Incentivizing Family Savings for Child Education:

Evidence from Italian Program Evaluations

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DJI Lunch Bag Seminar
October, 16 2024

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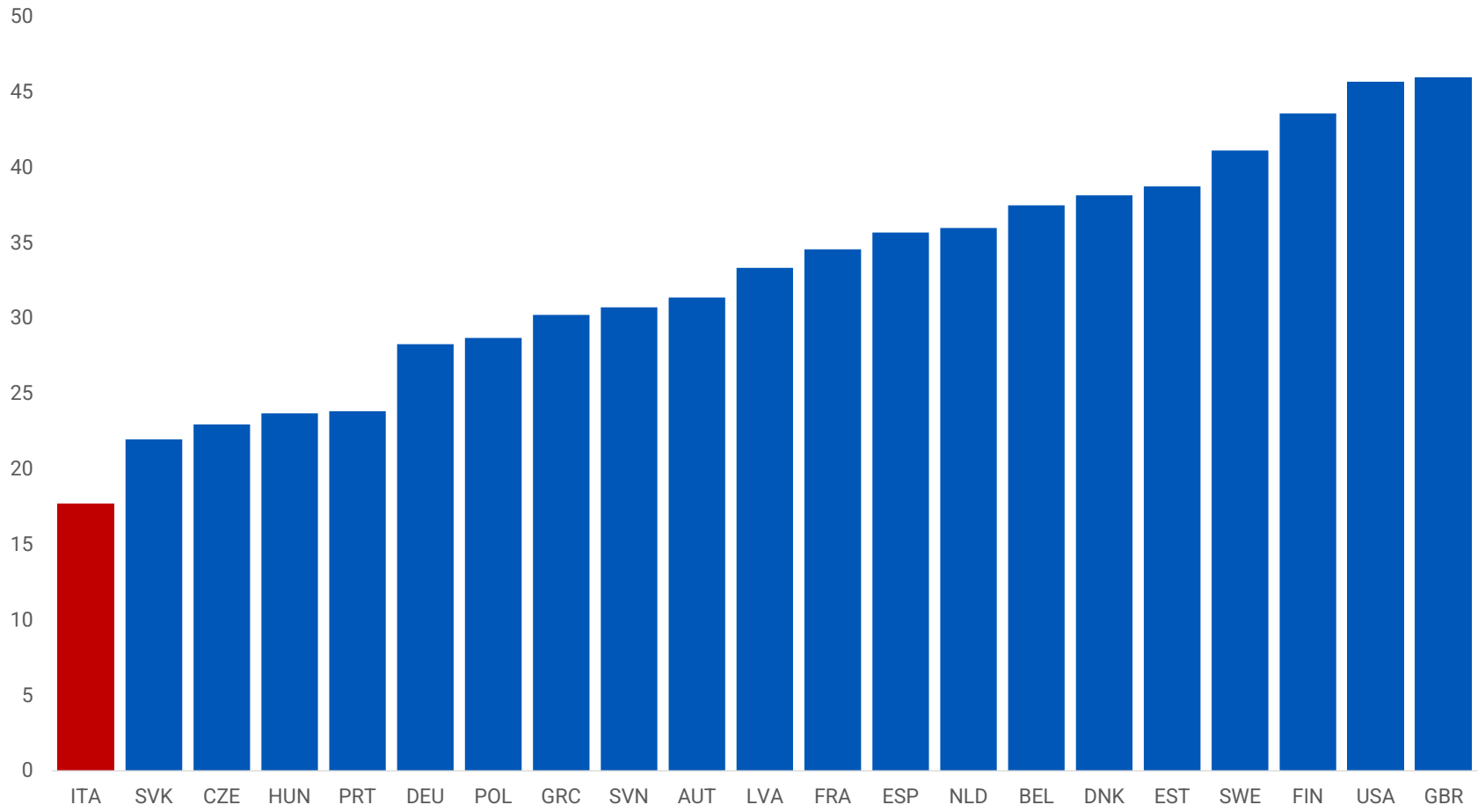
INSTITUTE FOR THE EVALUATION OF PUBLIC POLICIES

Italy: Low highered attainment

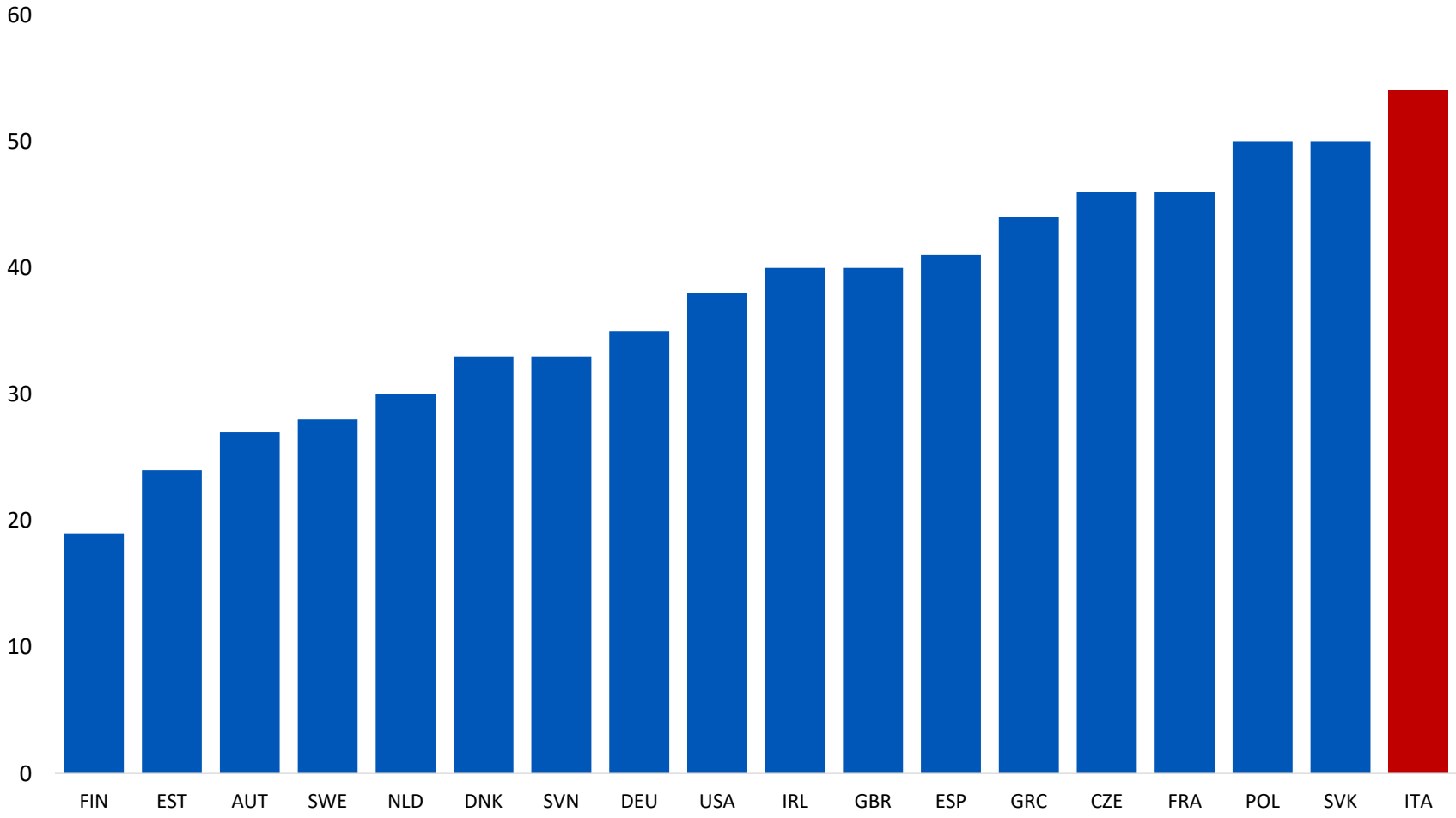
Figure: Individuals with a tertiary education degree (%)



Source: OECD 2016. Individuals aged between 25 and 64. Selected countries.

Italy: Wide social disparities in highered

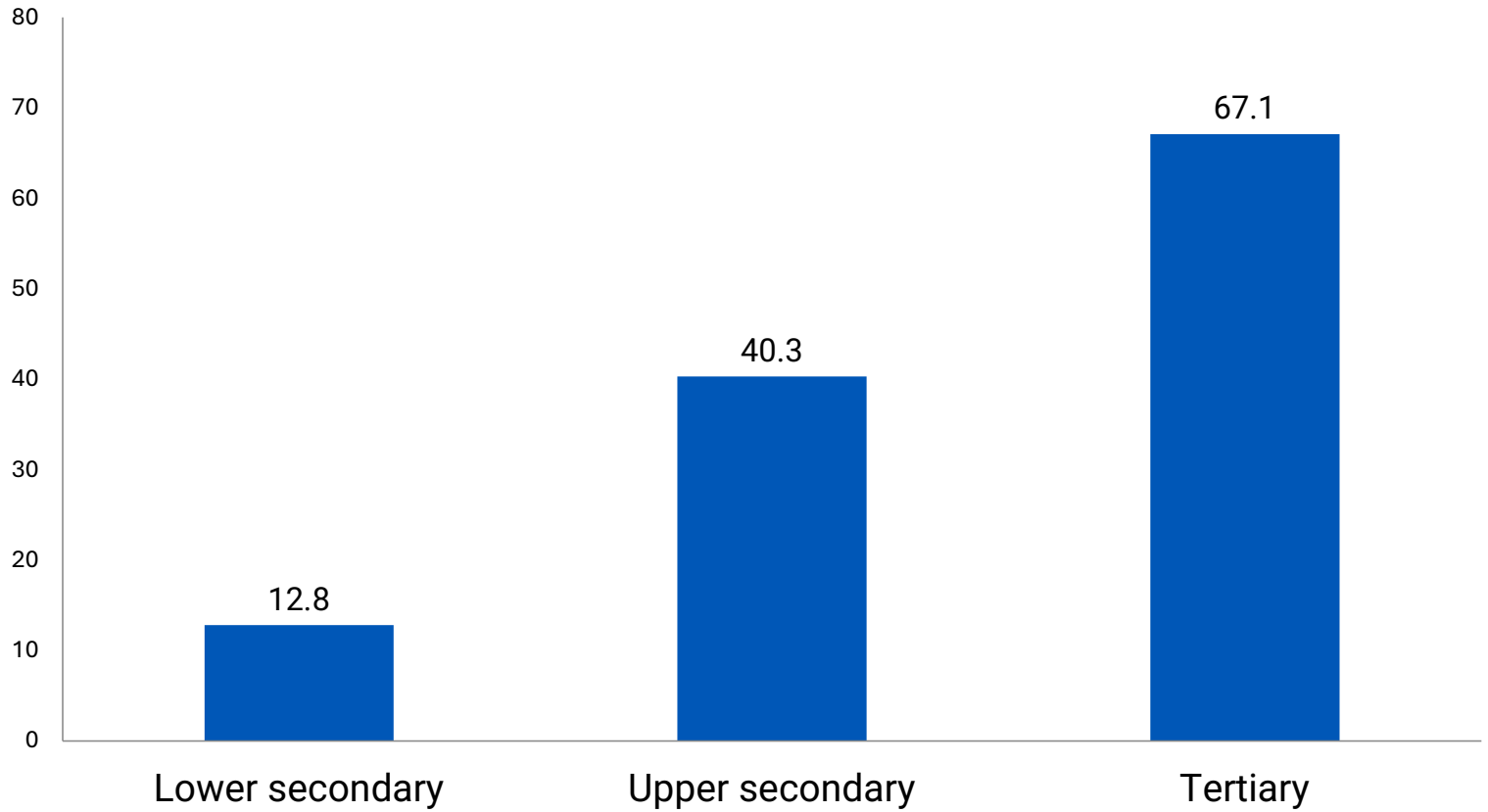
Figure: Gap in higher education attainment between individuals with at least one higher-educated parent and those with no high-educated parents



Source: OECD 2012-2014. Individuals aged between 30 and 44. Selected countries.

Italy: Wide social disparities in highered

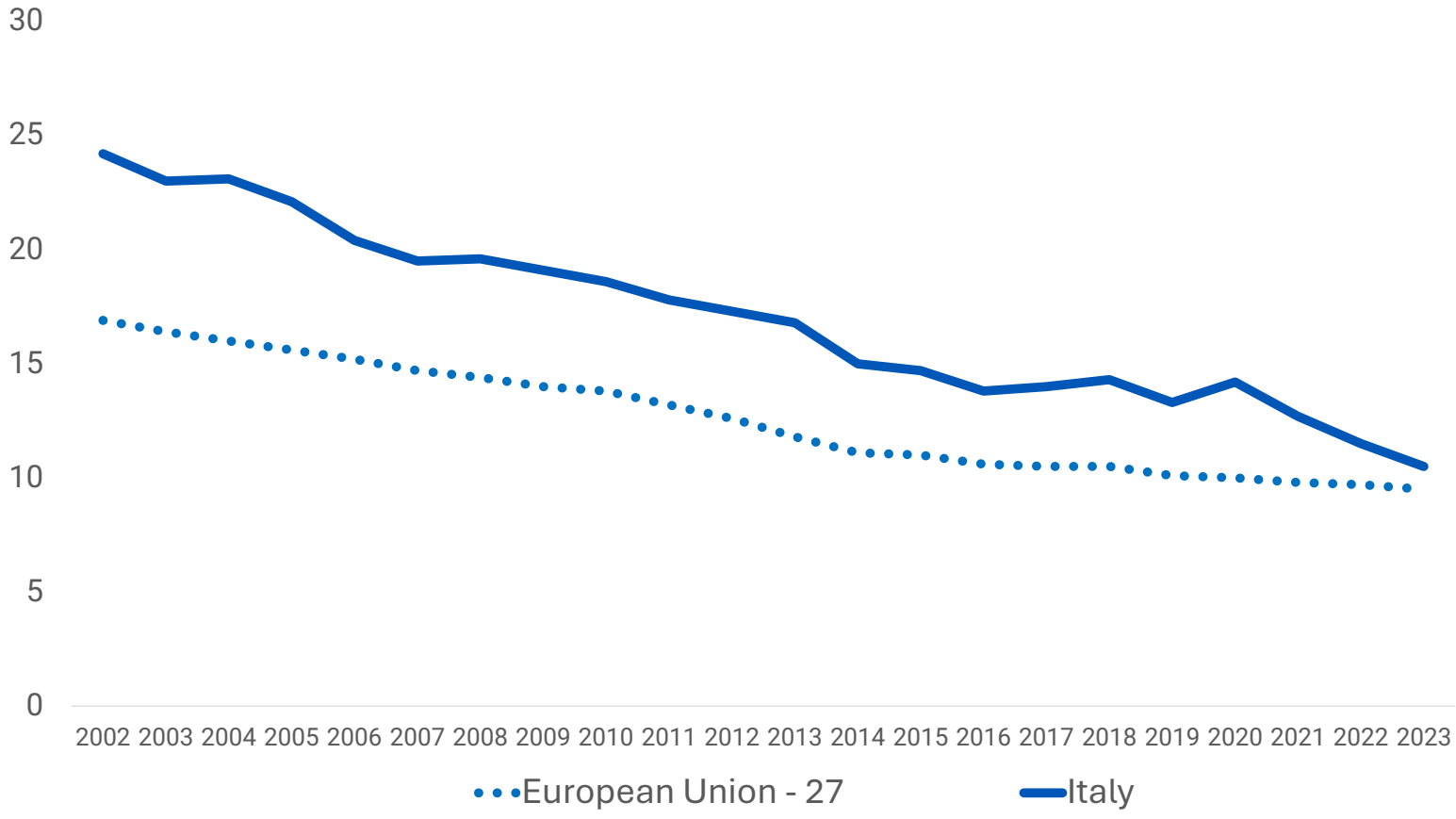
Figure: 25-34 years olds holding a tertiary degree (%), by parents' education



Source: ISTAT 2023.

Italy: Historically high early school leaving (ESL)

Figure: 18-24 year olds leaving school with no upper secondary education (%)

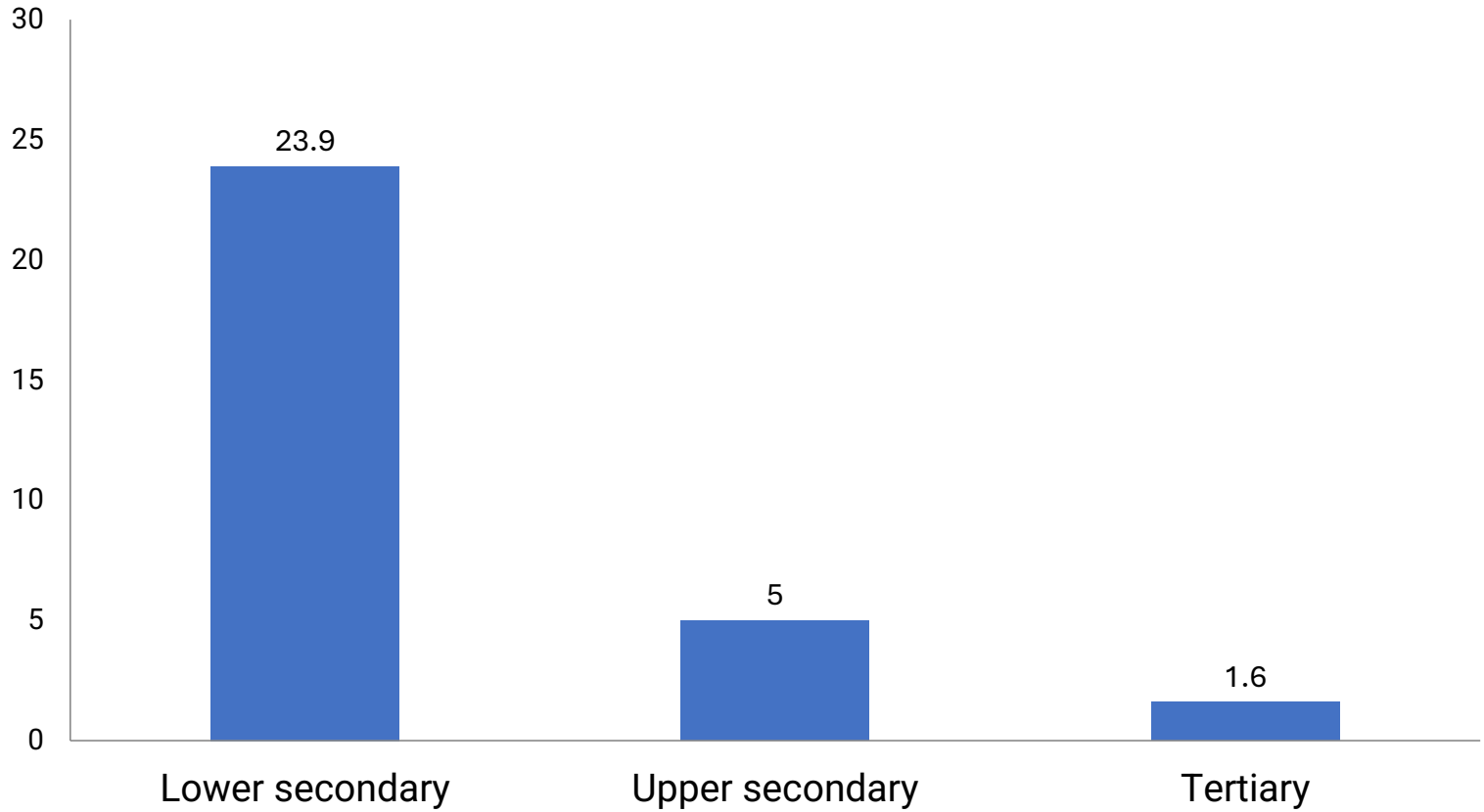


Source: Eurostat, various years.

Education system

Italy: Wide social disparities in ESL too

Figure: 18-24 year olds leaving school with no upper secondary education (%), by parents' education)



Source: ISTAT 2023.

Inequality is not only about the ability to pay

- The direct costs of education in Italy are not very high
  - Public secondary education is free of charge
  - Public university average tuition fee: 2,000 euros a year, varies based on income
- But beyond fees, there are indirect costs and opportunity costs
- . . . and family aspirations & expectations are further important mechanisms

National financial aid policy

- **Higher education**
  - ✓ Means-tested grants (16% of students)
  - ✓ Tuition waiver
  - ✘ Underfunded
  - ✘ Uncertain and unreliable
  - ✘ Activated too late
- **Secondary education**
  - ✓ Contribution to buy books and scholarships
  - ✘ Very minimal and marginal support

This presentation

- The potential of **matched-saving accounts programs** as a financial aid tool to improve low-income youths' education participation
- Case study #1: **Percorsi**, post-secondary education, Turin
  - ☞ **ACHAB** RCT (N=716)
  - ☞ **HOMER** Follow-up RCT (N=1,475)
- Case study #2: **WILL - Educare al Futuro**, secondary education, Turin, Florence, South Sardinia, Teramo
  - ☞ **WILL** RCT (N=576)

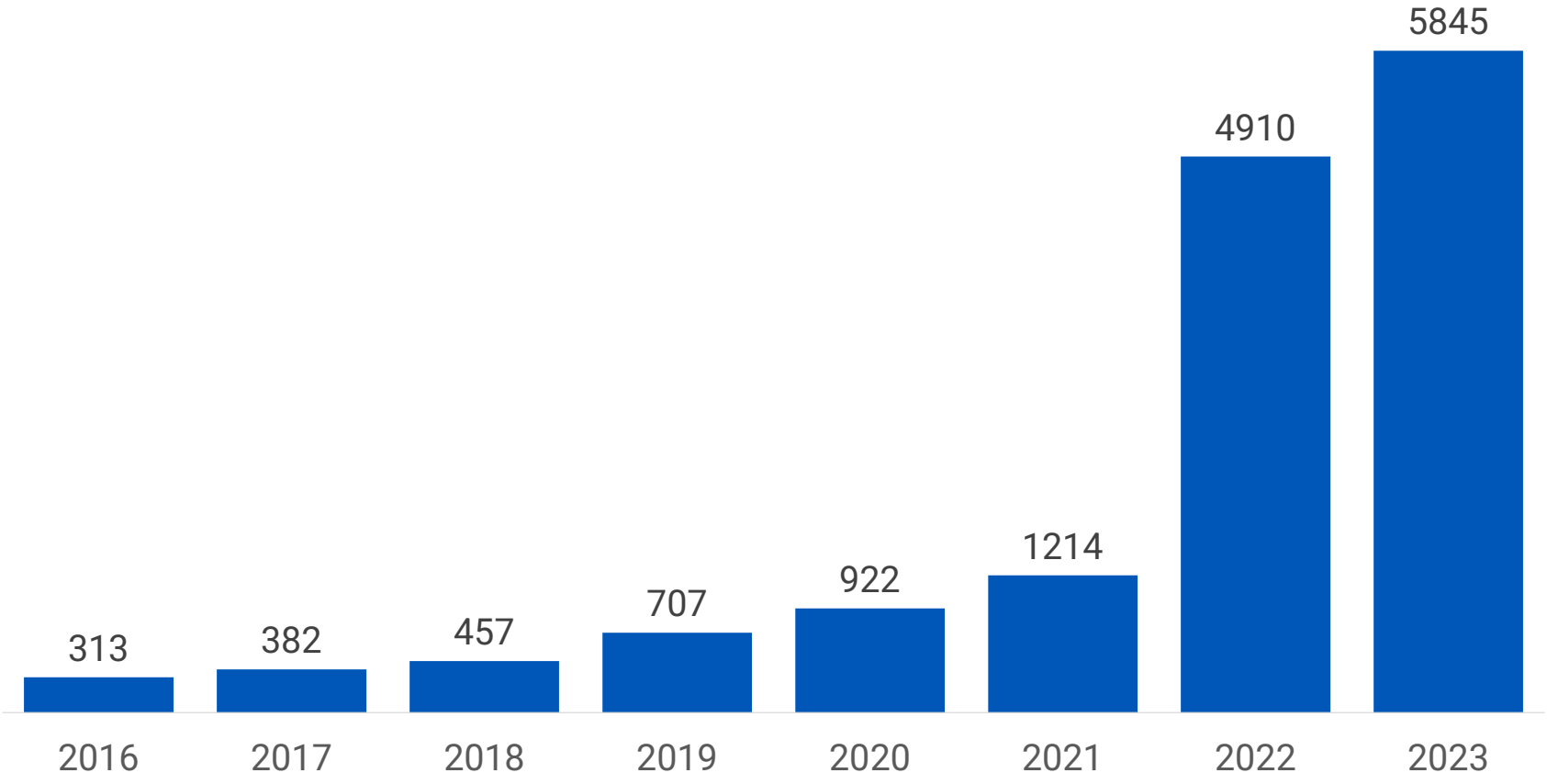
Outline

Matched Savings Programs

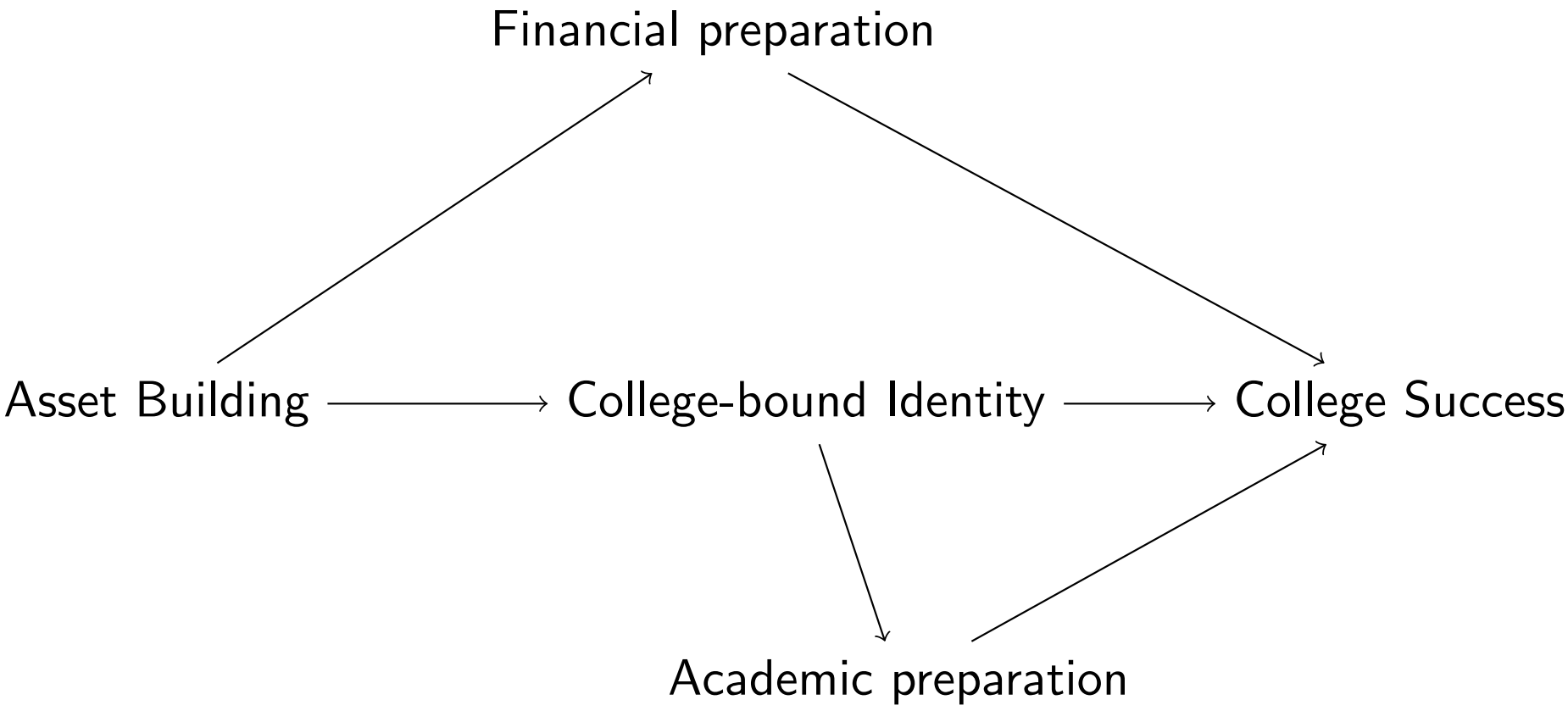
- **Individual Development Accounts** (Sherraden 1991) → provide low-income families with an incentivized savings account to help them invest in **long-term assets** (e.g. home ownership, microenterprise, or **education**)
  - Implemented in the US, Singapore, Canada and the UK (Beverly et al. 2013), as well as in other developing countries (Cornell 2003)
- **Children's Savings Accounts** (Elliott & Lewis 2018) → targeted to children's post-secondary education:
  - Start early (also at birth)
  - Often include matches and/or progressive incentives (e.g., initial seed)

Children's Savings Accounts (CSAs)

Figure: Number (thousands) of children with a CSA, US (2016-2023)



Pathways from CSA programs to college success



Source: Beverly et al. 2013

Existing evidence on CSAs

Experimental evidence (Emrey-Arras 2020, Elliott 2024):

- ↑ Savings for college (Beverly et al 2016; Long & Bettinger 2017)
- ↑ Child social emotional development (Huang et al. 2014)
- ↑ Parents' educational expectations (Kim et al 2015)
- ? Post-secondary education access and attainment (Long & Bettinger 2017)

→ No studies on programs addressing secondary education

Outline

The program: *Percorsi*

- Implemented by a Foundation (*Ufficio Pio - Compagnia di San Paolo*) in Torino (NW Italy) since 2010
- Eligible students are:
  - ✓ enrolled in the **last two years of high school** (12th and 13th grades)
  - ✓ come from **low/medium-income households** (ISEE- 25k euro, 150% of poverty level for 4 pers. households)
  - ✓ **reside** in the metropolitan area of Torino

The program: how it works

1) The eligible student/family signs up

2) The student saves monthly min 5€ - max 50€ (no initial seed)

3) The program matches the savings with a given multiplier (2:1 for high school or **4:1 for university**)

4) The student can spend the matched savings (max 8,000€) for allowed education-related expenses

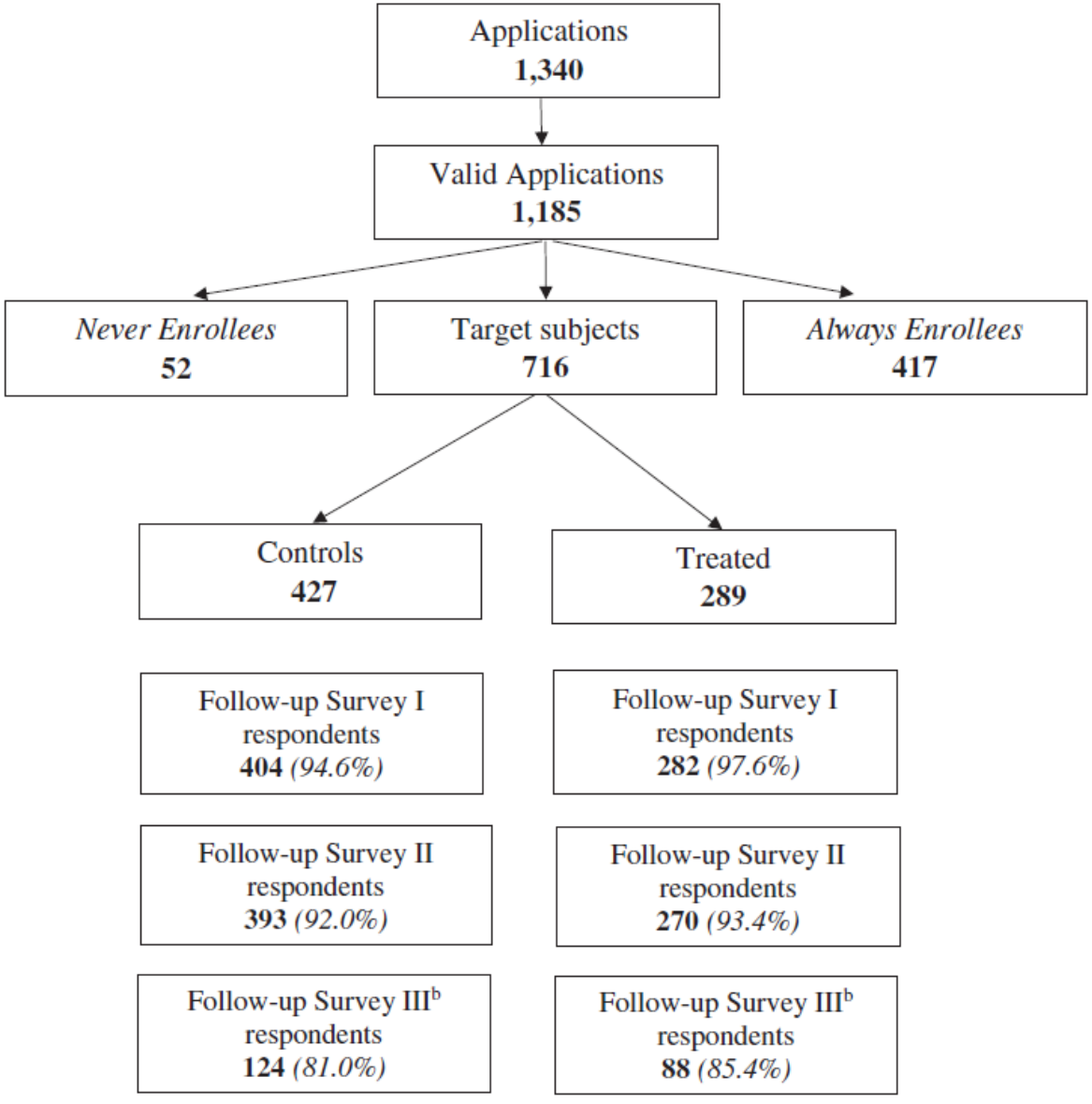
In addition, students and their families attend financial education classes

Saving period (max 6 years)

Part A
Afording **C**ollege with the **H**elp of **A**sset **B**uilding (ACHAB)

Martini et al. 2021

Experiment flowchart



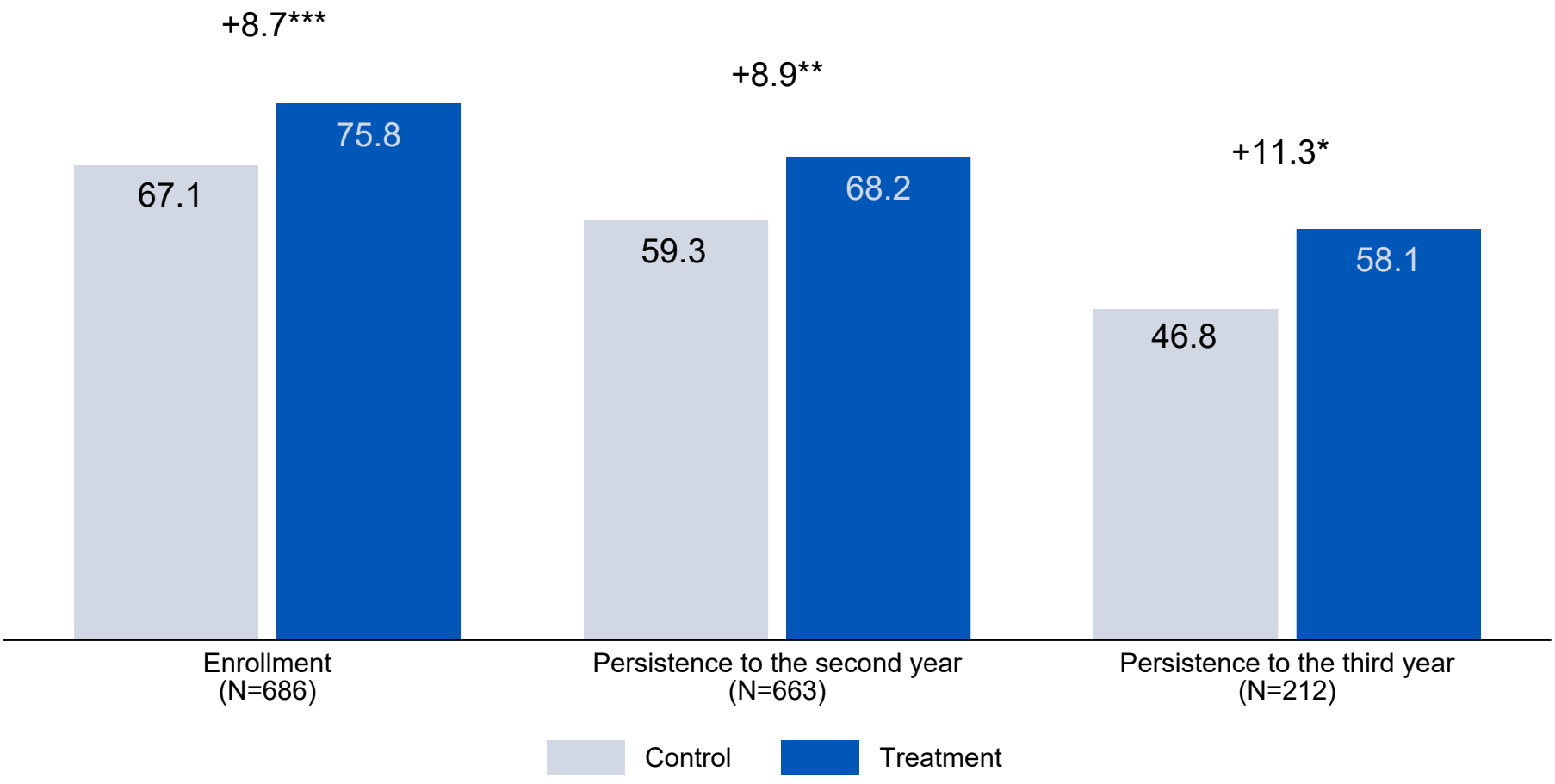
Implementation

Take-up statistics and program's services usage	Value
Opened the savings account	100%
Made at least one deposit	94%
Average (median) monthly deposit [a]	33 (36) euros
Average (median) total deposit [a]	1,088 (1,050) euros
Average (median) matched grants (estimate)	4,810 (5,696) euros
Euros spent with the 2:1 match rate as a percentage of total money spent	5.7%
Expenditures breakdown	
Tuition fees	33%
PC/internet	28%
Transportation	16%
Books	9%
Other	14%
Financial education participation	
Attended at least one module	96%
Average (median) number of modules attended	2.2 (2)

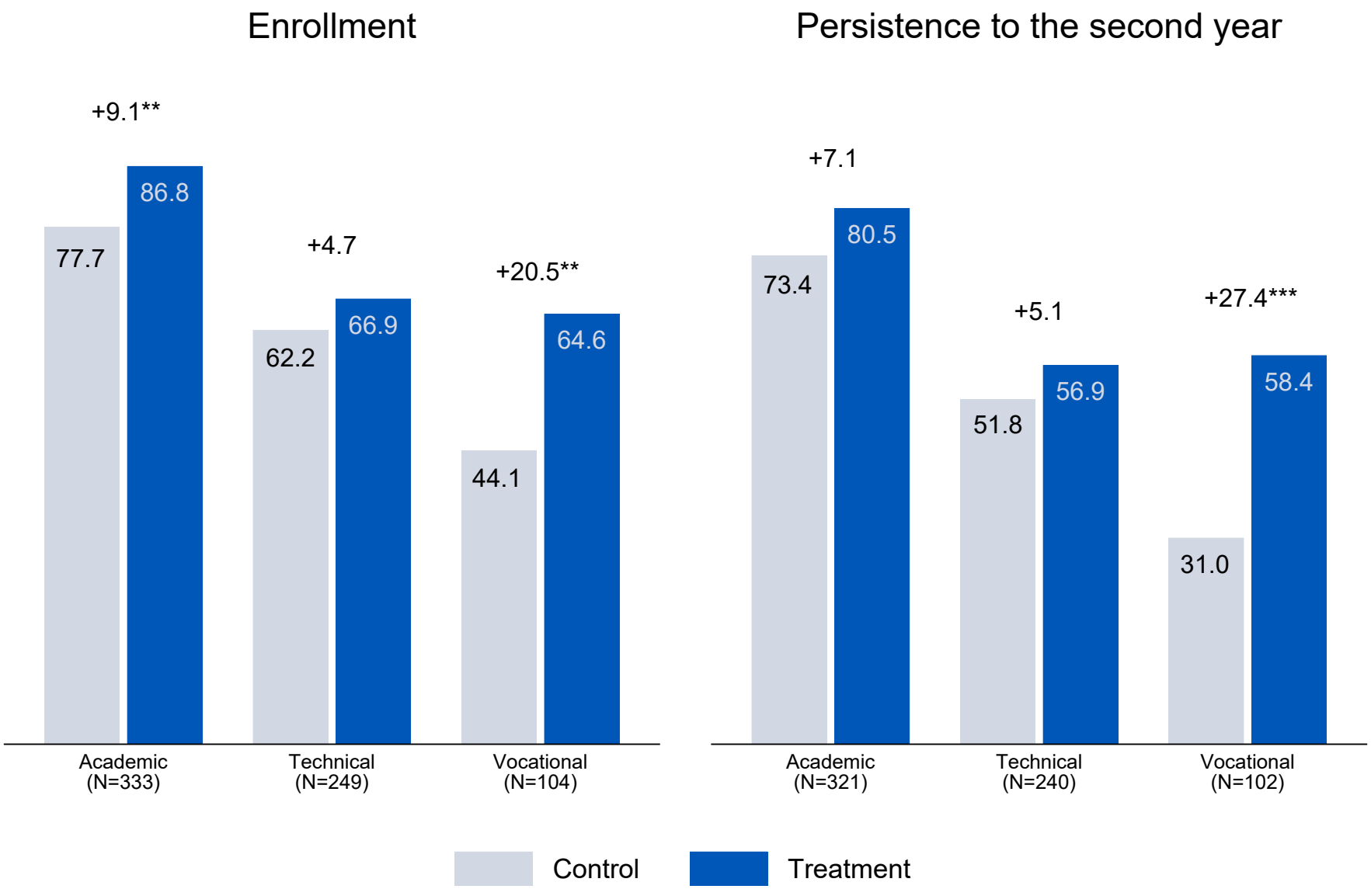
Integrity & estimation

- Statistical equivalence of the randomized groups (t-tests) ✓
- Overall attrition (4.7 - 7.4%) ✓
- Differential attrition (1.7-3.4 pp) ✓
- **Intent-To-Treat (ITT)** estimated through **OLS regressions** to improve precision

Experimental impact estimates



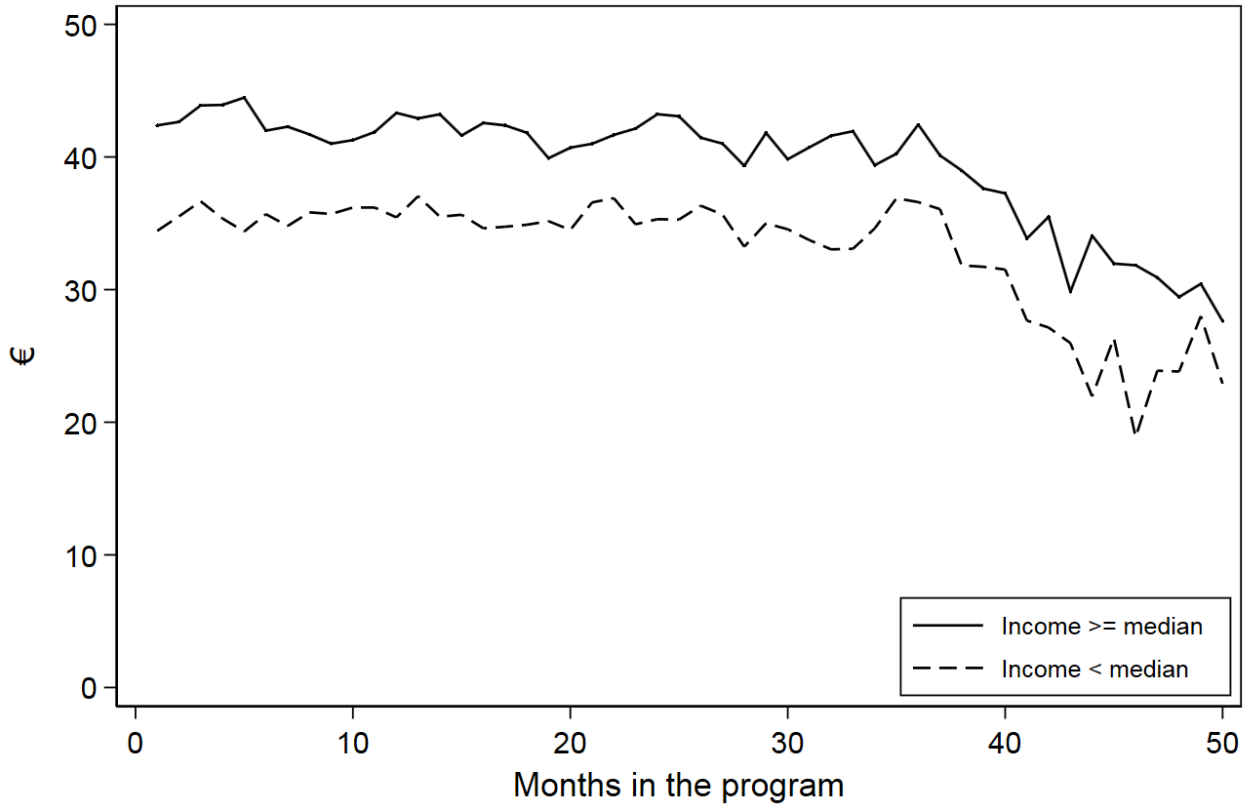
Experimental impact estimates



Regressivity?

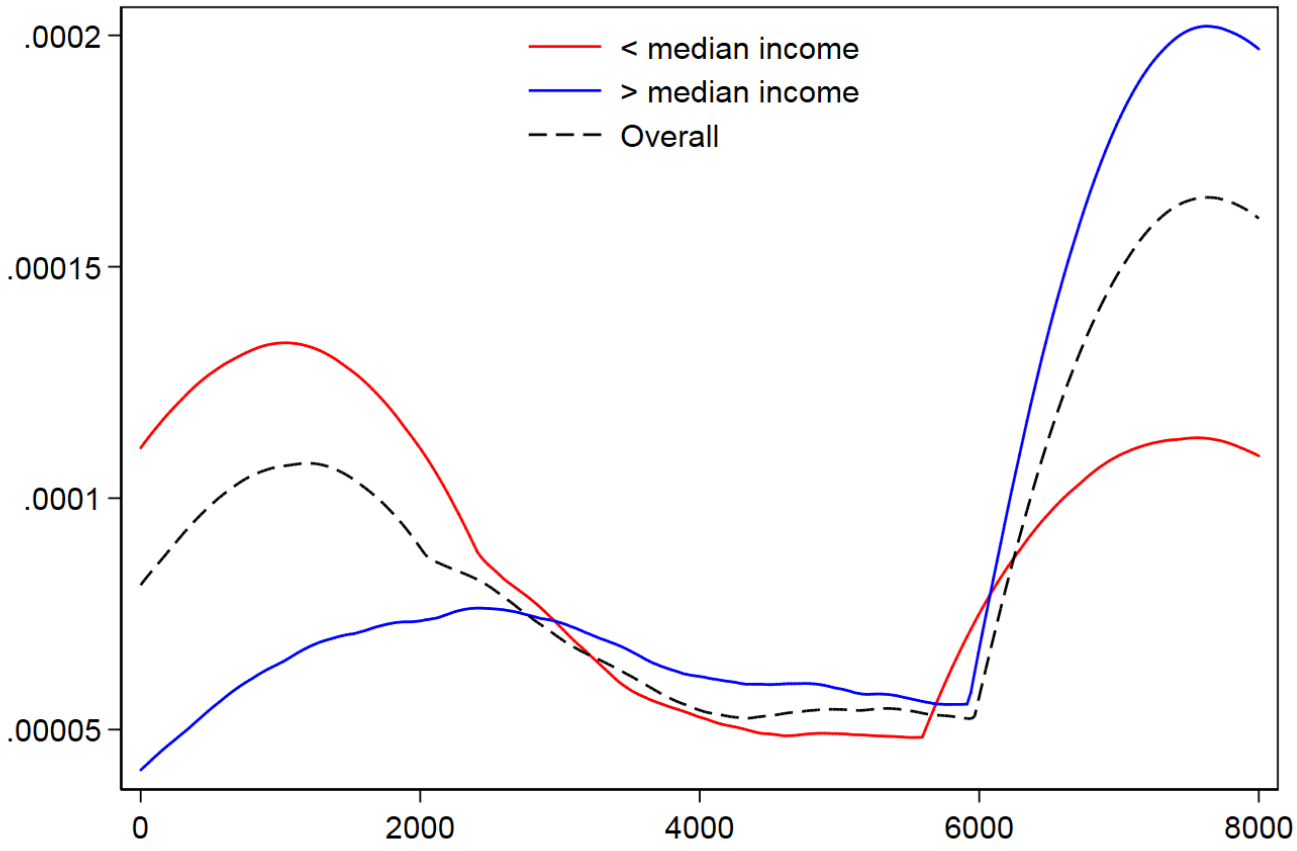
No heterogeneous effects across income groups

. . . but lower-income families save less than richer families (29 vs 37 euros a month)



Regressivity?

. . . lower-income families also receive fewer matched funds



Part A Conclusions

- Findings:
  - ➜ Substantial impacts on university enrollment and persistence
  - ➜ Largest impacts for vocational schools and children of low-educated parents
  - ➜ Regressivity in financial mechanism design
- Open questions:
  - ➜ Do the findings repeate?
  - ➜ College completion?
  - ➜ Labor market outcomes?

Part B

How to Make C**O**llege **M**or**E** Affo**R**dable (**HOMER**)

A follow-up study to investigate college completion and work during and after college (**W.I.P.**)

Research questions

How does the program affect . . .

1. . . . college completion?
2. . . . labor market participation during college years?
3. . . . labor market participation after college years?

Research design

- We match two sources of admin data
  - Piemonte Universities archive
  - Comunicazioni Obbligatorie (COB)
- Sample
  - ACHAB sample (N=716)
  - + three additional cohorts (N= ca. 700) of applicants who followed the same randomization protocol in subsequent years
- Timeline

Research questions

How does the program affect . . .

1. . . . college completion?
2. . . . **labor market participation during college years?**
   E.g. *Do treated students choose university instead of work? Does the program help students minimize the time students spend working (time allocation)?*
3. . . . labor market participation after college years?

A first exploration of Treatment/Control differences

- Data: COB data + survey data first three cohorts (ACHAB sample)
- Outcome: subject's condition in 1st year after HS (July Y1 - June Y2):
  1. NEET (not enrolled at uni, never worked);
  2. Worker (not enrolled, has worked);
  3. Student (enrolled, worked less than 3 months);
  4. Working student (enrolled, worked more than 3 months);
  5. Missing (no info)

Youths' condition in the first year after HS graduation

Table: Youths' condition in the 1st year after HS graduation (%)

Condition	**Control**	**Treatment**	**Difference**
NEET	15.9	14.9	-1.1
Worker	15.2	9.0	-6.2
Student	59.0	67.1	+8.1
Working student	4.5	6.6	+2.1
Missing	5.4	2.4	-3.0
N	427	289	

By school track

Table: Youths' condition in the 1st year after HS graduation (%)

Condition	Licei			Technical			Vocational		
	C	T	Diff	C	T	Diff	C	T	Diff
NEET	14.9	9.4	-5.6	14.4	19.2	+4.9	22.7	21.7	-1.0
Worker	6.3	4.3	-1.9	22.2	13.5	-8.8	27.3	13.0	-14.2
Student	71.6	78.4	+6.8	52.3	58.7	+6.4	34.9	52.2	+17.3
Working student	1.9	5.8	+3.8	7.8	5.8	-2.1	4.6	10.9	+6.3
Missing	5.3	2.2	-3.1	3.3	2.9	-0.4	10.6	2.2	-8.4
N	208	139		153	104		66	46	

Part B - Conclusions

- Preliminary findings:
  - Positive effect on being 'full-time' student
  - Different 'counterfactuals' for vocational and general school students
- Next
  - linking COB & UNI data all cohorts (joint work w/ ASVAPP) in 2025

will

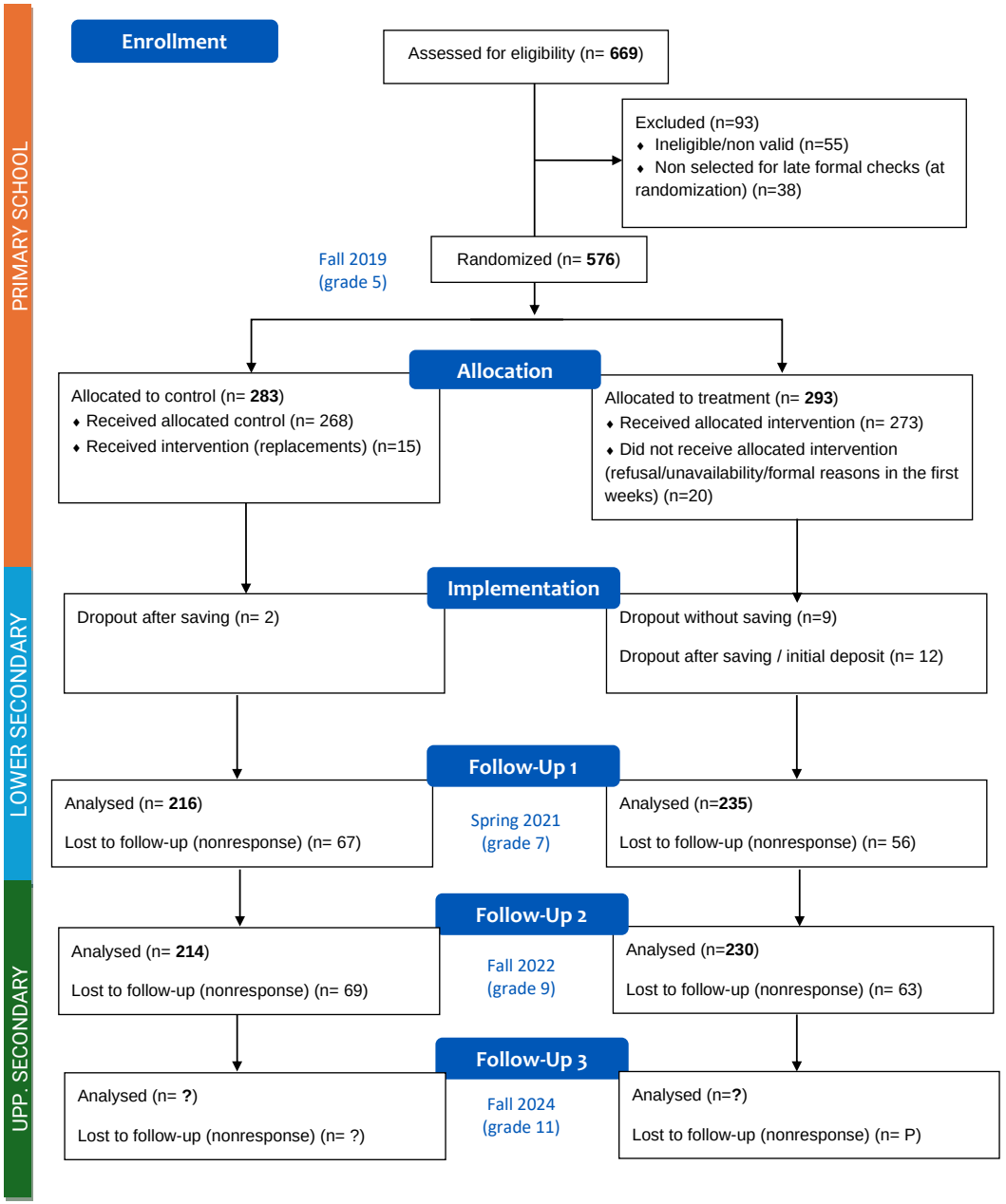
educare al futuro

Co-financed by: Impresa Sociale Con i Bambini, Fondazione Compagnia di San Paolo (Torino) e Fondazione Cassa di Risparmio di Firenze. Partners: Un Sogno per Tutti Cooperativa Sociale; Associazione Vides Main onlus; Caritas Teramo Atri; Consorzio solidarieta' aprutina societa' cooperative; Cooperativa Sociale le Api; Diaconia Valdese; Fondazione Solidarieta' Caritas onlus; Il Mio Mondo Societa' Cooperativa Sociale; Il Nostro Pianeta; Ufficio Pio Della Compagnia di San Paolo.

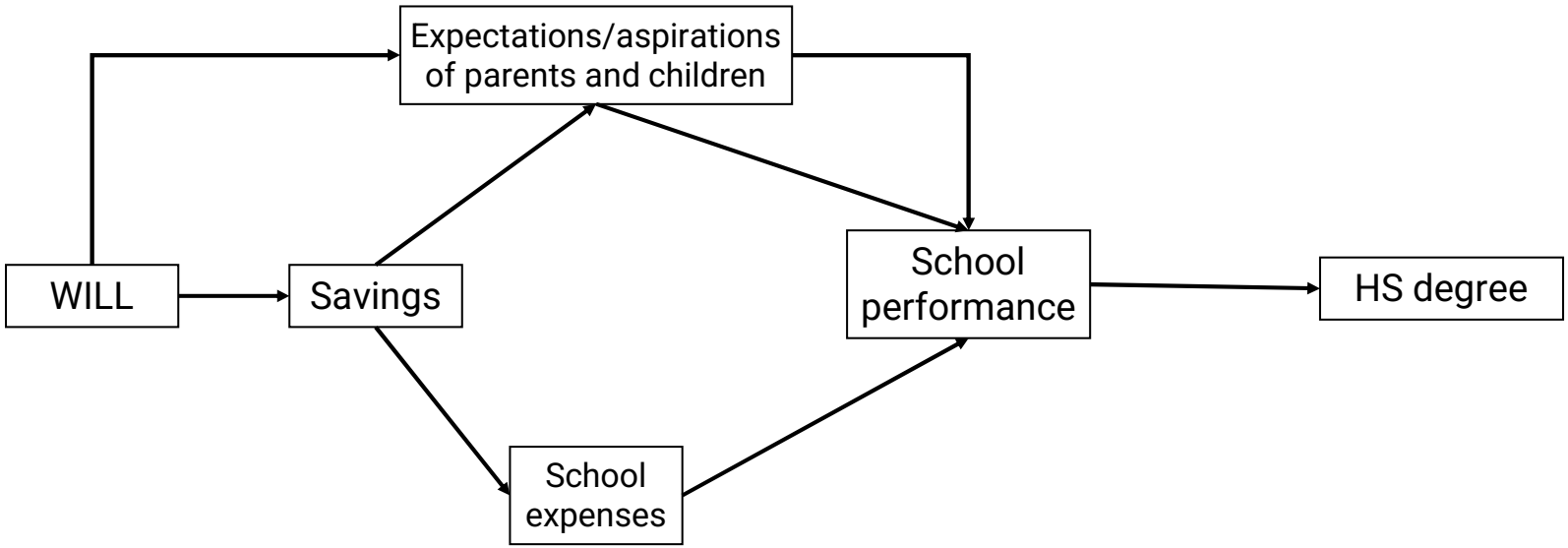
The program

- Goal: Raising low-income students' high school (HS) completion
- Saving account:
  - Saving from1 to 6 euros weekly, for four years (max 1,000 euros)
  - 4:1 match rate
  - Matched money (max 4,000 + 1,000 saved) for allowed education-related expenses (e.g. fees, transportation, computer, internet, extra-school activities, etc.)
- Other student services: financial education/assistance; educational support & guidance
- Target: 6th grade students from low-income families (N=576)
- Timeline: Between 2019 and 2024
- Sites: Turin, Florence, South Sardinia and Teramo

WILL RCT design

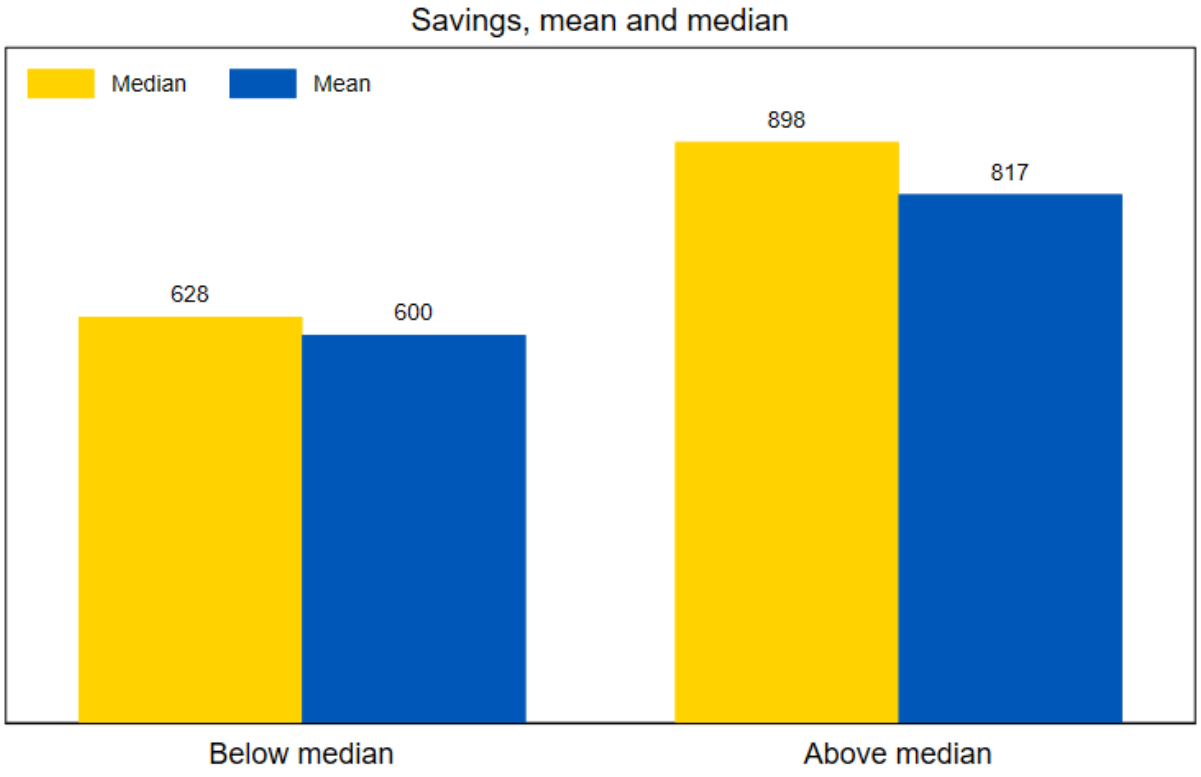


WILL - Logical framework



Savings (implementation data)

- 94% made at least one deposit
- Average savings: 718 euros
- Families with higher income save more



Savings behavior and attitudes, 20 months

After 20 months:

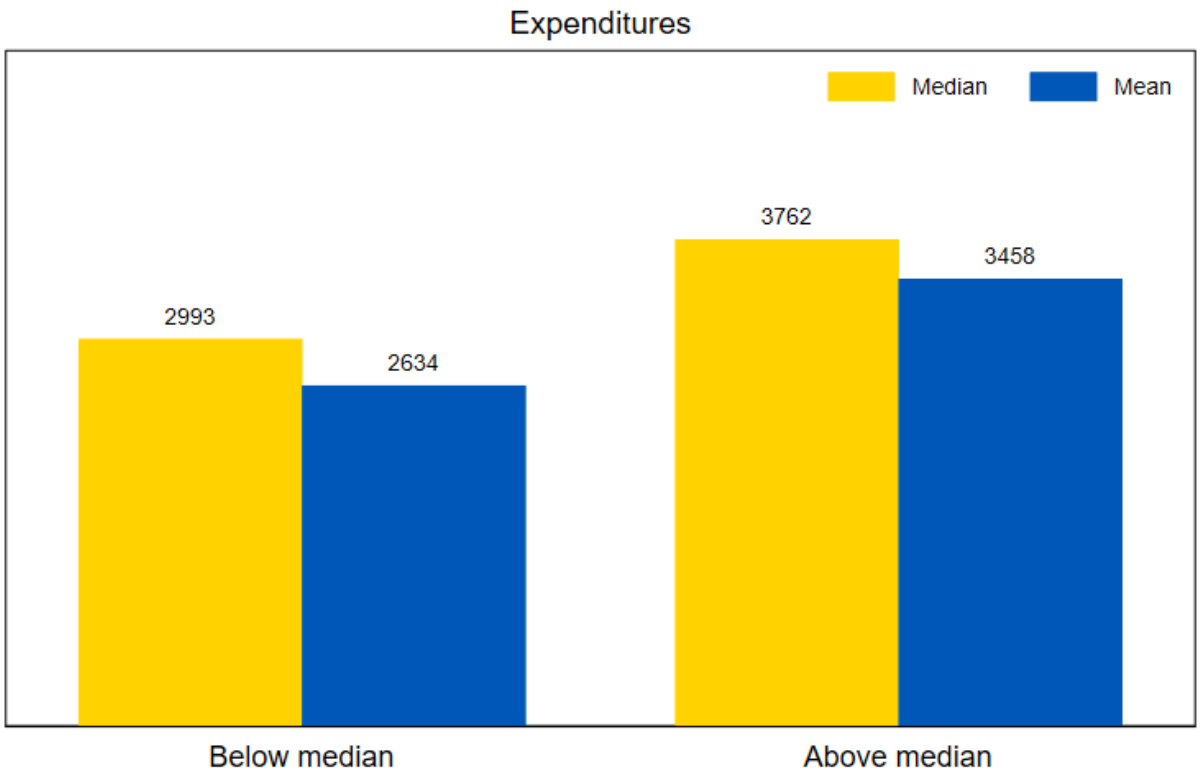
- Percentage of families saving up by 25%
- No side effects on material hardship

	(1) Has saved last 12 mo.	(2) N material hardships (0-9)	(3) Saving for children is important
Control mean	0.458	2.122	0.981
ITT	**0.117** [0.026,0.209]	**-0.014** [-0.391,0.362]	0.008 [-0.014,0.031]
N	449	448	429

Note: 95% C.I. in brackets. * p<0.10, ** p<0.05, *** p<0.01.

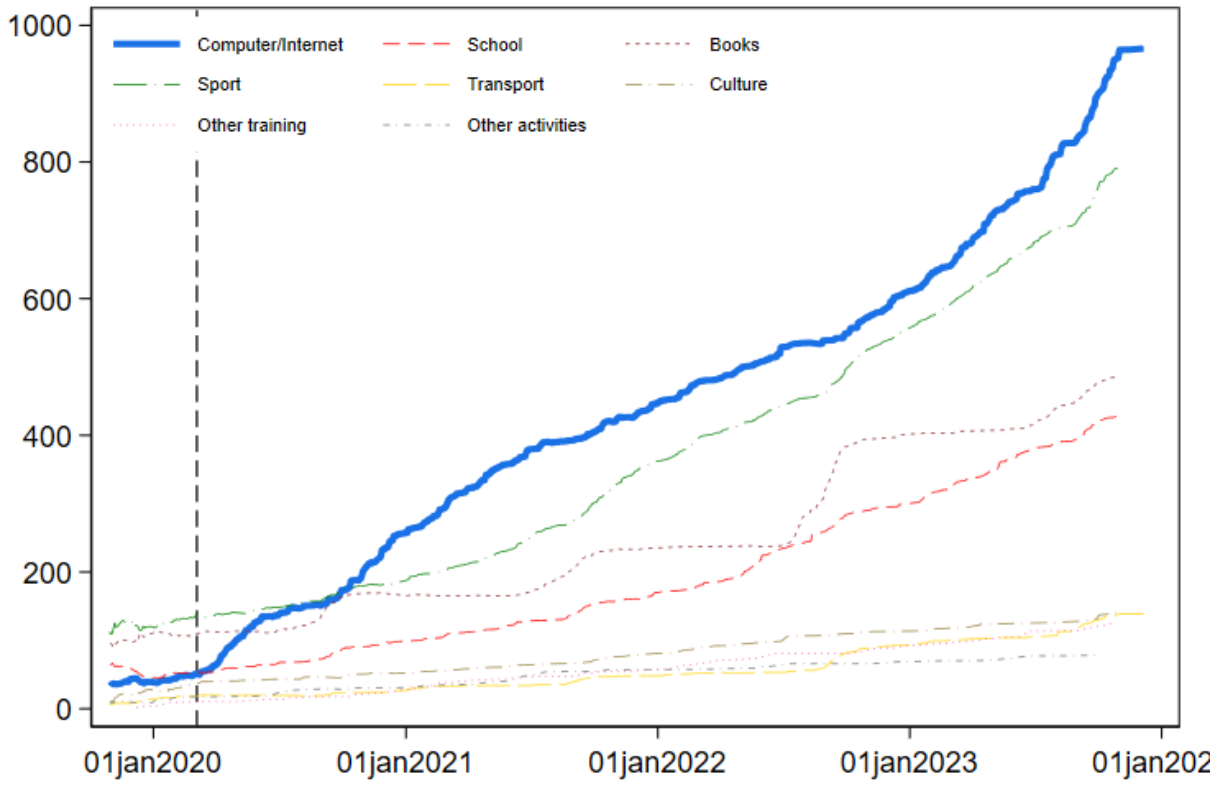
Expenditures (implementation data)

- 87% made at least one purchase
- Average expenditure: 3,080 euros, significant differences based on income



Expenditures (implementation data)

- 87% made at least one purchase
- Average expenditure: 3,080 euros, significant differences based on income
- High incidence of digital technologies (COVID), sports, and books



Edtech availability during Covid and extra school activties

Edtech availability during Covid
After 20 months, Spring 21

- 44% more students have a dedicated PC/tablet
- 28% more families have a fast internet connection

Extra-school activities
After 36 months, Fall 22

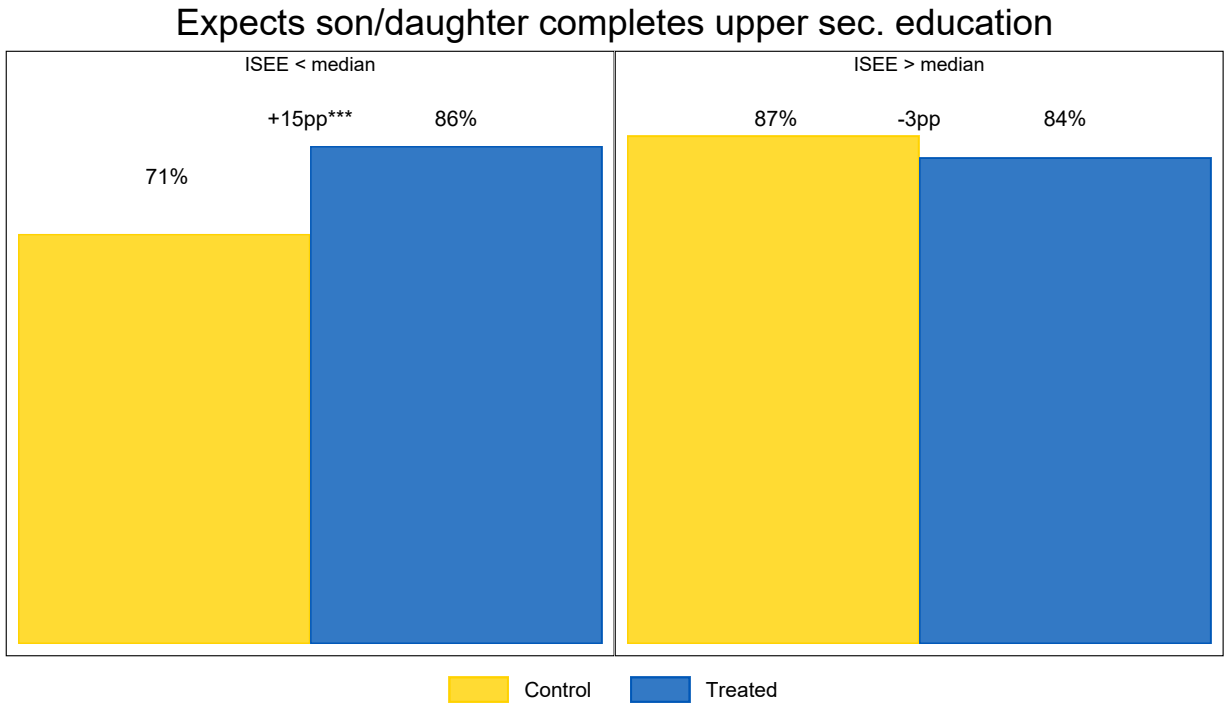
- 17% more students do sport
- No effects on other activities

	Edtech COVID		Extra-school
	Has own PC/tablet	High speed internet	Sport activities
Control mean	0.430	0.313	.59
ITT	**0.192*** [0.101,0.282]**	**0.089** [0.001,0.176]**	**.099** [0.011,0.187]**
N	456	448	440

Note: 95% C.I. in brackets. * p<0.10, ** p<0.05, *** p<0.01.

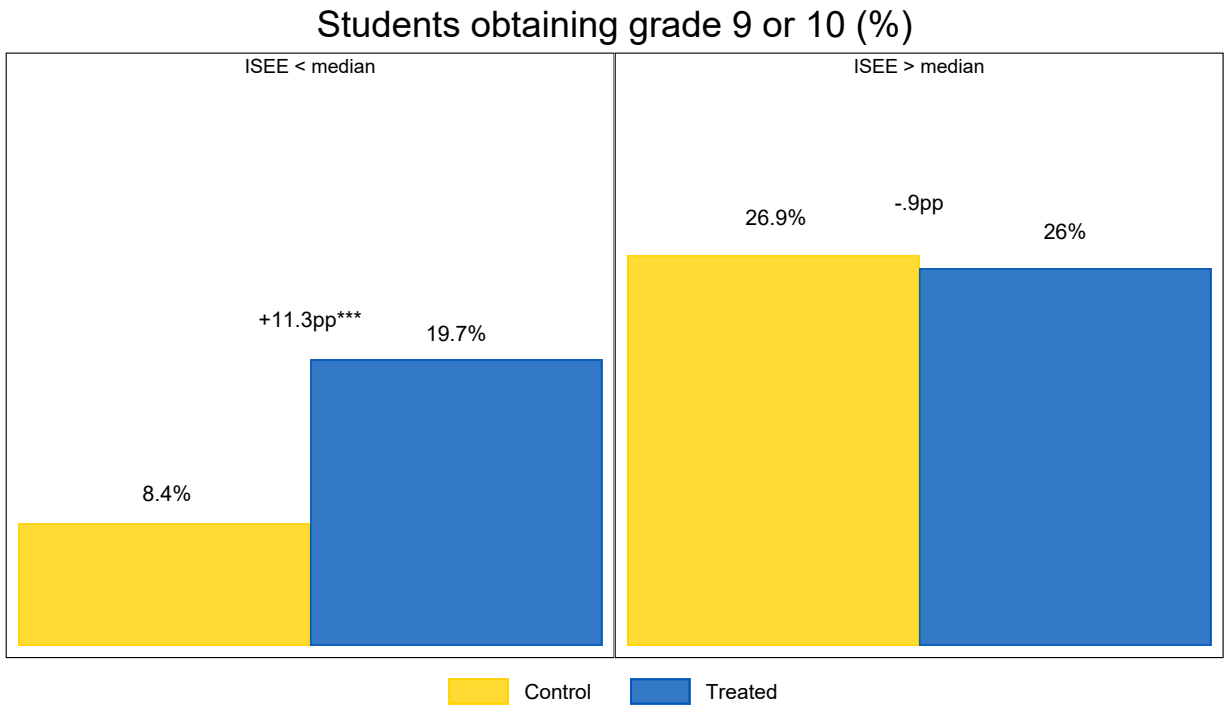
Educational aspirations and expectations

- On average, no effect on parents or children's aspirations and expectations
- But strong positive effects on lower-income parents
- No effects on parent's level of involvement in children's education



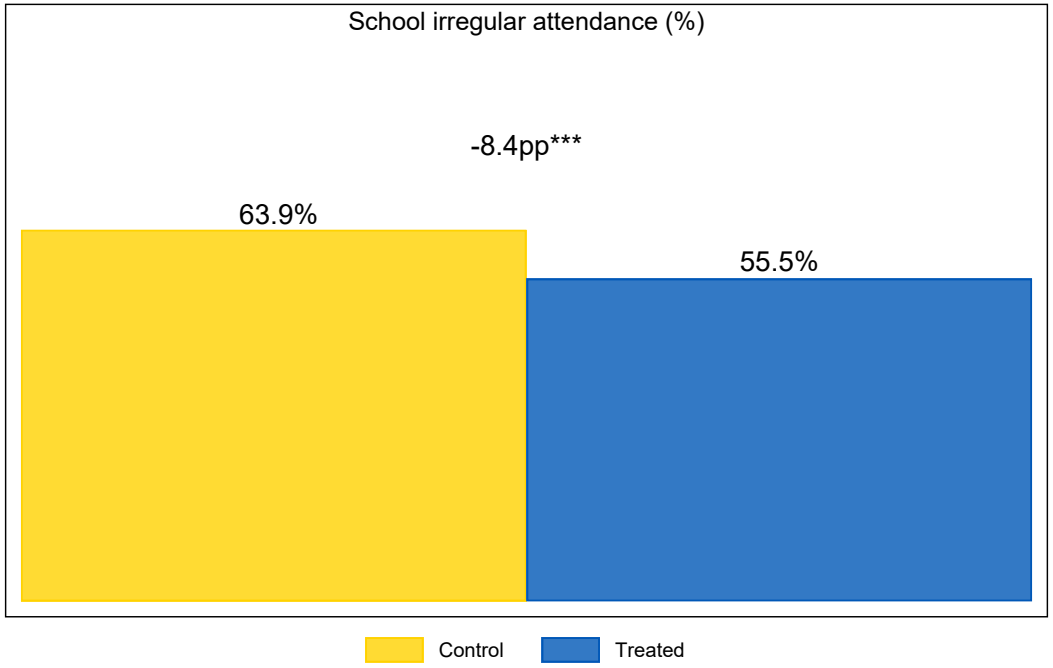
Educational performance

- No effect on average middle school grade, but strong positive effect among low incomes



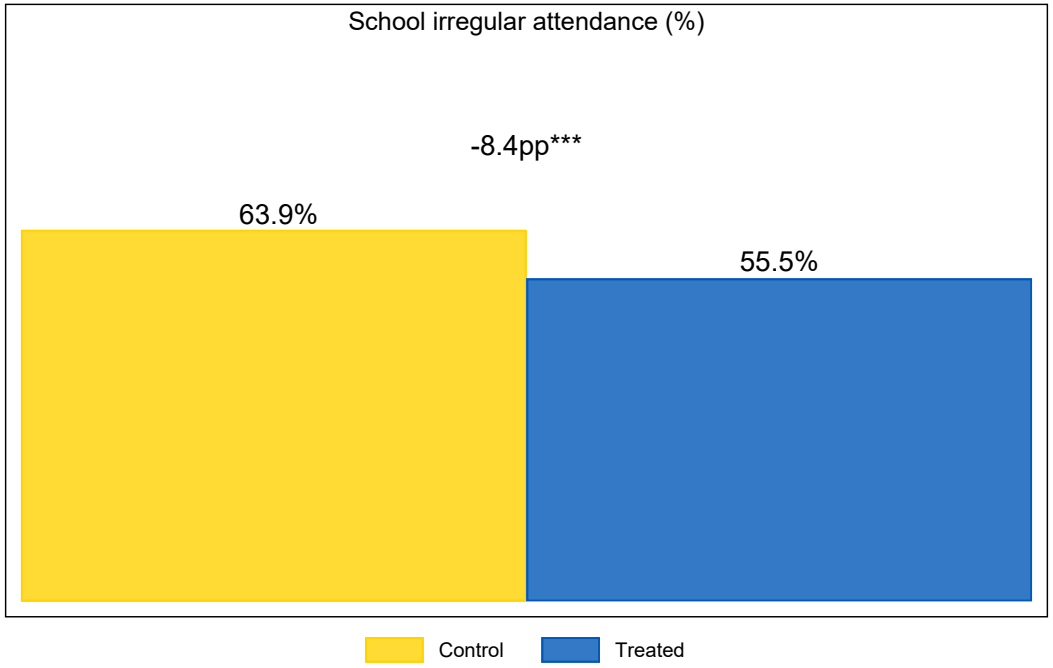
Educational performance

- No effect on average middle school grade, but strong positive effect among low incomes
- Reduction of irregular school attendance (skipping school/some lessons, arriving late to school)

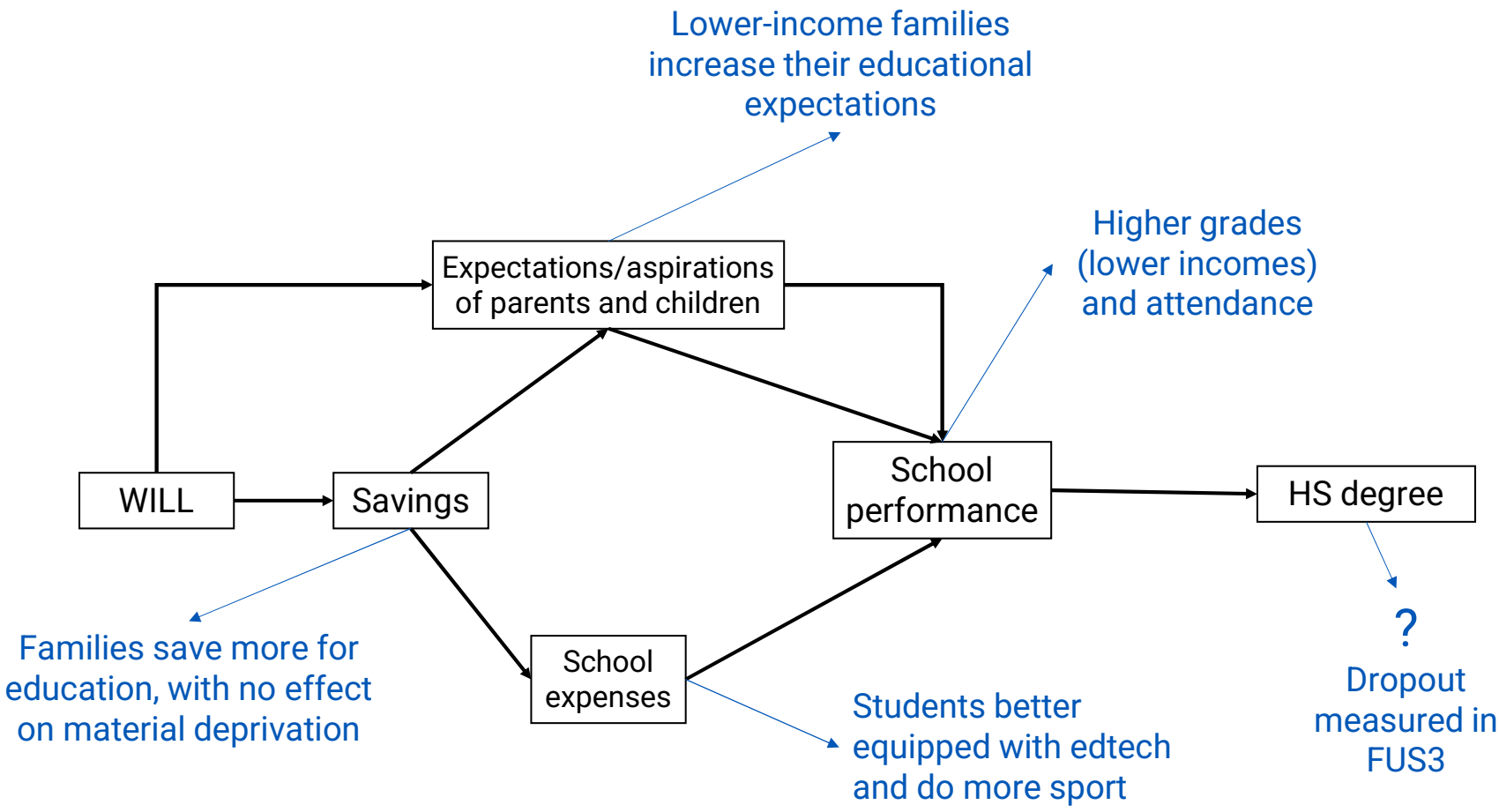


Educational performance

- No effect on average middle school grade, but strong positive effect among low incomes
- Reduction of irregular school attendance (skipping school/some lessons, arriving late to school)
- No effect on school track choice



Summary of findings



Other ongoing impact evalautions

Matched savings account programs for secondary education:

- **WILL-TO** (2021-2026)
  - 1,140 children in Turin
  - Funding: Ufficio Pio
- **PUOI** (2023-2028)
  - About 100 children in the province of Cuneo
  - Funding: Conibambini

Concluding remarks

- Italy's has record-high levels of inequality in education participation
- The existing financial aid policy needs substantial improvement
- Matched savings programs show promise
- Evaluation evidence being collected from several programs
- Open questions:
  - ? Scalability
  - ? Progressivity in the financial mechanism
  - ? Channels and mechanisms
  - ? Effects on financial literacy & future orientation

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Appendix

Italian education system

<table>
<tr><td>Grade</td><td colspan="4">Master Degree (Laurea Magistrale) ISCED 5A</td><td rowspan="2"></td><td>Age</td></tr>
<tr><td></td><td colspan="4">Bachelor degree (Laurea) ISCED 5A</td><td>22
21
20
19</td></tr>
<tr><td>13</td><td rowspan="4"></td><td rowspan="4"></td><td rowspan="4">Technical Schools (Istituti tecnici) ISCED 3a/3b</td><td rowspan="4">General schools (Licei) ISCED 3a/3b</td><td rowspan="4"></td><td>18</td></tr>
<tr><td>12</td><td>17</td></tr>
<tr><td>11</td><td rowspan="3">Regional vocational training courses ISCED 3b/3c</td><td rowspan="3">Vocational schools (Istituti professionali) ISCED 3a/3b</td><td>16</td></tr>
<tr><td>10</td><td rowspan="2">Compulsory education</td><td>15</td></tr>
<tr><td>9</td><td>14</td></tr>
<tr><td>8</td><td colspan="4" rowspan="3">Lower secondary school (Scuola secondaria di primo livello) ISCED 2a</td><td>13</td></tr>
<tr><td>7</td><td>12</td></tr>
<tr><td>6</td><td>11</td></tr>
<tr><td>5</td><td colspan="4" rowspan="5">Primary school (Scuola primaria) ISCED 1</td><td>10</td></tr>
<tr><td>4</td><td>9</td></tr>
<tr><td>3</td><td>8</td></tr>
<tr><td>2</td><td>7</td></tr>
<tr><td>1</td><td>6</td></tr>
<tr><td></td><td colspan="4">Pre-school (Scuola d'infanzia) ISCED 0</td><td></td><td>5
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3</td></tr>
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back

ACHAB - Data collection

Table: Data collection

Call	Cohort	Grade	Baseline	Wave 1	Wave 2	Wave 3
1 (2014/2015)	1	13	Fall 2014	Spring 2016	Fall 2016	Fall 2017
1 (2014/2015)	2	12	Fall 2014	Spring 2017	Fall 2017	
2 (2015/2016)	3	13	Fall 2015	Spring 2017	Fall 2017	

ACHAB - Data collection 2

- **Baseline survey** (application form): information on socio-demographic characteristics, enrollment intentions and school career.
- **Wave 1**: enrollment decision and persistence indicators such as (drop-out and number of exams) after one semester;
- **Wave 2**: persistence indicators such as (drop-out and number of exams) after one year and second-year enrollment;
- **Wave 3**: persistence indicators such as (drop-out and number of exams) after two years and third-year enrollment.

ACHAB - Group equivalence (cont)

Table: Balancing test: group averages and t-test

	Control Group Mean	Treatment Group Mean	P-Value T-Test
Female	0.541	0.597	0.138
ISEE	9567.18	9905.04	0.57
Social class			
Service and white collars	0.373	0.353	0.598
Self-employed	0.135	0.14	0.836
Working class	0.493	0.507	0.714
Parental education			
Up to lower secondary degree	0.399	0.437	0.314
Upper secondary degree	0.462	0.447	0.694
Tertiary degree	0.139	0.117	0.372
Migration background			
Native	0.791	0.8	0.766
Mixed parents	0.063	0.04	0.186
Both parents migrants	0.147	0.16	0.624
Household size (>5)	0.106	0.103	0.917

ACHAB - Group equivalence

Table: Balancing test: group averages and t-test

	Control Group Mean	Treatment Group Mean	P-Value T-Test
Low. Sec. Grade			
Excellent	0.291	0.21	0.015
Very good	0.252	0.287	0.307
Good	0.317	0.4	0.022
Sufficient	0.139	0.103	0.149
No Remedial exam	0.536	0.527	0.804
No Failure	0.772	0.813	0.178
Aims to enroll in University	0.502	0.507	0.911
N	416	300	716

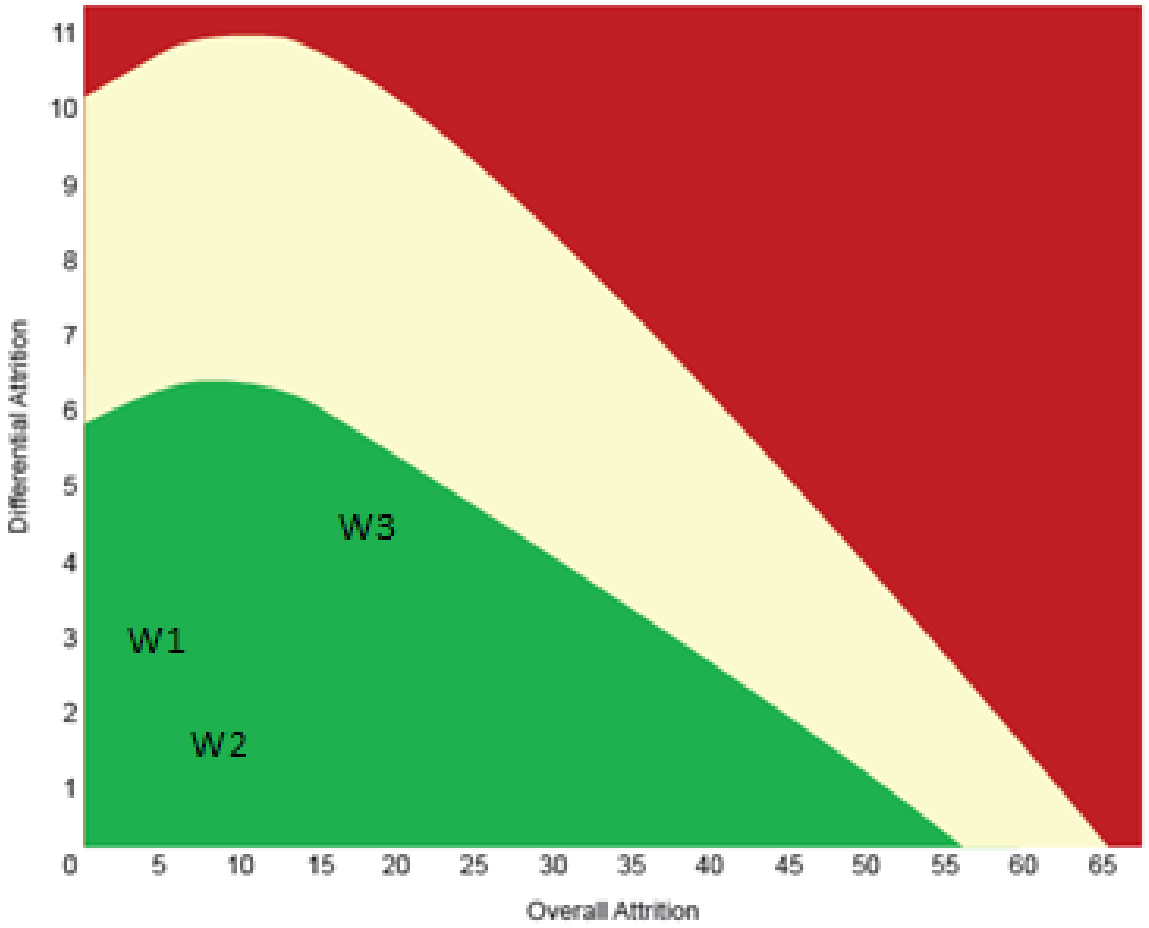
back

ACHAB - Attrition

Table: Response rates by cohort and group

	Cohort 1		Cohort 2		Cohort 3	
	Treated	Controls	Treated	Controls	Treated	Controls
Baseline	103	153	97	145	89	129
Wave I						
Respondents	101	147	95	135	86	122
Response rate	98.1%	96.1%	97.9%	93.1%	96.6%	94.6%
Wave II						
Respondents	96	142	90	130	84	121
Response rate	93.2%	92.8%	92.8%	89.7%	94.4%	93.8%
Wave III						
Respondents	88	124	-	-	-	-
Response rate	85.4%	81.0%				

ACHAB - Attrition



Source: What Works Clearinghouse

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ACHAB - Cost-effectiveness

(1) *How many students does the program need to support in order to induce an additional one to enroll at a university?*

$$Cost - effectiveness_j = \frac{Deadweight_j}{Impact_j} \tag{1}$$

(2) *How much would it cost to induce an additional one to enroll at a university?*

Cost-effectiveness I X average cost

ACHAB - Cost-effectiveness (2)

Table: Cost-effectiveness, overall and by track

First Year Enrollment	Overall	Academic	Technical	Vocational
Deadweight (a)	.671	.777	.622	.441
Impact (b)	.087	.091	.047	.205
Cost-effectiveness I (c=a/b)	**7.7**	**8.5**	**13.2**	**2.2**
Average cost (d)	4,811	5,733	4,292	3,243
Cost-effectiveness II (e=c x d)	**37,104**	**48,955**	**56,794**	**6,977**

→ Percorsi outperforms the median program included in Herbaut & Geven (2020) review of financial aid programs evaluations (Cost-effectiveness I=17.2).

HOMER - Timeline

Cohorts		2014		2015		2016		2017		2018		2019		2020		2021		2022		2023		2024		2025	
Sch. Year	**Grade**	jan-june	jul-dec	jan-june	jul-dec	jan-june	jul-dec	jan-june	jul-dec	jan-june	jul-dec	jan-june	jul-dec	jan-june	jul-dec	jan-june	jul-dec	jan-june	jul-dec	jan-june	jul-dec	jan-june	jul-dec	jan-june	jul-dec
'14-'15	13		A&R			FUS1	FUS2		FUS3										COB	COB			UNI		COB
'14-'15	12		A&R					FUS1	FUS2										COB	COB			UNI		COB
'15-'16	13				A&R			FUS1	FUS2										COB	COB			UNI		COB
'15-'16	12				A&R														COB	COB			UNI		COB
'16-'17	13						A&R												COB	COB			UNI		COB
'16-'17	12						A&R												COB	COB			UNI		COB

Legend

	high school - grades <12
	high school - grade 12
	high school - grade 13
	college - bachelor (3-yrs)
	college - master (3+2 yrs)
	college - single cycle (6 yrs)
A&R	Application and Randomization
FUS1,2,3	Followup Survey 1,2,3 ACHAB
COB	Comunicazioni Obligatorie HOMER
UNI	University archive HOMER

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HOMER - COB data

Table: Pros and Cons of the COB data

Pros	**Cons**
All subordinate employment relations, starts/extensions/ interruptions, full/part-time, industry sector	No information on self-employment, informal work, nor wages
All individuals residing in Piemonte or hired by a company located in Piemonte	24% not matched (though 8 out 10 are students, hence about 4% could be either NEET or working out of the region)

HOMER - Employment Statistics

Table: Employment Types

Employment Type	**Count**	**Percentage (%)**
Apprenticeship	273	8.21
Subordinate contract	218	6.56
Internship	326	9.80
Fixed-term contract	1,053	31.67
Temporary agency work	970	29.17
Other	389	11.70
Permanent contract	96	2.89
Total	3,325	100.00

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