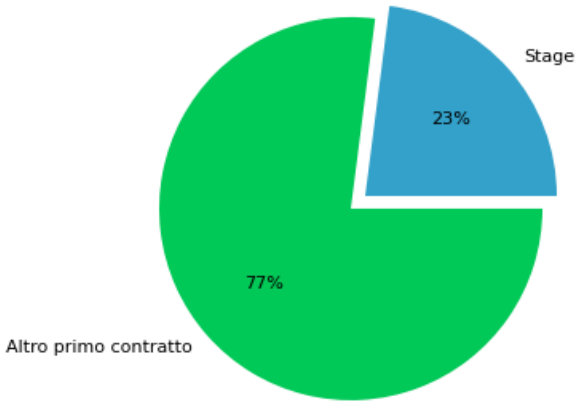
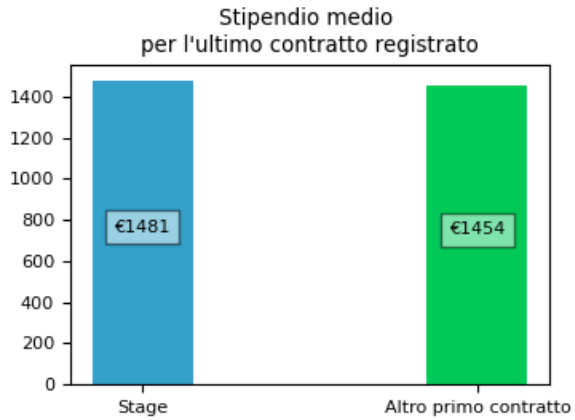
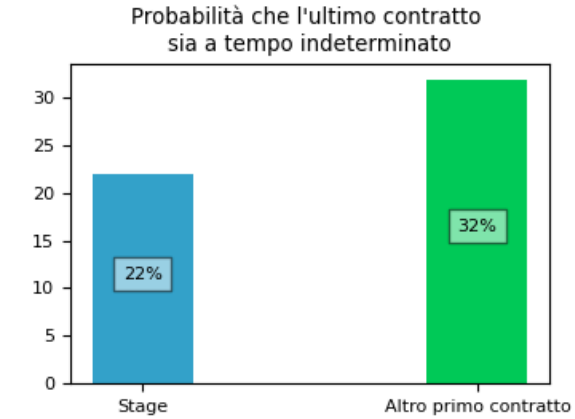
Information treatment screen







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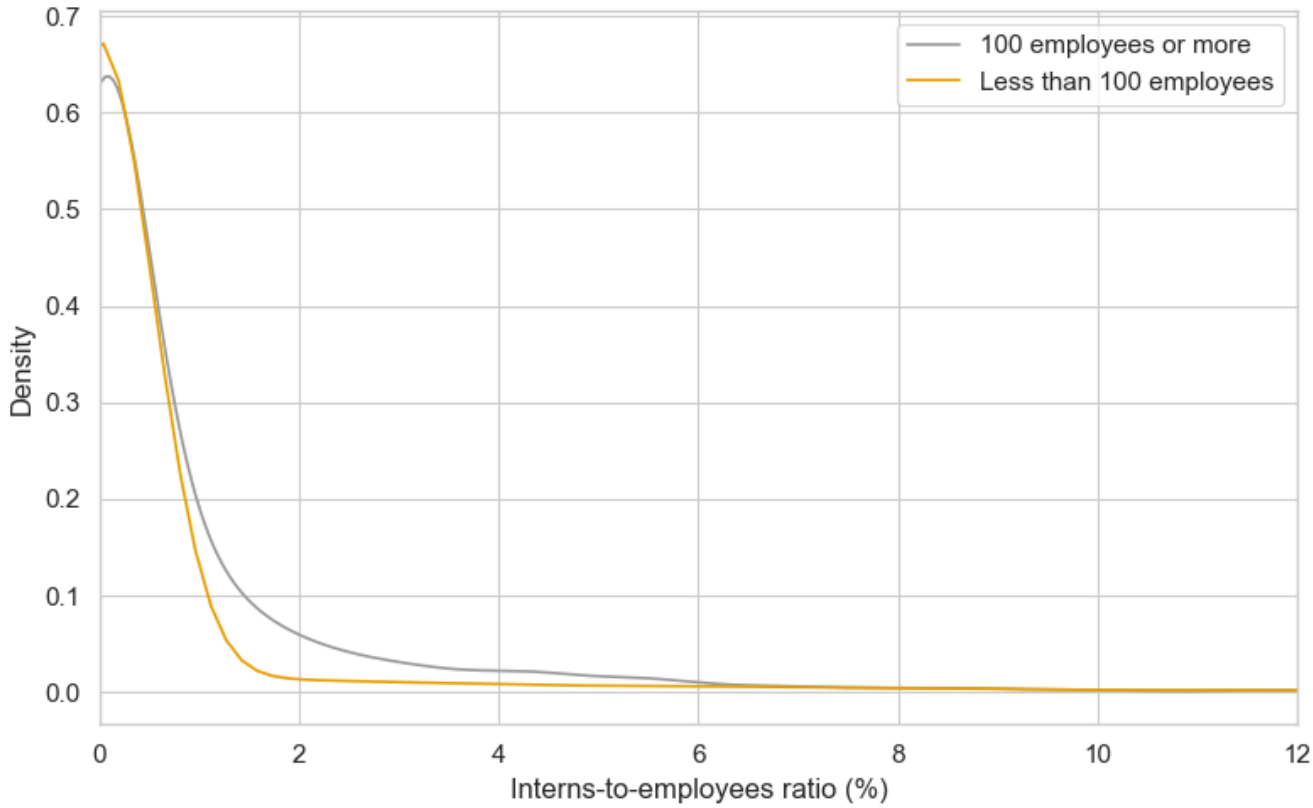
Interns-to-employees ratio by firm size



Back to beliefs Back to contract types L (Longitudinal Survey on Firms and Labor) data for year 2018

Descriptive statistics for the sample and comparison with Almalaurea 2021

	Bocconi sample	Almalaurea: Economics
Female	0.50	0.51
High school final grade (out of 100)	93.3	80.5
High school type (%)		
Scientific	0.62	0.37
Classic	0.19	0.08
Technical	0.09	0.36
Vocational	0.00	0.02
At least one parent with university degree	0.68	0.29
Both parents with university degree	0.60	0.11

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Future outcomes wrt benchmark of job contract in small firm

	Family income below €4000	Family income above €4000	Difference (p value)
Internship in big firm			
Permanent contract at age 35	0.97 (0.15)	0.96 (0.16)	0.55
Wage at age 35	1.04 (0.15)	1.03 (0.14)	0.37
Permanent contract, short term	0.95 (0.43)	1.00 (0.45)	0.25
Wage, short term	0.95 (0.23)	0.95 (0.21)	0.98
Internship for hiring purposes			
Permanent contract at age 35	1.00 (0.13)	0.99 (0.13)	0.54
Wage at age 35	1.02 (0.13)	1.01 (0.12)	0.17
Permanent contract, short term	1.10 (0.44)	1.09 (0.41)	0.87
Wage, short term	0.93 (0.19)	0.93 (0.17)	0.88
Internship for hiring purposes in big firm			
Permanent contract at age 35	1.02 (0.15)	1.02 (0.15)	0.91
Wage at age 35	1.09 (0.17)	1.07 (0.16)	0.40
Permanent contract, short term	1.17 (0.61)	1.20 (0.57)	0.64
Wage, short term	1.01 (0.24)	1.01 (0.21)	0.74

Firm size and contract types Back

Relative belief improvement by treatment status

- Relative improvement is defined as:

$$RI = \frac{|(y^{PRE} - y^{INFO})| - |(y^{POST} - y^{INFO})|}{y^{INFO}}.$$

- There is a significantly larger improvement for treated individuals for all outcomes, except for short-term probability of obtaining a permanent contract.

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	Control group	Treated group	Difference (p value)
Probability of doing an internship	0.038 (0.70)	0.010 (0.68)	0.20
Permanent contract, short term, job	-0.128 (0.51)	-0.122 (0.59)	0.75
Permanent contract, short term, internship	-0.228 (0.71)	-0.196 (0.68)	0.15
Wage, short term, job	-0.050 (0.35)	-0.024 (0.35)	**0.02**
Wage, short term, internship	-0.039 (0.35)	0.001 (0.30)	**0.00**
Permanent contract at age 35, job	0.010 (0.34)	0.066 (0.44)	**0.00**
Permanent contract at age 35, internship	0.010 (0.59)	0.068 (0.72)	**0.01**
Wage at age 35, job	0.008 (0.36)	0.077 (0.48)	**0.00**
Wage at age 35, internship	0.014 (0.41)	0.065 (0.44)	**0.00**

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Intended take-up of internships by socioeconomic status and course type

	Family income below €4000	Family income above €4000	Difference (p value)
Undergraduate students			
Internship	34.09 (14.44)	33.43 (14.39)	0.67
Internship in big firm	27.52 (14.19)	27.04 (13.85)	0.76
Internship with hiring purposes	16.93 (6.98)	16.44 (6.81)	0.51
Internship with hiring purposes in big firm	12.28 (6.67)	11.84 (6.34)	0.53
Unemployment	9.08 (15.59)	8.60 (14.53)	0.77
Master's students			
Internship	34.97 (13.64)	34.54 (13.49)	0.85
Internship in big firm	28.71 (13.23)	27.75 (12.58)	0.65
Internship with hiring purposes	18.73 (7.74)	16.07 (6.51)	**0.02**
Internship with hiring purposes in big firm	14.05 (7.32)	11.44 (5.62)	**0.01**
Unemployment	8.84 (14.84)	9.51 (14.90)	0.79

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What matters for choice

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	Probability of option A versus B
Wage	31.95***
	(3.38)
Wage * High SES	-5.74
	(4.16)
Firm size	21.01***
	(1.81)
Firm size * High SES	-1.47
	(2.31)
Short-term wages	0.07***
	(0.00)
Short-term wages * High SES	-0.06***
	(0.01)
Short-term permanent contract	19.67**
	(7.83)
Short-term permanent contract * High SES	3.06
	(10.32)
Long-term wages	-0.01***
	(0.00)
Long-term wages * High SES	0.04***
	(0.01)
Long-term permanent contract	12.39
	(12.60)
Long-term permanent contract * High SES	27.92
	(17.27)
Observations	3880
R^2	0.28

Structural parameter estimates by subsample

	Family income below €4000	Family income above €4000	Difference (p value)
β	0.32 (0.22)	0.30 (0.25)	0.17
η	0.00 (0.00)	3.84 (4.53)	0.00
ρ	5.34 (3.92)	5.46 (4.12)	0.60

Parameter estimates for the time discount factor β, the risk aversion parameter ρ and the weight for the non-pecuniary component η. The estimation is performed using through a non-linear least squares procedure. Bounds are set for the variables, with the lower bound at 10^{-9} and the upper bound at 10. Standard error in parentheses are based on 500 sample bootstraps.

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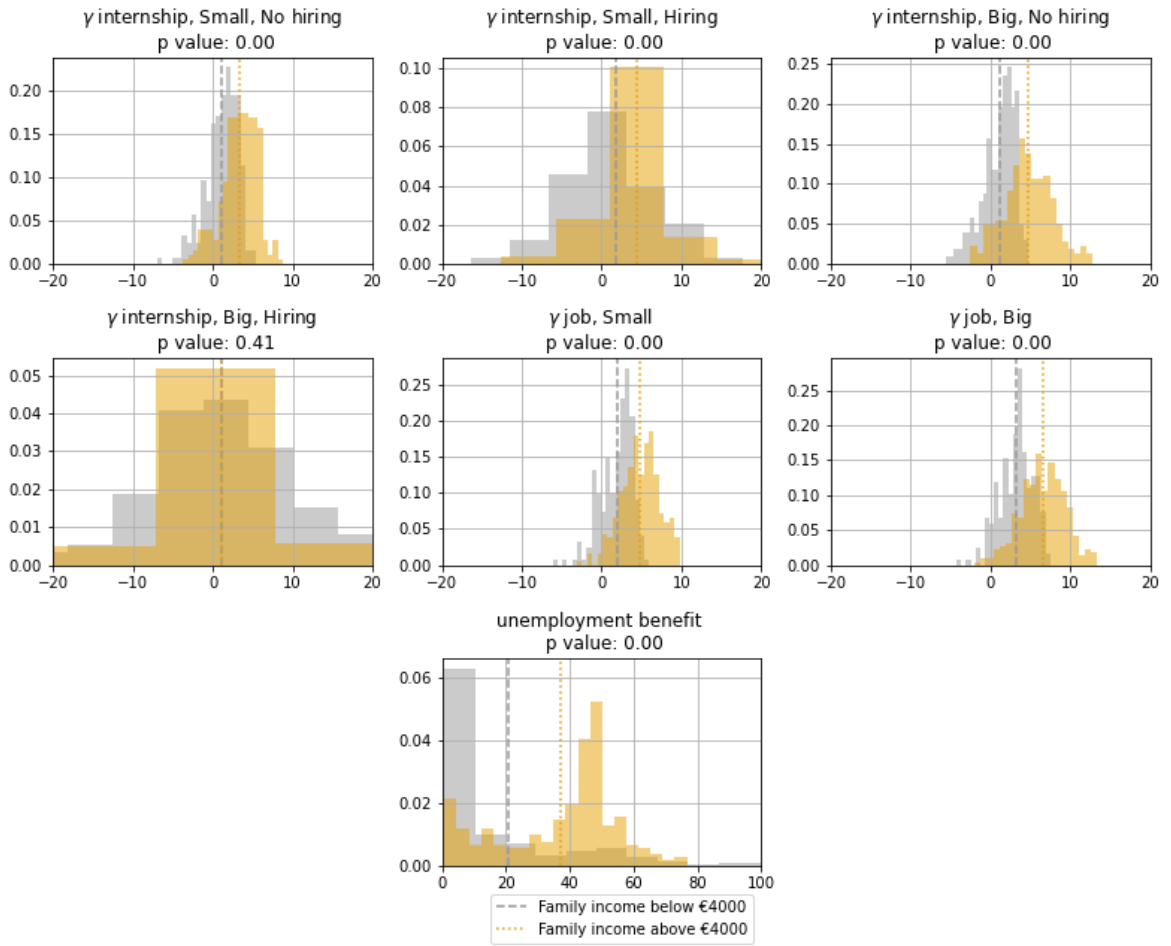
Monetary value of unemployment



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