Randomization as an Incentive Device

Evidence from Public Procurement of Immigrant Integration Services

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Advances with Field Experiments
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Two seemingly separate challenges

- How to help immigrants integrate into the host country's labor market?
  - Immigrants tend to perform poorly in the labor market in most countries
  - Integration programs seem to be effective
  - Challenge: scarcity of plausible research designs
    $\rightarrow$ little known about what works best (and for whom)

- How to design efficient contracts in public procurement?
  - Governments routinely buy many services from private providers (including language training etc. for immigrants)
  - Challenge: difficult to measure the quality of the service
    $\rightarrow$ hard to write contracts creating good incentives for service provides

- This project: Using randomization to make progress in solving both challenges

This paper

- We study a new program ("Integration SIB") to immigrant job seekers
  - job-specific language training and job placements contracted to private provider
  - private provider covers upfront costs of program, compensated based on performance
- Innovation: performance measure based on a randomized research design
  - cumulative unemployment benefits and income taxes over a 3-year follow-up
  - assignment to private provider is randomized
  - performance is measured relative to the control group assigned to PES
- Take-away: 18% or 4.5k eur increase in total earnings during the 3-year follow-up
  - 15% or 1.3k eur increase in contracted net unemployment benefits
    +1.3k eur in net transfers that include non-contracted social benefits

Contribution

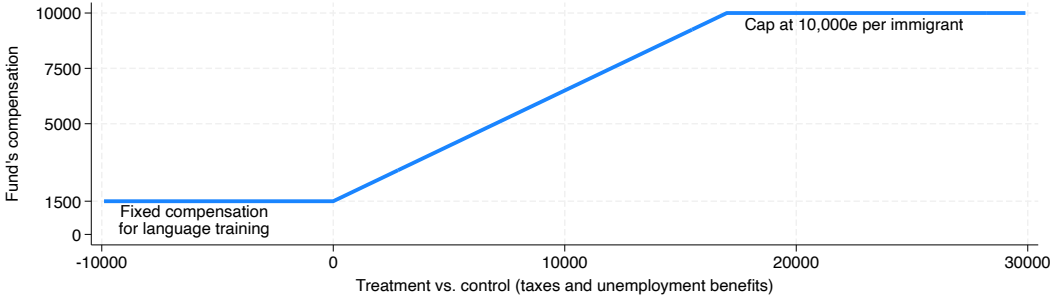
1. **Public vs private provision of public services and public procurement**
   (e.g., Hart and Moore, 1990; Hart et al., 1997; Behaghel et al., 2014; Bennmarker et al., 2013; Rehwald et al., 2017; Krug and Stephan, 2013; Crépon, 2018 and Andersson et al., 2019; Knutsson and Tyrefors, 2022)
   → study contracts where direct effectiveness is credibly measured using randomization
   → use non-contracted outcomes to understand potential spillovers and trade-offs

2. **Immigrant integration programs**
   (e.g. Åslund and Johansson,2011; Joona and Nekby, 2012; Sarvimäki and Hämäläinen, 2016; Foged et al., 2022, 2023; Arendt, 2022; Bratu et al. 2023; Humlum et al., 2023, Dahlberg et al., 2024)
   → work/on-the-job vs class-room training to heterogeneous groups of PES customers

Social outcomes contracts

- Idea
  - private investor covers the up-front costs and later gets paid based on the service's impact
  - aligns the incentives of the public sector and private service providers
- Concern: private partners have an incentive to manipulate impact metrics
  - "cream-skimming" (e.g., focusing on clients who are easier to re-employ)
  - manipulable outcome measures (e.g., bonuses if participants employed on a certain day).
- Solutions used in the Integration SIB
  - **randomization**: eligible immigrants randomly allocated to the new service (treatment) and the business-as-usual model (control)
  - **hard-to-manipulate outcomes**: cumulative income taxes and unemployment benefits over a 3-year follow-up period

Financial Incentives for Service Providers

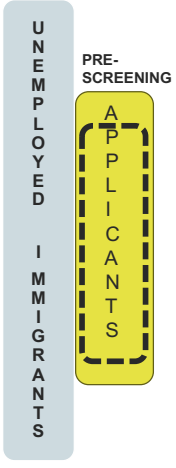


- The private fund gets 1500e for organizing 70 days of language training
  + 50% of savings to (partially measured) public finances during the next three years

$$\left(\underbrace{(\overline{\text{Taxes}}_{SIB} - \overline{\text{Taxes}}_{control})}_{\text{Average Tax Revenue}} + \underbrace{(\overline{\text{U. Benefits}}_{control} - \overline{\text{U. Benefits}}_{SIB})}_{\text{Av. Unemp. Benefits Savings}} \right) \times N_{SIB}$$

- Essentially a competition between the Integration SIB and PES

Selection into the Integration SIB Program

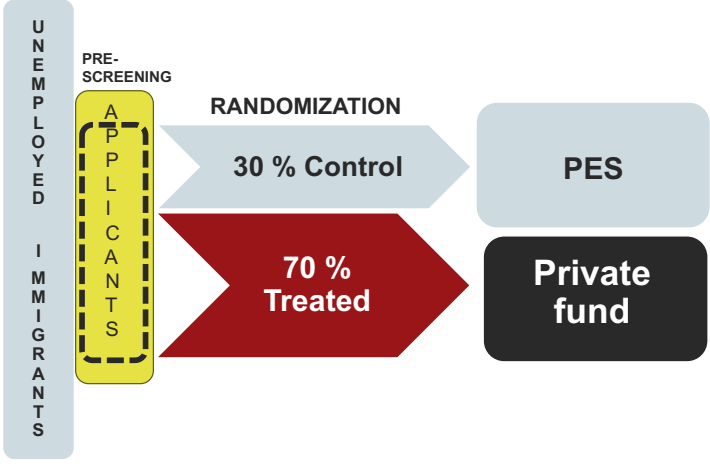


1. Immigrants can apply to Integration SIB online via service provider's website (most likely learn about program from PES caseworkers)

2. Service provider briefly interviews candidates

3. Service provider sends list of applicants to PES who checks eligibility (unemployed immigrants aged 17-63 who can read and write)

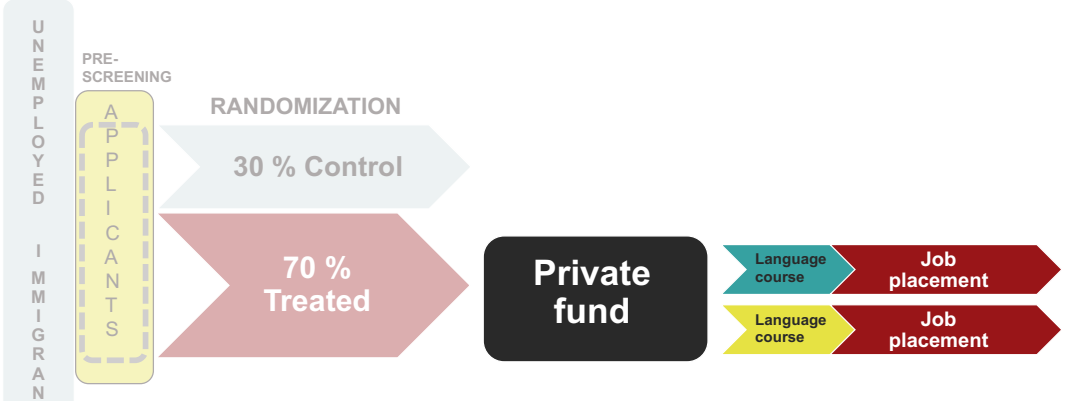
Selection into the Integration SIB Program



4. Service provider sends list of applicants to PES who checks eligibility (unemployed immigrants aged 17-63 who can read and write)

5. PES randomizes 70% to treatment, 30 % to control (randomization weekly by regional PES office)

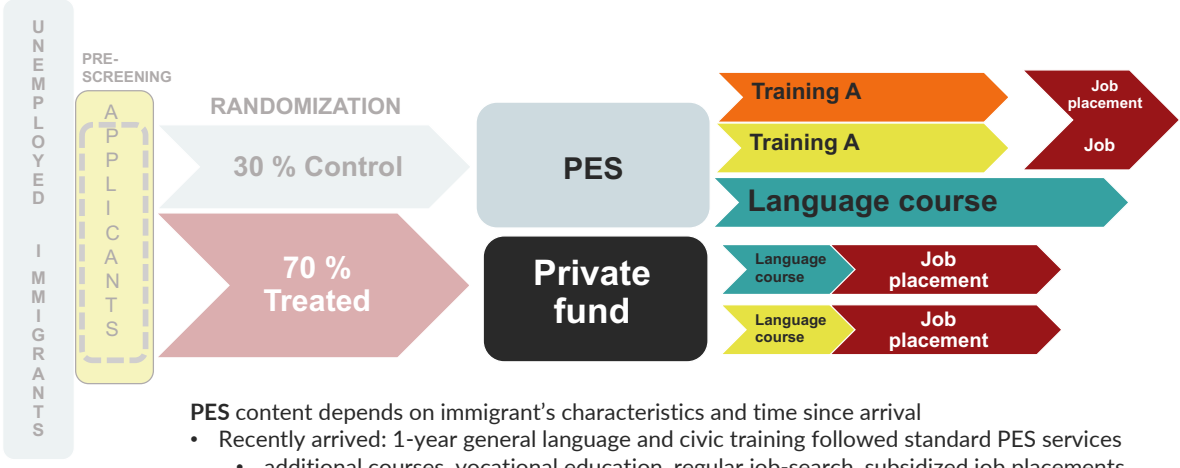
Integration SIB vs Business-as-usual model



Private fund (Integration SIB)

- 7-week language training tailored to the target job
- Placement to real jobs in industries with labor shortages and low language requirements
  - Logistics and warehousing; hotels, restaurants, catering; building and construction; cleaning, recycling; manufacturing

Integration SIB vs Business-as-usual model

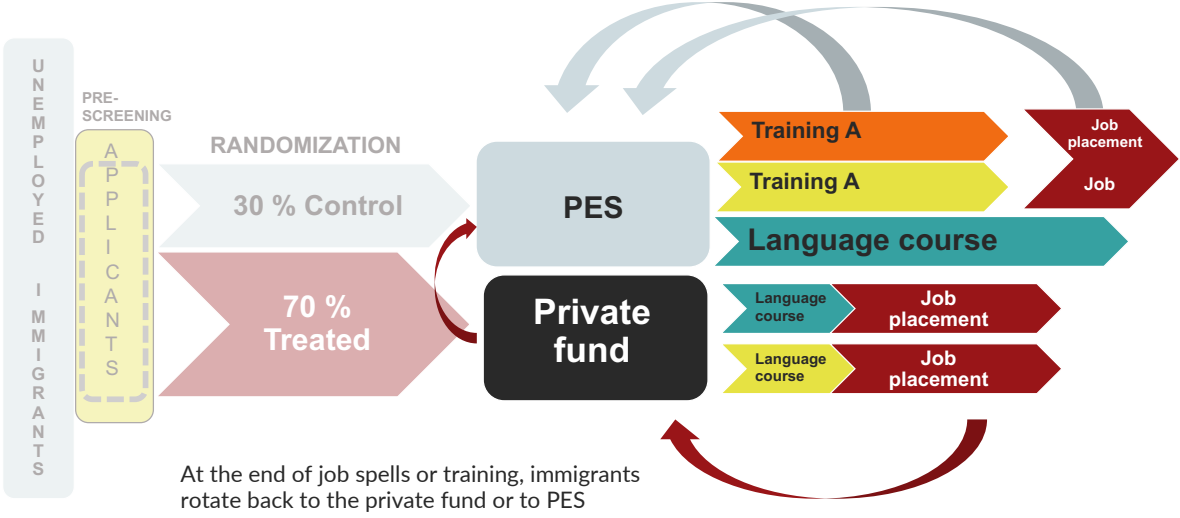


PES content depends on immigrant's characteristics and time since arrival

- Recently arrived: 1-year general language and civic training followed standard PES services
  - additional courses, vocational education, regular job-search, subsidized job placements...
- Others: standard PES services

Training procured from private providers that are paid by person-days

Integration SIB vs Business-as-usual model



At the end of job spells or training, immigrants rotate back to the private fund or to PES

Compensation based on treatment vs. control during the **three years following randomization**

Data

- Income data
  - annual labor earnings, unemployment and other social benefits
  - monthly earnings 2019-
- Employment
  - job contracts
- Public Employment Service data
  - ALMPs, including language training and integration training days
- Education
  - general secondary or higher education

Empirical approach

- Identification: randomized design
- Estimation

$$Y_{it} = \alpha + \beta_t \text{Treated}_i + \theta_{j(i)} + X_i\gamma + \varepsilon_{it} \quad (1)$$

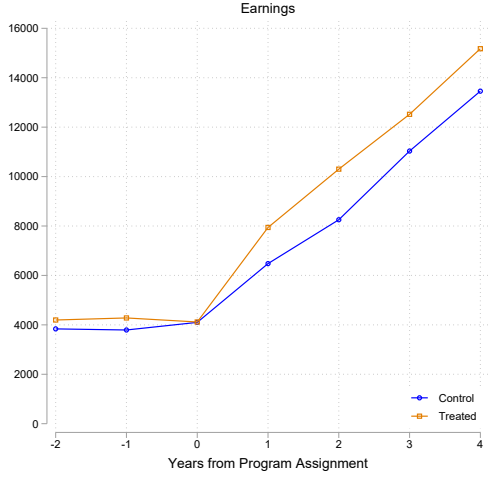
  where

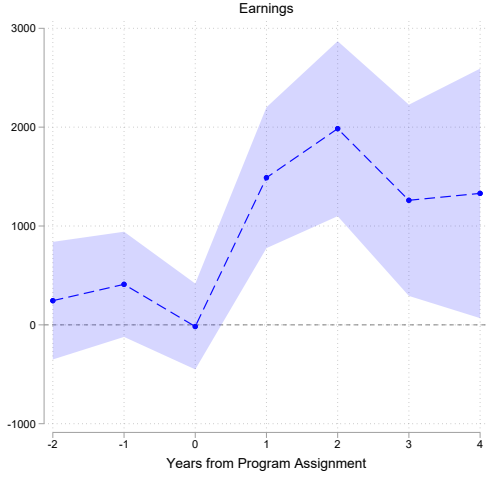
  - Y_{it} is the outcome of interest observed at time t
  - $\theta_{j(i)}$ is a fixed-effect for randomization event
  - X_i is a set of individual level controls (age, gender, integration plan)

- Pre-analysis plan (AEARCTR-0012519)

  - primary outcome: annual labor earnings
    short-run: years 1–3, medium-run: years 4–5, winsorized at the 99th percentile
  - secondary outcomes: employment, taxes, benefits, ALPM training, language skills, enrollment in formal education, degrees
  - heterogeneity: time since arrival (more vs less than three years)

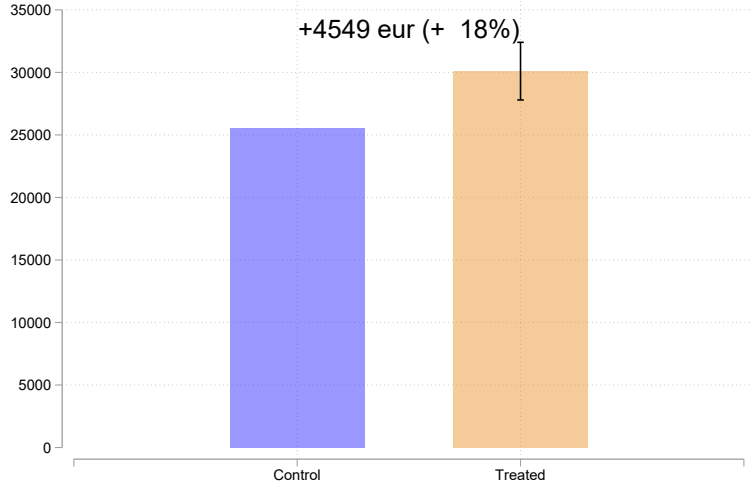
Annual earnings increase by 1.5k per year more than in control group





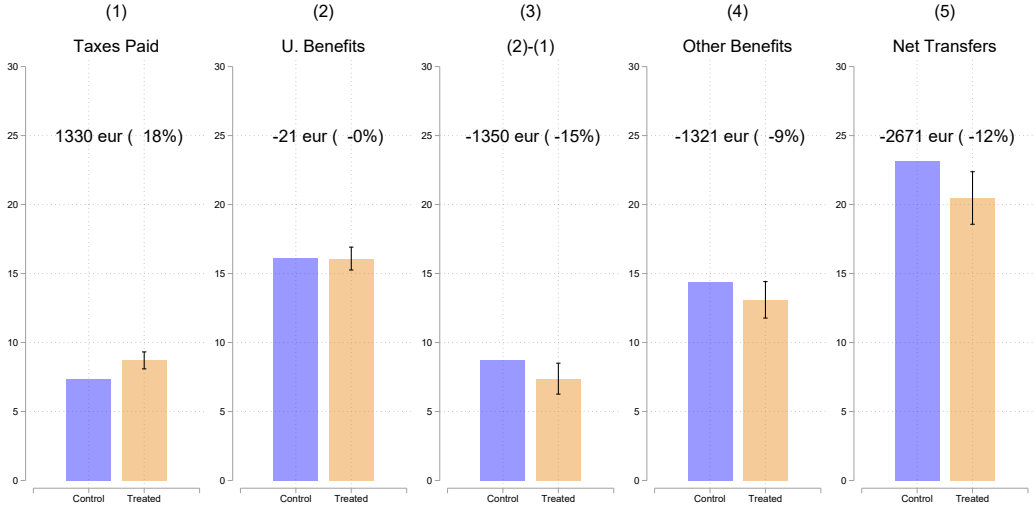
employment

Pre-registered primary outcome



Total cumulative earnings over three-year follow-up (starting at randomization)

Net Transfers and Cost-Savings to Public Sector



Unemployment benefits details

Mechanisms (in progress)

- The effects extend also to noncontracted outcomes
  - improvement in non-contracted benefits (previous slide)
  - ... and earnings after the 3yr follow-up
  - reduction in secondary degrees
  - improvement in job quality
- Treatment effect heterogeneity
  - effects larger for younger and more educated immigrants
  - no difference by gender or time since arrival
- Qualitative evidence (Karinen et al. 2024)
  - document analysis + 35 interviews
    (PES employees, training providers, investors, fund personel, government officials)
  - primary take-away: the private fund invested heavily on match-making between immigrants and employers

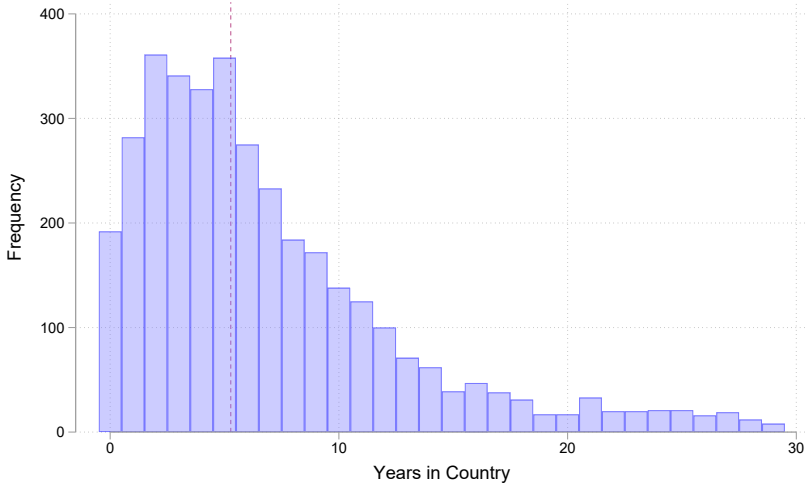
Conclusions

- New approach to contract services to private providers with credible incentives
  $\rightarrow$ could be used more generally as long as
  - there are clear pre-defined and hard to manipulate outcome measures
  - there is a treatment and control group
- The Integration SIB program improved labor market outcomes for the participants and generated savings to public finances
  - the government saved roughly 5m euros, the fund made a small loss
- Much more interesting work to be done

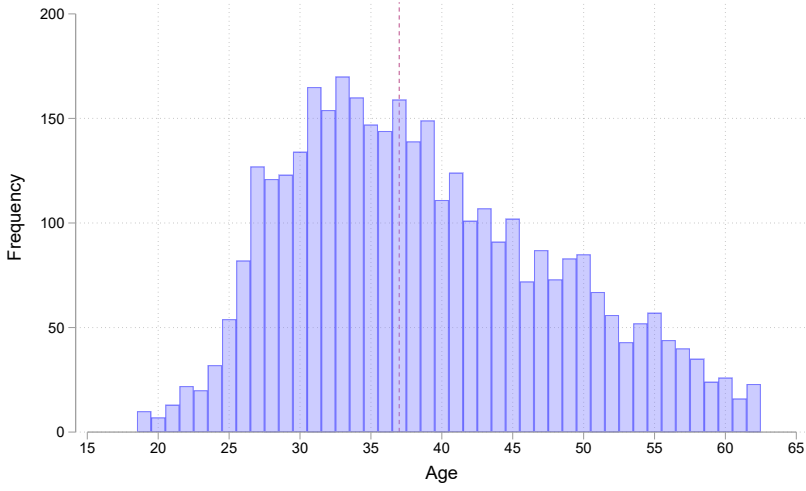
Descriptives: test for balance prior to program assignment

	Control (1)	Treated (2)	β^{SIB} (3)	SE (4)
Assignment Year	2018.3	2018.3	-0.00	(0.00)
Age	38.50	38.85	0.43	(0.35)
Woman	0.41	0.42	0.00	(0.02)
Married	0.56	0.59	0.02	(0.02)
Single	0.25	0.22	-0.03**	(0.01)
Divorced	0.17	0.18	0.01	(0.01)
Years in Country	6.87	6.84	0.08	(0.19)
Days Unemployed	214	232	18*	(11)
Earnings (t-1)	3792	4279	446	(297)
Social Benefits (t-1)	10394	9990	-274	(293)
Unemployment Benefits (t-1)	5749	5639	-46	(166)
Net Transfers (t-1)	-8759	-8286	346	(300)
Work Days (t-1)	74.82	82.54	7.43*	(4.49)
Enrolled in Education Program (t-1)	0.18	0.17	-0.01	(0.01)
Enrolled in Secondary Program (t-1)	0.15	0.14	-0.01	(0.01)
N	1026	2636		

Years in the Country



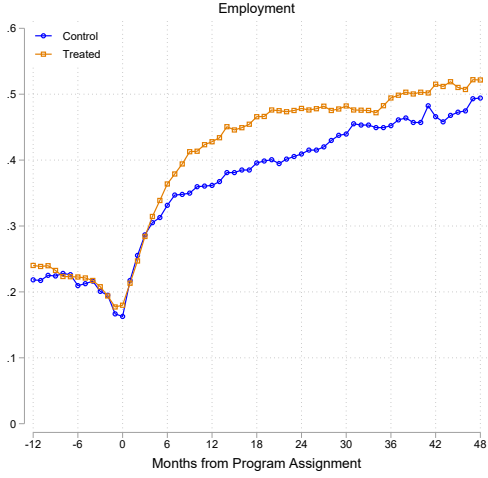
Age

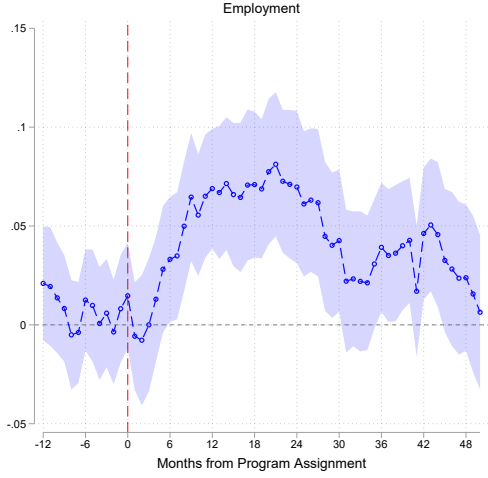


Most Common Nationalities

Country	Number of Eligible Applicants
Russia	318
Irak	296
Somalia	247
Estonia	222
India	144
Thailand	128
Turkiye	104
China	85
Afghanistan	84
Iran	79

Employment improves for all, persistently more for treatment group





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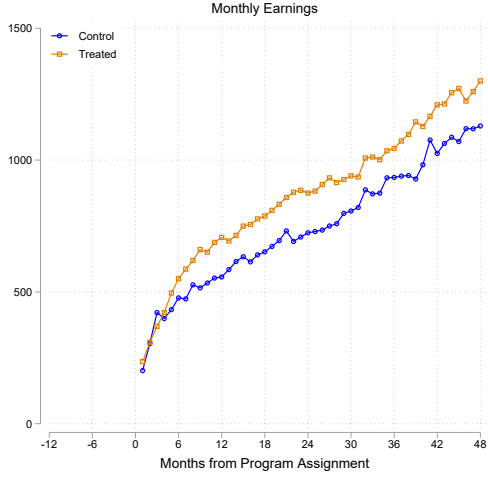
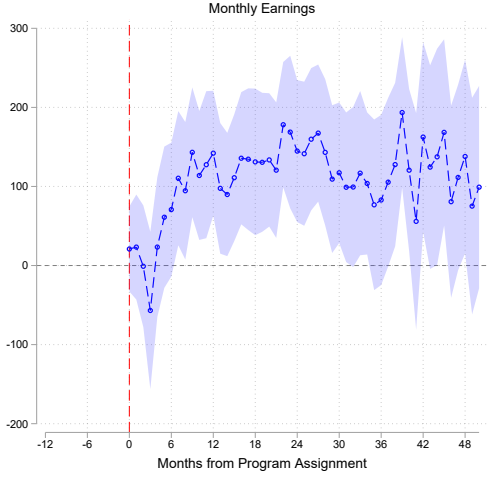
Monthly earnings increase by 150 euros more than in control group





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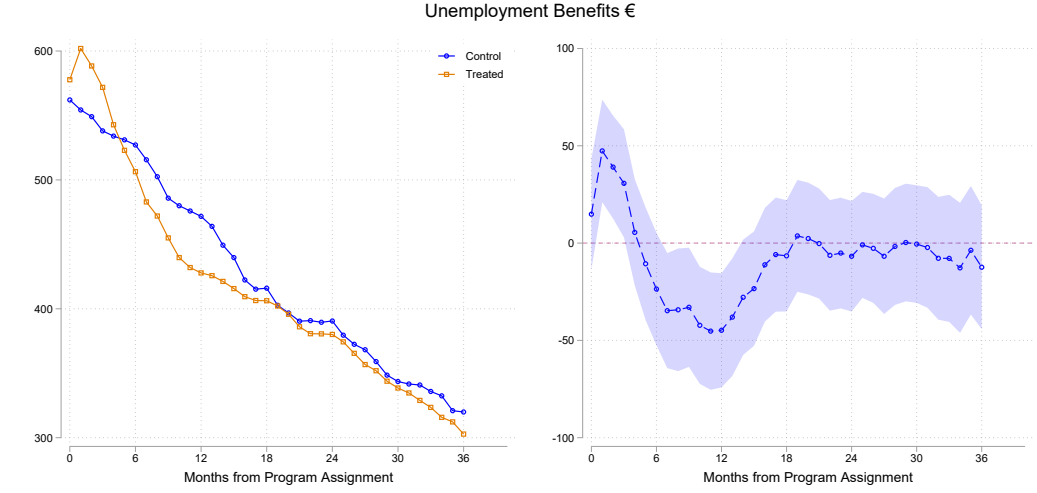
Unemployment Benefits



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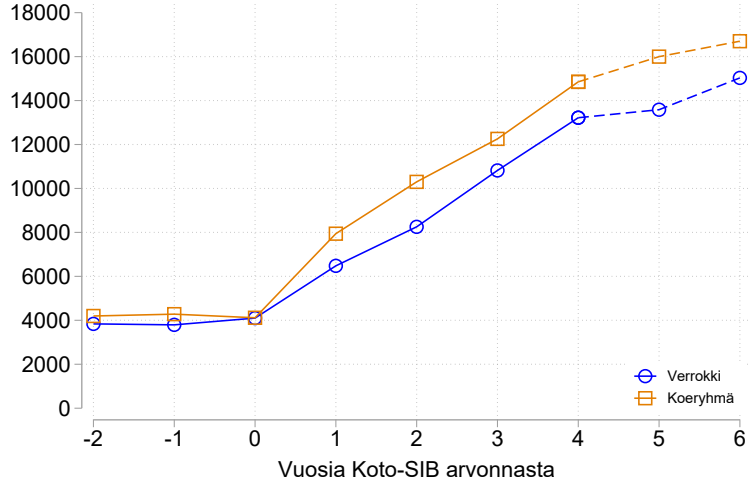
No sign of reversal in earnings over time



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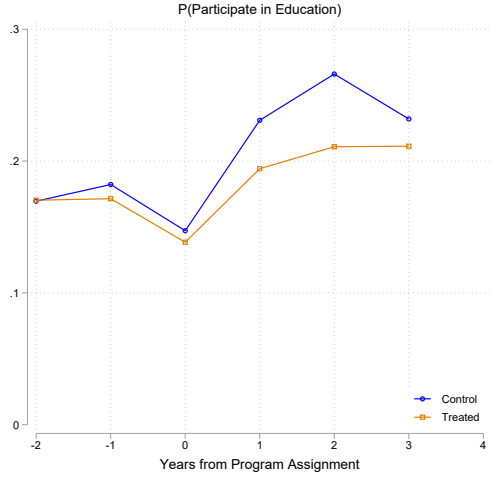
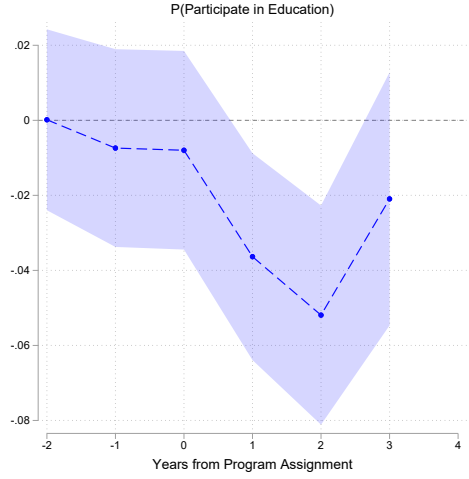
Participation in Secondary Education Drops





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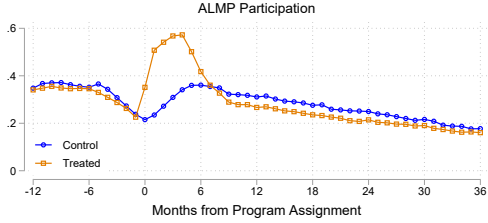
ALMPs


ALMP Participation
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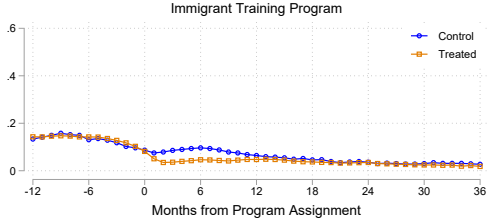
Months from Program Assignment


Immigrant Training Program
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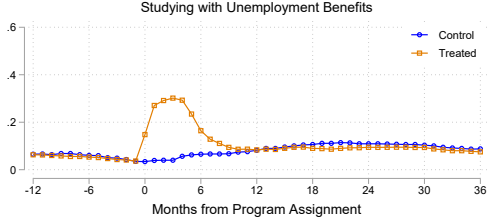
Months from Program Assignment


Studying with Unemployment Benefits
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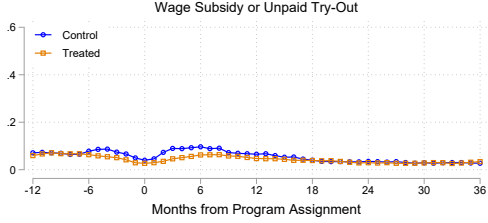
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Months from Program Assignment

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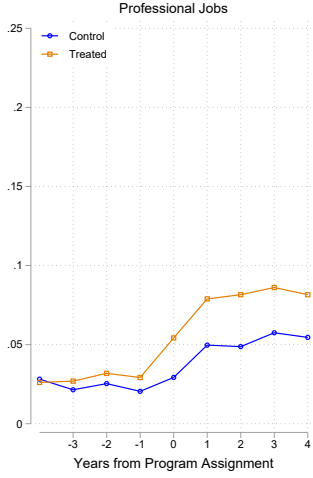
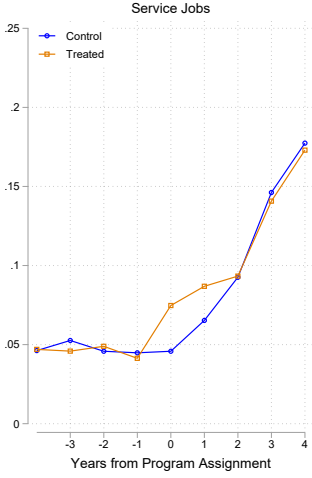
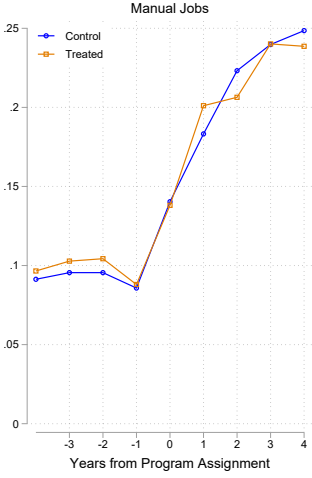
Participants not more often stuck in low-skilled occupations







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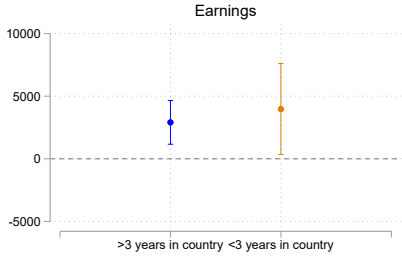
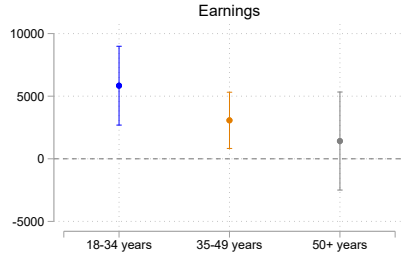
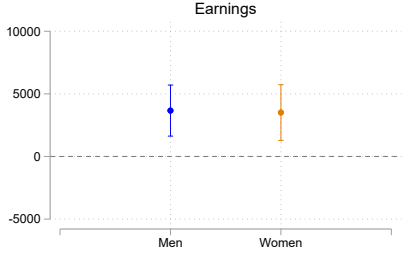
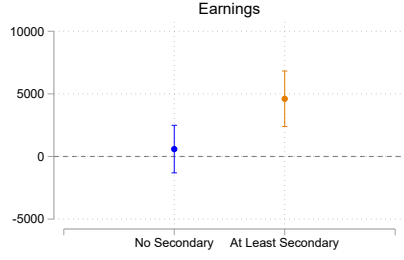
Age but Not Gender Predict Earnings Impacts









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