

Ranking high schools using university student
performance in Italy

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Online Appendix

A Appendix: Additional tables and figures

Table A1: Summary statistics at the student level (N=642,263)

Variables	(1) mean	(2) sd	(3) min	(4) max
<i>Gender</i>				
Male	0.432	0.495	0	1
Female	0.568	0.495	0	1
<i>Age at matriculation</i>				
Age	19.07	0.492	17	22
17	0.000	0.008	0	1
18	0.063	0.244	0	1
19	0.823	0.381	0	1
20	0.094	0.292	0	1
21	0.016	0.125	0	1
22	0.003	0.053	0	1
<i>Nationality</i>				
Italian	0.976	0.152	0	1
Foreign	0.021	0.143	0	1
Missing information	0.003	0.052	0	1
<i>High school track</i>				
Classic Lyceum	0.169	0.375	0	1
Scientific Lyceum	0.452	0.498	0	1
Human Sciences Lyceum	0.090	0.286	0	1
Linguistic Lyceum	0.074	0.262	0	1
TI-Economics	0.115	0.319	0	1
TI-Technological	0.010	0.299	0	1
High school final mark	79.15	12.04	60	101
Linear distance (km from school to university)	86.30	180.6	0	1,170
<i>School Region</i>				
Piedmont	0.061	0.239	0	1
Valle d'Aosta	0.001	0.032	0	1
Lombardy	0.132	0.338	0	1
Trentino-Alto Adige	0.006	0.078	0	1
Veneto	0.073	0.261	0	1
Friuli-Venezia Giulia	0.017	0.131	0	1
Liguria	0.022	0.148	0	1
Emilia-Romagna	0.063	0.244	0	1
Tuscany	0.055	0.228	0	1
Umbria	0.015	0.120	0	1
Marche	0.030	0.169	0	1
Lazio	0.097	0.297	0	1
Abruzzo	0.027	0.163	0	1
Molise	0.007	0.085	0	1
Campania	0.129	0.335	0	1
Apulia	0.085	0.278	0	1

Basilicata	0.015	0.120	0	1
Calabria	0.046	0.209	0	1
Sicily	0.093	0.290	0	1
Sardinia	0.026	0.160	0	1
<i>School year of diploma</i>				
2008/2009	0.329	0.470	0	1
2009/2010	0.346	0.476	0	1
2010/2011	0.325	0.468	0	1
<i>Academic year of matriculation</i>				
2009/2010	0.286	0.452	0	1
2010/2011	0.339	0.473	0	1
2011/2012	0.375	0.484	0	1
<i>Years between diploma and matriculation</i>				
0	0.911	0.285	0	1
1	0.085	0.278	0	1
2	0.004	0.065	0	1
<i>Subject group of matriculation</i>				
Economics-statistics	0.160	0.367	0	1
Law-political sciences	0.149	0.356	0	1
Medicine and surgery	0.041	0.198	0	1
Healthcare professions	0.064	0.244	0	1
Mathematics, physics, and natural sciences	0.157	0.364	0	1
Sports sciences	0.019	0.135	0	1
Social Studies	0.073	0.260	0	1
Engineering and Architecture	0.178	0.383	0	1
Humanities	0.159	0.366	0	1
<i>Outcome variables</i>				
PUC first-year	0.60	0.38	0	1
GPA first-year	24.93	2.80	18	31
PUC third-year	0.57	0.37	0	1
GPA third-year	25.17	2.56	18	31
On-time graduation	0.31	0.46	0	1

Table A2: Summary statistics at the high school level (N=4,280)

Variables	(1) mean	(2) sd	(3) min	(4) max
<i>Type of high school</i>				
Classic Lyceum	0.151	0.358	0	1
Scientific Lyceum	0.305	0.460	0	1
Human Sciences Lyceum	0.110	0.313	0	1
Linguistic Lyceum	0.132	0.339	0	1
TI-Economics	0.162	0.369	0	1
TI-Technological	0.139	0.346	0	1
<i>Region</i>				
Piedmont	0.067	0.249	0	1
Valle d'Aosta	0.003	0.550	0	1
Lombardy	0.145	0.352	0	1
Trentino-Alto Adige	0.011	0.102	0	1
Veneto	0.071	0.256	0	1
Friuli-Venezia Giulia	0.019	0.137	0	1
Liguria	0.022	0.148	0	1
Emilia-Romagna	0.063	0.243	0	1
Tuscany	0.063	0.242	0	1
Umbria	0.015	0.122	0	1
Marche	0.031	0.173	0	1
Lazio	0.098	0.298	0	1
Abruzzo	0.028	0.164	0	1
Molise	0.009	0.095	0	1
Campania	0.102	0.303	0	1
Apulia	0.070	0.256	0	1
Basilicata	0.017	0.129	0	1
Calabria	0.043	0.203	0	1
Sicily	0.088	0.283	0	1
Sardinia	0.036	0.185	0	1
<i>Other characteristics</i>				
Private school	0.130	0.336	0	1
% of university students	71.68	20.34	30.87	100
% of females	57.53	25.13	0	100
% of foreign students	2.54	3.31	0	45.33

Table A3: Average high school graduation cohort size by school track

	2009	2010	2011	2009-2011
Classic Lyceum	52.50	63.28	65.47	60.42
Scientific Lyceum	69.50	82.64	87.10	79.75
Human Sciences Lyceum	36.19	44.61	49.01	43.27
Linguistic Lyceum	25.24	30.86	31.76	29.29
TI-Economics	31.56	33.58	34.10	33.08
TI-Technological	28.57	31.23	30.76	30.19
Total	45.56	53.57	55.88	51.67

Note. This table reports the average student cohort size by school track that each school contributes each year to our estimation sample (including only students enrolled in tertiary education after applying the sample selection criteria described in Section ??).

Table A4: Major choice by high school track

	Economics - statistics	Law - political sciences	Medicine - surgery	Healthcare professions	Maths, physics - natural sciences	Sports sciences	Social studies	Engineering - architecture	Humanities	Total
Classic Lyceum	9.52	27.52	5.46	4.05	16.65	0.71	7.26	9.11	19.72	100
Scientific Lyceum	15.16	11.31	4.24	6.73	22.37	1.98	4.89	24.25	9.09	100
Human Sciences Lyceum	5.81	15.51	0.31	8.28	12.58	2.13	21.45	2.19	31.75	100
Linguistic Lyceum	11.7	15.56	0.99	4.9	11.39	1.3	9.72	4.87	39.59	100
TI-Economics	44.13	16.79	0.09	3.53	7.78	1.98	5.7	4.86	15.14	100
TI-Technological	9.66	5.62	0.46	4.47	24.89	2.74	2.55	45.44	4.17	100
Total	15.59	14.98	3.11	5.74	18.32	1.78	7.09	17.8	15.57	100

Note. Percentages report pooled values of the academic years from 2009 to 2011.

Table A5: Correlation between raw and standardized outcome variables

	<i>GPA1</i>	<i>GPA1</i>	<i>PUC1</i>	<i>PUC1</i>	<i>GPA3</i>	<i>GPA3</i>	<i>PUC3</i>	<i>PUC3</i>	<i>D</i>	<i>D</i>
<i>GPA1</i>	1.00									
<i>GPA1</i>	0.86	1.00								
<i>PUC1</i>	0.34	0.31	1.00							
<i>PUC1</i>	0.30	0.33	0.93	1.00						
<i>GPA3</i>	0.86	0.76	0.36	0.32	1.00					
<i>GPA3</i>	0.76	0.85	0.36	0.39	0.90	1.00				
<i>PUC3</i>	0.37	0.35	0.76	0.69	0.44	0.42	1.00			
<i>PUC3</i>	0.33	0.37	0.71	0.76	0.39	0.45	0.93	1.00		
<i>D</i>	0.34	0.33	0.51	0.44	0.40	0.39	0.64	0.56	1.00	
<i>D</i>	0.32	0.36	0.48	0.49	0.37	0.42	0.60	0.62	0.95	1.00

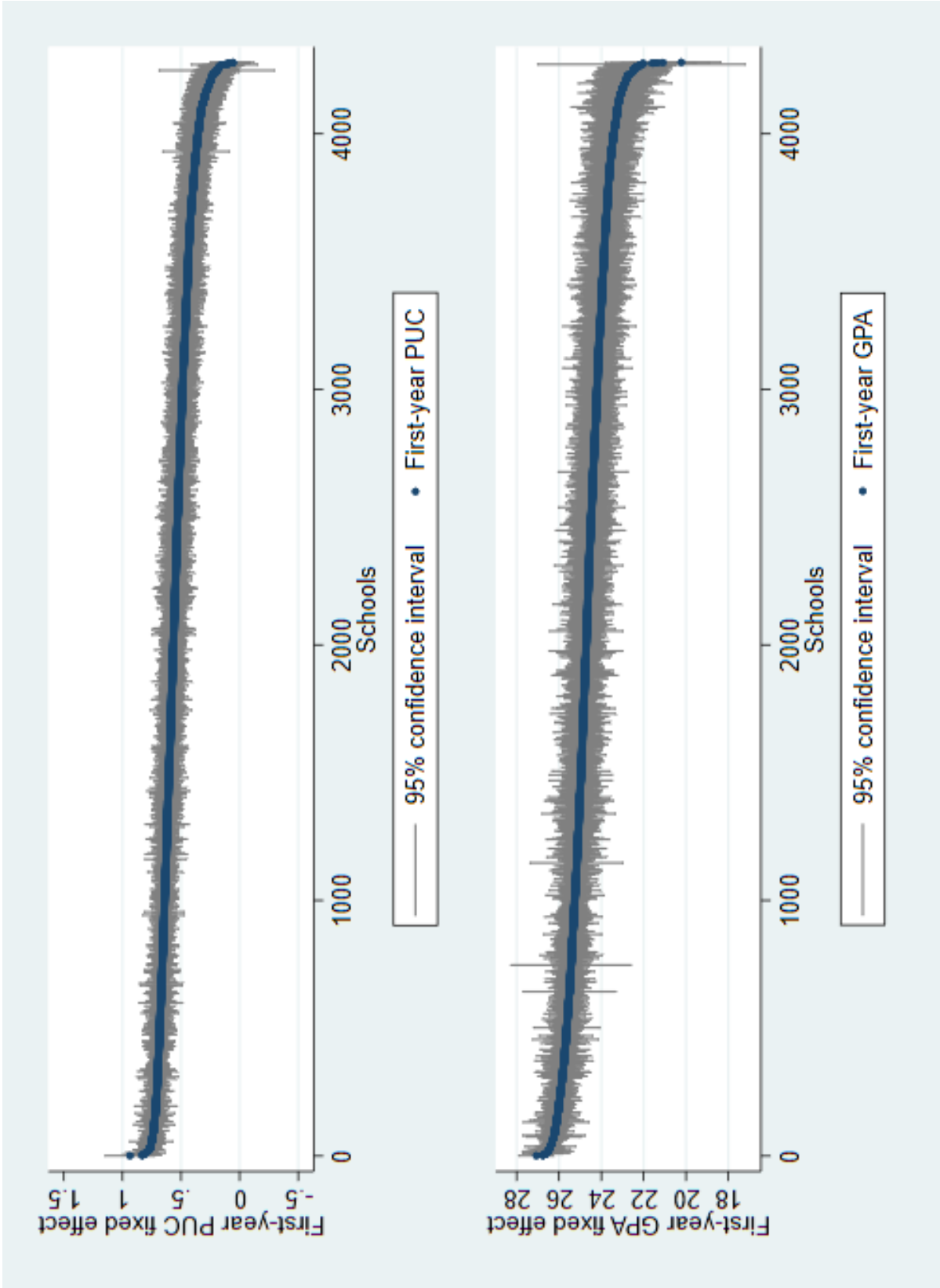
Note. *PUC*, *GPA* and *D* stand for raw Percentage of University Credits, Grade Point Average and On-time graduation, respectively, while “1” and “3” refer to the first and the third academic year, respectively. *PUC*, *GPA* and *D* stand for standardized Percentage of University Credits, Grade Point Average and On-time graduation, respectively.

Table A6: University dropouts by high school track

Type of high school	Freshmen	Still enrolled		On time graduation	
	N	N	%	N	%
Classic Lyceum	108,500	99,394	91.61	32,305	29.77
Scientific Lyceum	290,542	263,433	90.67	89,231	30.71
Human Sciences Lyceum	57,824	48,519	83.91	15,424	26.67
Linguistic Lyceum	47,747	42,380	88.76	15,878	33.25
TI-Economics	73,770	58,667	79.53	16,594	22.49
TI-Technological	63,880	48,384	75.74	11,062	17.32
Total	642,263	560,777	87.31	180,494	28.10

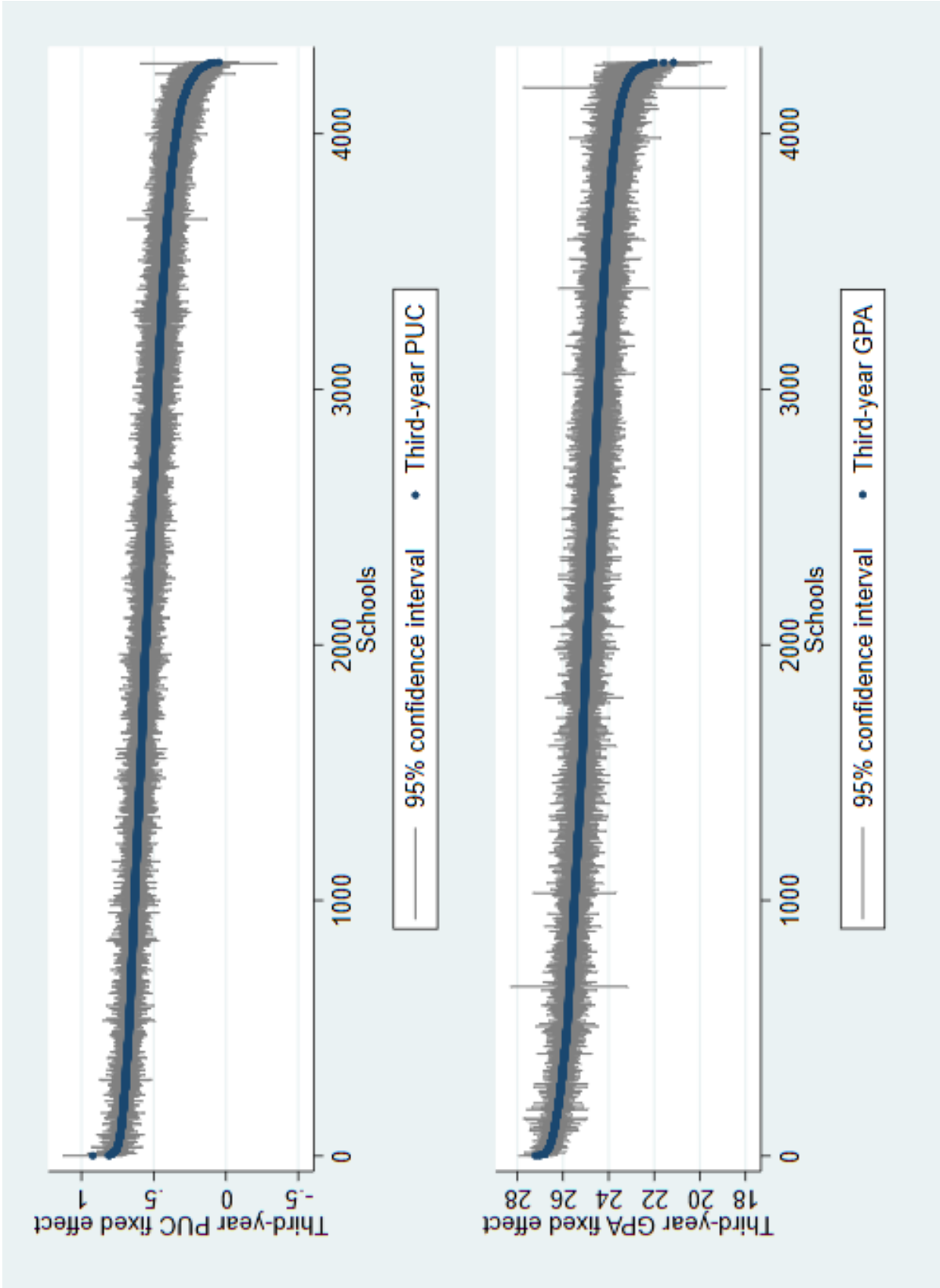
Note. The drop-out rates are calculated by high school track and freshmen are pooled for the academic years from 2009 to 2011.

Figure A1: School ranking by first-year PUC and GPA



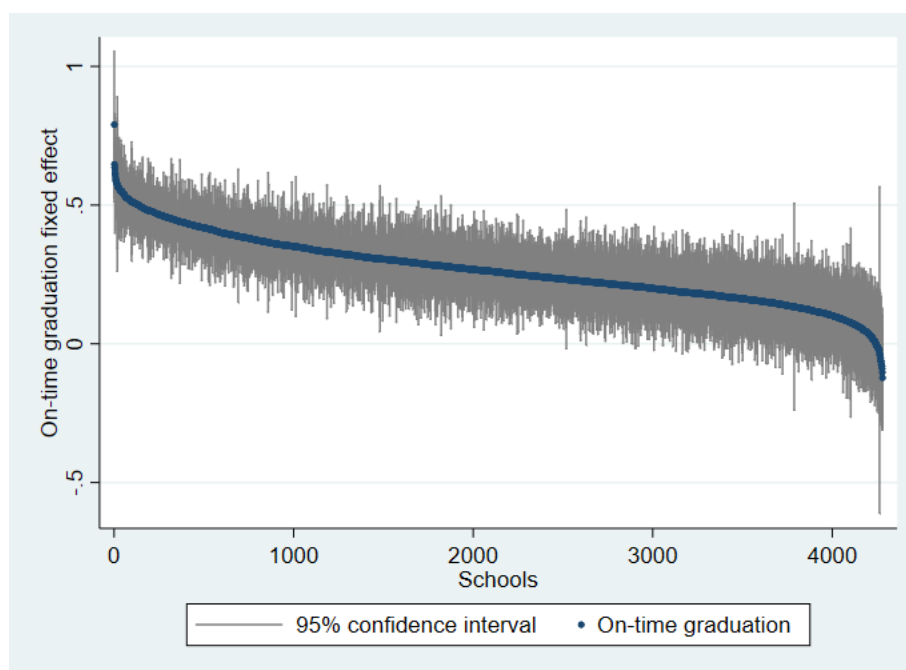
Note. This figure plots the high school fixed effects and 95% confidence intervals for first-year Percentage of University Credits (PUC) and Grade Point Average (GPA).

Figure A2: School ranking by third-year PUC and GPA



Note. This figure plots the high school fixed effects and 95% confidence intervals for third-year Percentage of University Credits (PUC) and Grade Point Average (GPA).

Figure A3: School ranking by On-time graduation fixed effect



Note. This figure plots the high school fixed effects and 95% confidence intervals for On-time graduation.

Table A7: Transition matrix of high schools grouped in deciles

Third-year ES deciles	First-year ES deciles										Total
	1	2	3	4	5	6	7	8	9	10	
1	357	66	4	1	0	0	0	0	0	0	428
	83.41	15.42	0.93	0.23	0	0	0	0	0	0	100
2	65	278	79	6	0	0	0	0	0	0	428
	15.19	64.95	18.46	1.4	0	0	0	0	0	0	100
3	6	77	245	85	14	1	0	0	0	0	428
	1.4	17.99	57.24	19.86	3.27	0.23	0	0	0	0	100
4	0	6	88	224	95	13	2	0	0	0	428
	0	1.4	20.56	52.34	22.2	3.04	0.47	0	0	0	100
5	0	0	11	104	213	88	11	1	0	0	428
	0	0	2.57	24.3	49.77	20.56	2.57	0.23	0	0	100
6	0	1	1	7	97	223	90	9	0	0	428
	0	0.23	0.23	1.64	22.66	52.1	21.03	2.1	0	0	100
7	0	0	0	1	9	97	235	83	3	0	428
	0	0	0	0.23	2.1	22.66	54.91	19.39	0.7	0	100
8	0	0	0	0	0	5	81	262	78	2	428
	0	0	0	0	0	1.17	18.93	61.21	18.22	0.47	100
9	0	0	0	0	0	0	8	69	304	46	427
	0	0	0	0	0	0	1.87	16.16	71.19	10.77	100
10	0	0	0	0	0	1	1	4	43	379	428
	0	0	0	0	0	0.23	0.23	0.93	10.05	88.55	100
Total	428	428	428	428	428	428	428	428	428	427	4,279
	10	10	10	10	10	10	10	10	10	9.98	100

Note. The matrix shows the percentage of schools changing their decile position when switching from the first-year to the third-year *Eduscopio* (ES) index.

B Appendix: Confidence intervals

In this section, we describe the steps followed to build the *Eduscopio* index confidence intervals. We follow the same procedure described in the *Eduscopio* technical reports (Bernardi and De Simone, 2018):

Step 1 We estimate the school fixed effects for GPA and PUC, θ_1^i and θ_2^i , respectively.

Step 2 Then, we normalize the fixed effects as follows:

$$\theta_j^{norm,i} = \frac{\theta_j^i - \theta_j^{min}}{\theta_j^{max} - \theta_j^{min}}, \quad (1)$$

where $j = 1, 2$ is the outcome subscript and i is the school subscript. For ease of notation, $A_j := \theta_j^{max} - \theta_j^{min}$.

Step 3 We build the *Eduscopio* index:

$$ES^i = \frac{1}{2} \cdot \theta_1^{norm,i} + \frac{1}{2} \cdot \theta_2^{norm,i}. \quad (2)$$

Step 4 We build the variance of the *Eduscopio* index:

$$var(ES^i) = \frac{1}{4} \cdot \frac{var(\theta_1^i)}{(\theta_1^{max} - \theta_1^{min})^2} + \frac{1}{4} \cdot \frac{var(\theta_2^i)}{(\theta_2^{max} - \theta_2^{min})^2} + \frac{1}{2} \cdot \frac{cov(\theta_1^i, \theta_2^i)}{(\theta_1^{max} - \theta_1^{min}) \cdot (\theta_2^{max} - \theta_2^{min})}, \quad (3)$$

where $var(\theta_j^i) = (se[\hat{\theta}_j^i])^2$ (i.e., the square of the school FEs).

$cov(\theta_1^i, \theta_2^i)$ is replaced with the sample analogue $cov(\hat{\theta}_1^i, \hat{\theta}_2^i)$.

Step 4 We compute the 95% confidence interval:

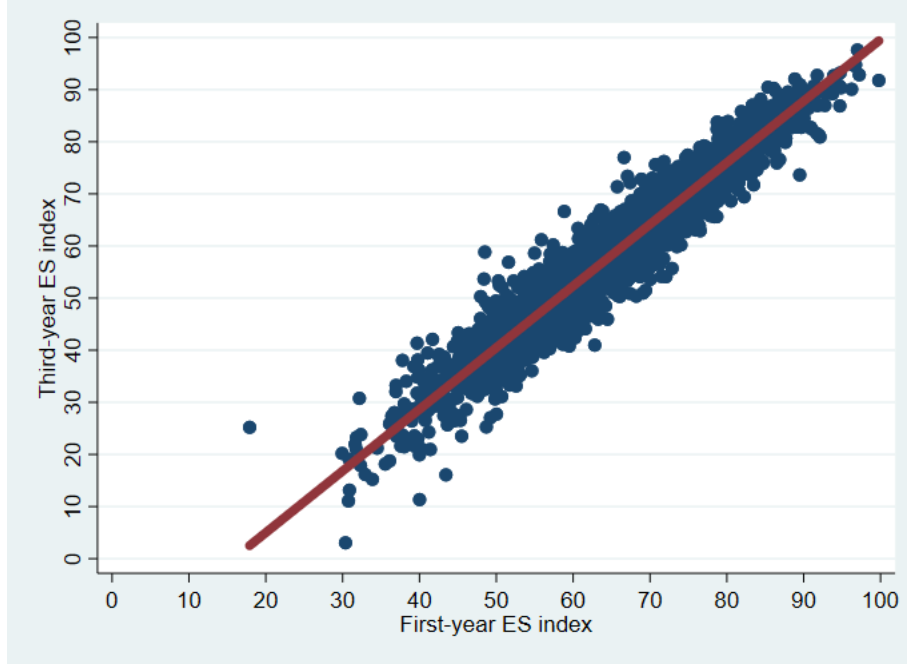
$$ES_i \pm 1.96 \cdot \frac{\sqrt{var(ES^i)}}{\sqrt{n_i}}$$

where n_i is the number of students from school i .

C Appendix: Robustness checks

In this section, we investigate the robustness of the *Eduscopio* indicators using the 31st of October as the end of the selected academic years (first and third). We do this to minimize the risk of also including in our PIs the exams achieved but not belonging to the first or to the third academic year, as we do not have precise information on how the exams are distributed across different academic years. By implementing this new threshold, Figure C1 shows that the correlation between the first- and the third-year *Eduscopio* (ES) index is strong ($\beta = 1.18$) and statistically significant. This result is in line with the upper panel of Figure 6 ($\beta = 1.05$).

Figure C1: Correlation between first- and third-year *Eduscopio* index (academic year ending on the 31st of October)



Note. This figure shows the cross-plot between the first- and third-year *Eduscopio* (ES) index when the end of the academic year is set to the 31st of October. The equation of the regression line is $ES3(31OCT)_i = -18.66(0.41) + 1.18(0.006) * ES1(31OCT)_i$ (standard errors in parentheses).

The other correlations between the indexes (with the academic year ending on the 31st of October) not shown in the figure are:

$$ES3_i = -4.78(0.26) + 1.05(0.004) * ES1_i,$$

$$ON - TIMEGRADUATION_i = -13.80(0.56) + 0.94(0.009) * ES1_i,$$

$$ES3_{100}_i = 0.96(0.15) + 0.98(0.002) * ES1_{100}_i,$$

$$ON - TIMEGRADUATION_{100}_i = 6.06(0.37) + 0.88(0.006) * ES1_{100}_i,$$

where variables with 100 indicate percentiles of the PI school ranking.

D Appendix: Ranking of schools in Milan and Naples

Table D1: School ranking: Academic track (Milan)

School name	First-year			Third-year		
	(1) Rank	(2) ES index	(3) CI	(4) Rank	(5) ES index	(6) CI
Top1	1	86.1	79.3-92.8	1	88.0	81.4-94.6
Top2	2	84.2	81.5-86.8	3	84.3	81.7-86.9
Top3	3	83.8	81.3-86.2	2	85.7	83.3-88.1
Top4	4	83.5	81.0-86.0	5	82.5	80.1-85.1
Top5	5	82.2	72.1-92.2	13	77.6	67.6-87.5
Top6	6	82.1	76.8-87.5	8	80.6	75.3-85.8
Top7	7	82.0	79.1-85.0	9	80.4	77.5-83.3
Top8	8	80.9	78.2-83.6	4	82.9	80.2-85.5
Top9	9	79.9	77.5-82.3	11	78.1	75.7-80.5
Top10	10	79.8	72.5-87.1	12	77.8	70.6-85.1
Bottom1	56	50.2	43.7-56.7	61	44.0	37.7-50.4
Bottom2	57	49.1	42.9-55.4	57	46.2	40.0-52.4
Bottom3	58	48.5	40.9-56.1	52	50.9	43.4-58.4
Bottom4	59	46.6	36.9-56.3	62	43.1	33.7-52.5
Bottom5	60	46.0	37.0-55.0	63	41.7	33.2-50.3
Bottom6	61	45.6	40.4-50.9	59	45.0	39.8-50.1
Bottom7	62	45.6	36.5-54.7	58	45.3	36.5-54.1
Bottom8	63	45.1	37.5-52.8	60	44.1	36.6-51.5
Bottom9	64	45.0	40.5-49.5	64	41.6	37.2-46.1
Bottom10	65	40.1	33.3-46.8	65	38.5	31.9-45.1

Note. This table shows the top 10 and bottom 10 Academic track schools in Milan according to the first-year *Eduscopio* (ES) index, with the rank, the value of the index, and the confidence interval, in columns (1), (2), and (3), respectively. Columns (4), (5), and (6) report the corresponding values for the third-year *Eduscopio* (ES) index.

Table D2: School ranking: Human Sciences and Linguistic track (Milan)

School name	First-year			Third-year		
	(1) Rank	(2) ES index	(3) CI	(4) Rank	(5) ES index	(6) CI
Top1	1	72.4	67.9-76.9	1	73.1	68.6-77.5
Top2	2	71.4	67.7-75.1	2	72.2	68.6-75.8
Top3	3	68.8	63.1-74.5	6	63.7	58.1-69.3
Top4	4	66.1	54.9-77.4	5	64.5	53.4-75.6
Top5	5	66.1	55.7-76.5	3	71.5	61.4-81.7
Top6	6	64.8	60.1-69.5	4	65.2	60.6-69.8
Top7	7	63.6	59.3-68.0	7	60.8	56.5-65.0
Top8	8	63.1	55.5-70.7	9	60.4	52.9-67.9
Top9	9	60.4	54.3-66.6	8	60.6	54.6-66.7
Top10	10	58.9	48.2-69.5	10	56.5	45.9-67.1
Bottom1	14	52.8	45.7-59.9	15	50.4	43.6-57.3
Bottom2	15	52.6	49.0-56.1	14	50.8	47.4-54.3
Bottom3	16	49.2	45.9-52.5	17	46.0	42.8-49.2
Bottom4	17	48.0	33.4-62.6	16	48.0	34.1-62.0
Bottom5	18	47.3	37.3-57.2	19	43.7	33.8-53.6
Bottom6	19	47.1	43.1-51.2	18	45.7	41.7-49.7
Bottom7	20	39.7	32.3-47.1	21	41.2	34.0-48.4
Bottom8	21	37.7	26.9-48.6	20	42.6	31.9-53.2
Bottom9	22	36.1	27.8-44.4	22	34.6	26.5-42.7
Bottom10	23	28.3	9.5-47.1	23	23.1	4.2-42.0

Note. This table shows the top 10 and bottom 10 Human Sciences and Linguistic track schools in Milan according to the first-year *Eduscopio* (ES) index, with the rank, the value of the index, and the confidence interval in columns (1), (2), and (3), respectively. Columns (4), (5), and (6) report the corresponding values for the third-year *Eduscopio* (ES) index.

Table D3: School ranking: Technical track (Milan)

School name	First-year			Third-year		
	(1) Rank	(2) ES index	(3) CI	(4) Rank	(5) ES index	(6) CI
Top1	1	68.6	60.1-77.1	1	62.5	54.0-71.1
Top2	2	55.9	47.3-64.6	2	54.8	46.5-63.2
Top3	3	54.4	48.6-60.2	4	52.3	46.6-58.0
Top4	4	54.0	47.6-60.3	3	53.0	46.8-59.3
Top5	5	53.7	44.1-63.4	11	47.9	38.4-57.3
Top6	6	53.7	39.4-68.0	9	49.8	36.4-63.2
Top7	7	53.1	47.1-59.1	10	48.5	42.5-54.4
Top8	8	52.8	45.9-59.7	6	49.9	43.1-56.8
Top9	9	52.7	46.8-58.6	5	50.5	44.7-56.3
Top10	10	51.6	44.3-58.9	8	49.8	42.6-57.0
Bottom1	19	47.3	39.0-55.6	13	46.5	38.5-54.5
Bottom2	20	44.9	34.0-55.9	21	41.2	30.3-52.1
Bottom3	21	44.1	37.0-51.3	19	43.3	36.3-50.2
Bottom4	22	40.9	34.8-47.0	23	39.9	33.9-45.8
Bottom5	23	40.1	32.4-47.8	20	41.6	34.2-49.1
Bottom6	24	37.7	29.0-46.4	24	32.1	23.7-40.6
Bottom7	25	30.2	17.4-42.9	26	18.5	6.3-30.7
Bottom8	26	29.6	20.1-39.2	25	31.1	22.2-39.9
Bottom9	27	28.5	14.7-42.3	28	16.2	4.0-28.3
Bottom10	28	21.3	10.7-31.9	27	17.4	6.9-27.9

Note. This table shows the top 10 and bottom 10 Technical track schools in Milan according to the first-year *Eduscopio* (ES) index, with the rank, the value of the index, and the confidence interval in columns (1), (2), and (3), respectively. Columns (4), (5), and (6) report the corresponding values for the third-year *Eduscopio* (ES) index.

Table D4: School ranking: Academic track (Naples)

School name	First-year			Third-year		
	(1) Rank	(2) ES index	(3) CI	(4) Rank	(5) ES index	(6) CI
Top1	1	81.1	78.6-83.6	1	81.2	78.7-83.7
Top2	2	79.9	77.8-82.1	2	81.2	79.0-83.3
Top3	3	79.1	76.7-81.4	4	78.5	76.2-80.9
Top4	4	77.5	70.6-84.3	3	78.9	72.2-85.6
Top5	5	75.9	71.8-80.0	6	76.9	72.8-80.9
Top6	6	75.8	73.1-78.4	5	77.1	74.4-79.7
Top7	7	74.7	72.0-77.4	7	75.2	72.6-77.8
Top8	8	73.0	65.3-80.6	10	70.8	63.3-78.4
Top9	9	71.0	68.2-73.8	8	72.1	69.4-74.9
Top10	10	70.0	64.0-75.9	9	71.5	65.6-77.3
Bottom1	38	51.1	36.8-65.4	33	55.3	41.6-68.9
Bottom2	39	49.7	41.1-58.2	38	49.8	41.3-58.3
Bottom3	40	49.0	40.4-57.6	43	42.2	33.7-50.8
Bottom4	41	46.7	39.6-53.8	39	47.5	40.7-54.4
Bottom5	42	46.3	39.0-53.7	40	47.5	40.2-54.8
Bottom6	43	43.1	35.5-50.8	42	44.7	37.2-52.2
Bottom7	44	41.6	30.2-53.1	44	41.6	30.2-53.0
Bottom8	45	41.2	31.9-50.5	45	39.8	30.7-49.0
Bottom9	46	37.9	28.4-47.4	46	34.2	25.0-43.5
Bottom10	47	28.7	22.1-35.2	47	28.8	22.4-35.1

Note. This table shows the top 10 and bottom 10 Academic track schools in Naples according to the first-year *Eduscopio* (ES) index, with the rank, the value of the index, and the confidence interval, in columns (1), (2), and (3), respectively. Columns (4), (5), and (6) report the corresponding values for the third-year *Eduscopio* (ES) index.

Table D5: School ranking: Human Sciences and Linguistic track (Naples)

School name	First-year			Third-year		
	(1) Rank	(2) ES index	(3) CI	(4) Rank	(5) ES index	(6) CI
Top1	1	73.3	67.6-79.1	1	72.9	67.2-78.5
Top2	2	72.3	66.6-78.0	2	68.2	62.6-73.8
Top3	3	66.7	59.1-74.2	3	65.9	58.5-73.4
Top4	4	62.7	57.6-67.8	4	62.1	57.1-67.1
Top5	5	59.9	55.2-64.7	6	58.6	53.9-63.4
Top6	6	58.2	52.8-63.7	7	55.8	50.4-61.2
Top7	7	55.3	50.8-59.8	5	58.7	54.3-63.1
Top8	8	54.4	48.5-60.4	8	54.2	48.3-60.0
Top9	9	53.8	47.7-59.9	10	52.8	46.7-58.8
Top10	10	51.8	46.2-57.5	9	53.1	47.6-58.6
Bottom1	14	49.4	44.6-54.2	14	46.6	41.9-51.3
Bottom2	15	49.1	37.5-60.8	21	41.2	30.2-52.3
Bottom3	16	47.3	37.8-56.9	22	37.1	27.5-46.7
Bottom4	17	47.3	41.1-53.4	16	44.1	38.1-50.1
Bottom5	18	46.8	37.2-56.5	18	43.3	33.7-52.9
Bottom6	19	45.2	36.9-53.6	20	41.4	33.0-49.8
Bottom7	20	45.2	34.8-55.7	15	44.3	34.0-54.6
Bottom8	21	42.7	36.9-48.4	17	43.5	37.8-49.3
Bottom9	22	41.7	35.1-48.3	19	42.8	36.3-49.3
Bottom10	23	40.2	34.4-46.1	23	36.5	30.8-42.3

Note. This table shows the top 10 and bottom 10 Human Sciences and Linguistic track schools in Naples according to the first-year *Eduscopio* (ES) index, with the rank, the value of the index, and the confidence interval in columns (1), (2), and (3), respectively. Columns (4), (5), and (6) report the corresponding values for the third-year *Eduscopio* (ES) index.

Table D6: School ranking: Technical track (Naples)

School name	First-year			Third-year		
	(1) Rank	(2) ES index	(3) CI	(4) Rank	(5) ES index	(6) CI
Top1	1	53.3	49.0-57.7	4	48.6	44.3-52.9
Top2	2	52.8	49.9-55.7	2	51.9	49.1-54.8
Top3	3	51.5	44.9-58.2	1	52.9	46.2-59.5
Top4	4	50.9	46.5-55.3	3	50.6	46.3-55.0
Top5	5	48.2	43.7-52.8	6	44.2	39.7-48.7
Top6	6	48.1	41.6-54.5	5	44.6	38.2-51.0
Top7	7	47.6	43.0-52.2	8	43.3	38.8-47.8
Top8	8	47.0	41.8-52.2	7	43.7	38.6-48.9
Top9	9	43.2	38.2-48.3	10	40.2	35.2-45.2
Top10	10	41.7	35.6-47.9	11	38.0	31.9-44.1
Bottom1	11	40.7	34.0-47.4	12	36.9	30.2-43.6
Bottom2	12	40.0	33.5-46.4	9	41.1	34.8-47.5
Bottom3	13	39.9	30.2-49.6	13	36.6	27.0-46.1
Bottom4	14	39.5	28.8-50.2	15	29.1	18.7-39.5
Bottom5	15	35.5	31.0-40.1	14	32.7	28.2-37.1

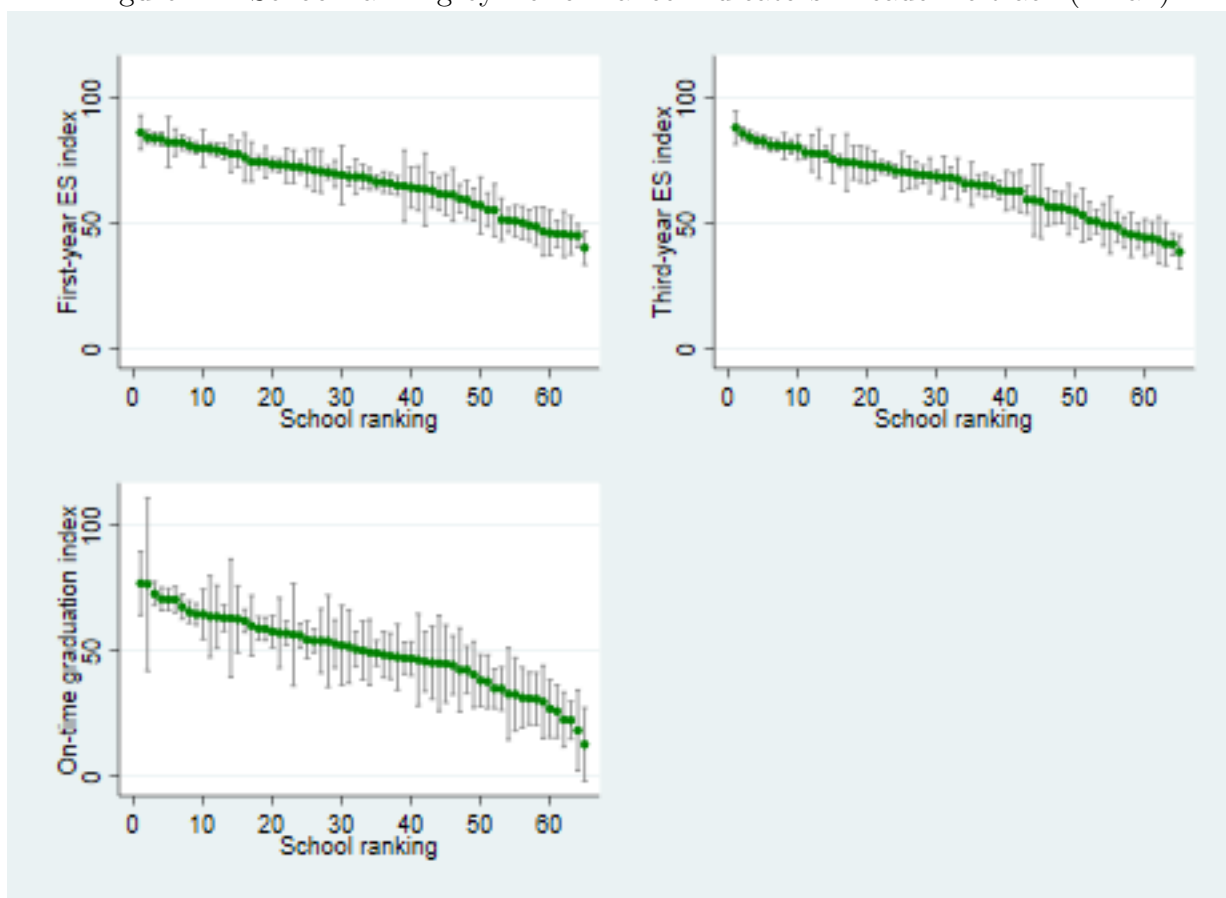
Note. This table shows the top 10 and bottom 5 (i.e. only 15 Technical schools are available in Naples) Technical track schools in Naples according to the first-year *Eduscopio* (ES) index, with the rank, the value of the index, and the confidence interval in columns (1), (2), and (3), respectively. Columns (4), (5), and (6) report the corresponding values for the third-year *Eduscopio* (ES) index.

Table D7: Between (vs. within-)high school variance of school *Eduscopio* performance indicators

Index	Italy	Rome	Milan	Naples
First-year ES	0.28	0.28	0.51	0.44
Third-year ES	0.32	0.31	0.53	0.48
On-time graduation	0.19	0.25	0.45	0.41

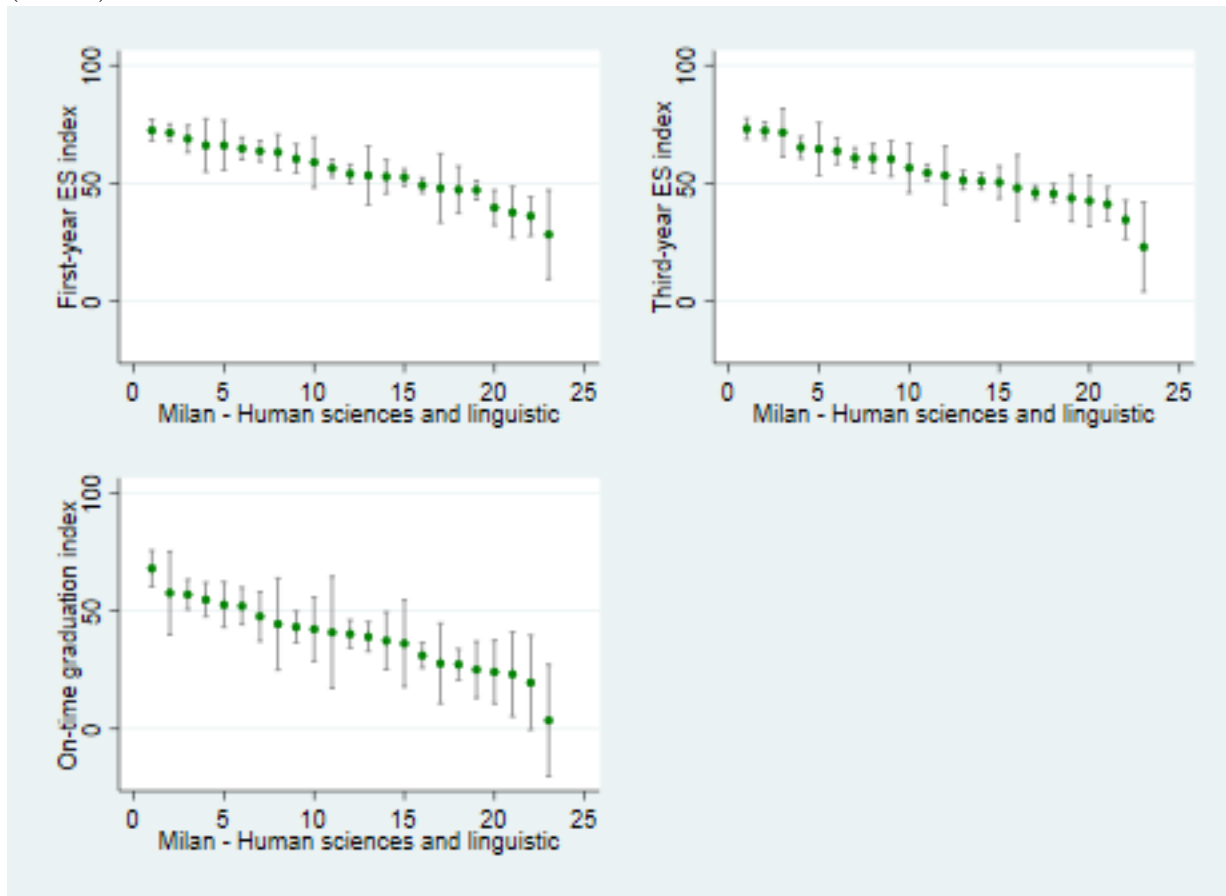
Note. Each value shows the percentage of the total variation in each *Eduscopio* (ES) performance indicator accounted for by differences in school tracks. The residual percentage is accounted for by within-track variation (that is variation across schools of the same track). The analysis has been performed through a fixed effect ‘panel’ estimator in which groups are school tracks and schools the units of observations within tracks (and take the role of time in the usual panel setting).

Figure D1: School ranking by Performance Indicators: Academic track (Milan)



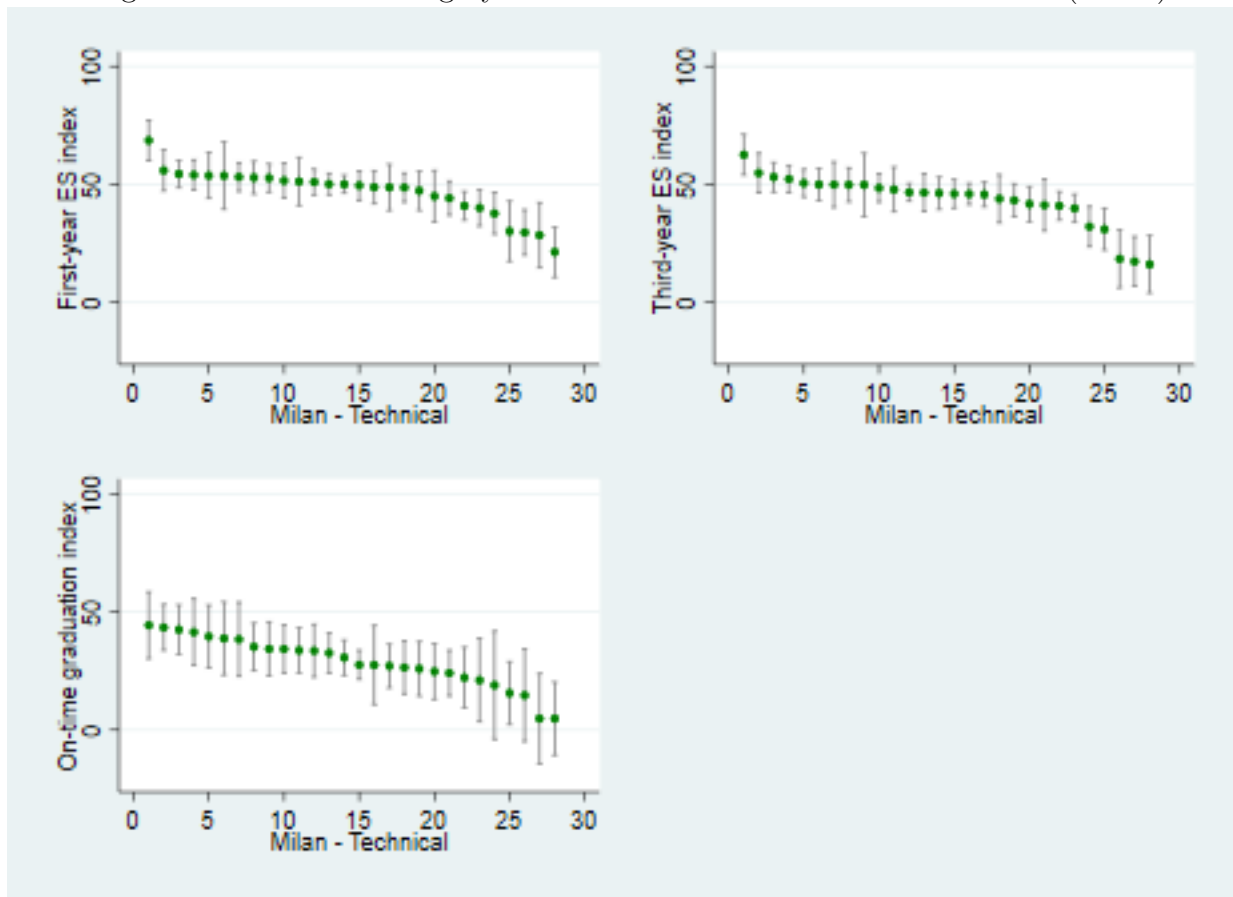
Note. Each graph reports the school ranking according to each Performance Indicator, namely, first-year *Eduscopio* (ES) index, third-year *Eduscopio* (ES) index and On-time graduation index along with the 95% confidence interval.

Figure D2: School ranking by Performance Indicators: Human Sciences and Linguistic track (Milan)



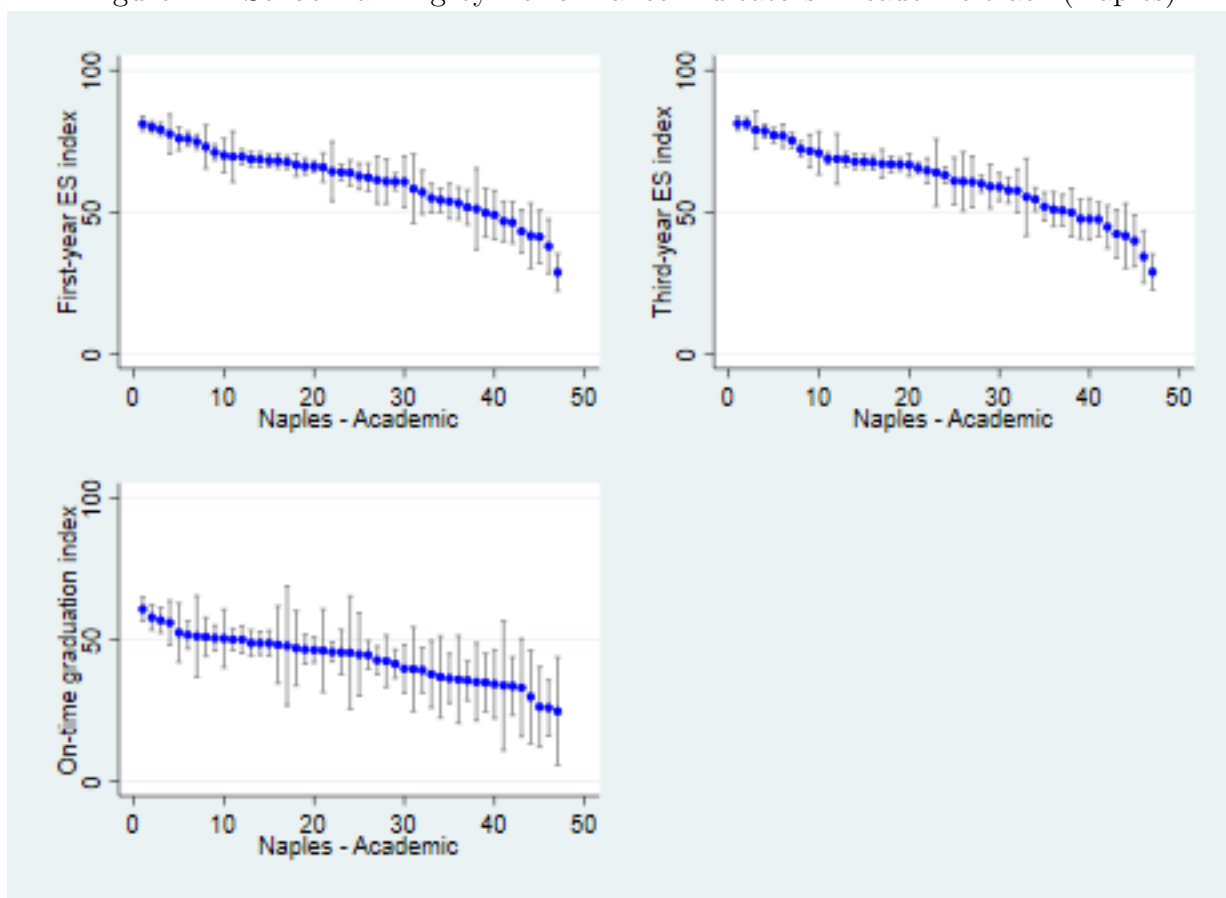
Note. Each graph reports the school ranking according to each Performance Indicator, namely, first-year *Eduscopio* (ES) index, third-year *Eduscopio* (ES) index and On-time graduation index along with the 95% confidence interval.

Figure D3: School ranking by Performance Indicators: Technical track (Milan)



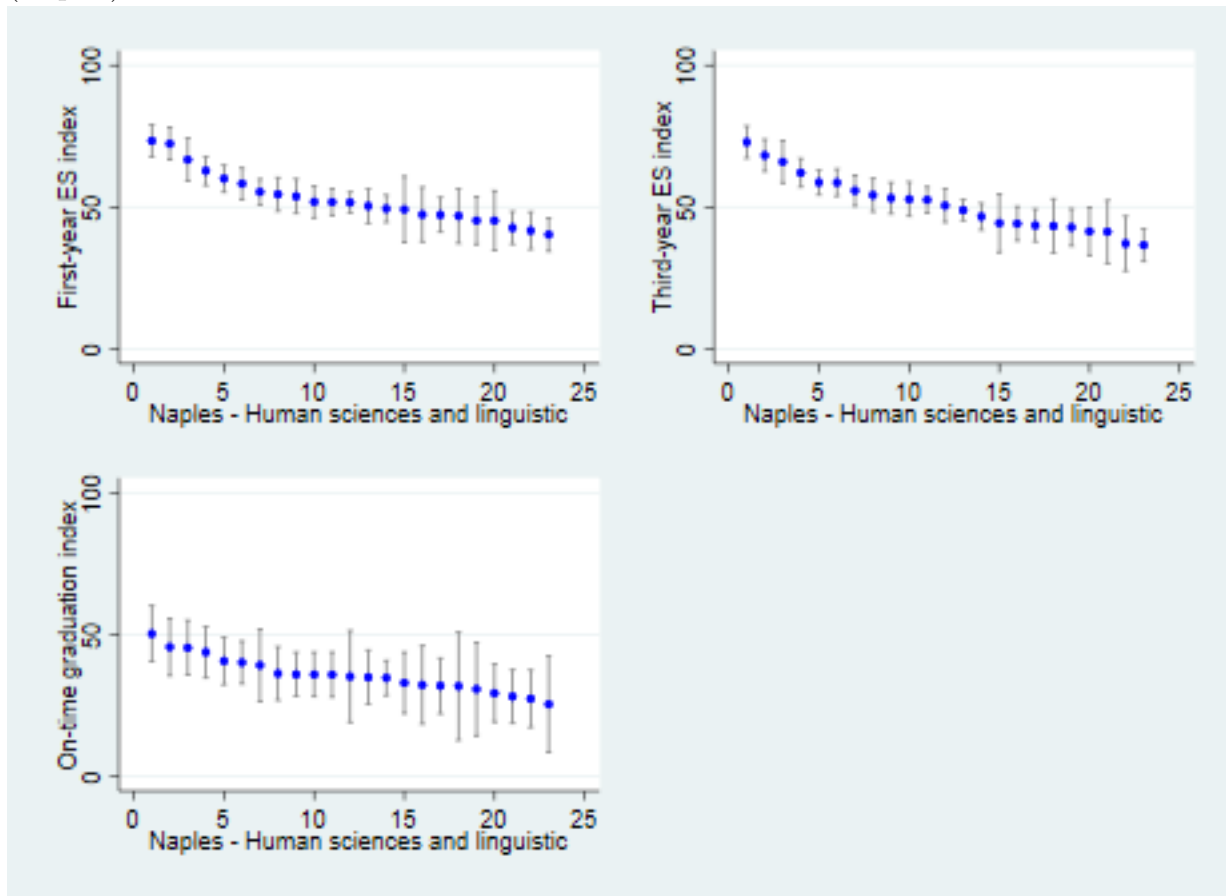
Note. Each graph reports the school ranking according to each Performance Indicator, namely, first-year *Eduscopio* (ES) index, third-year *Eduscopio* (ES) index and On-time graduation index along with the 95% confidence interval.

Figure D4: School ranking by Performance Indicators: Academic track (Naples)



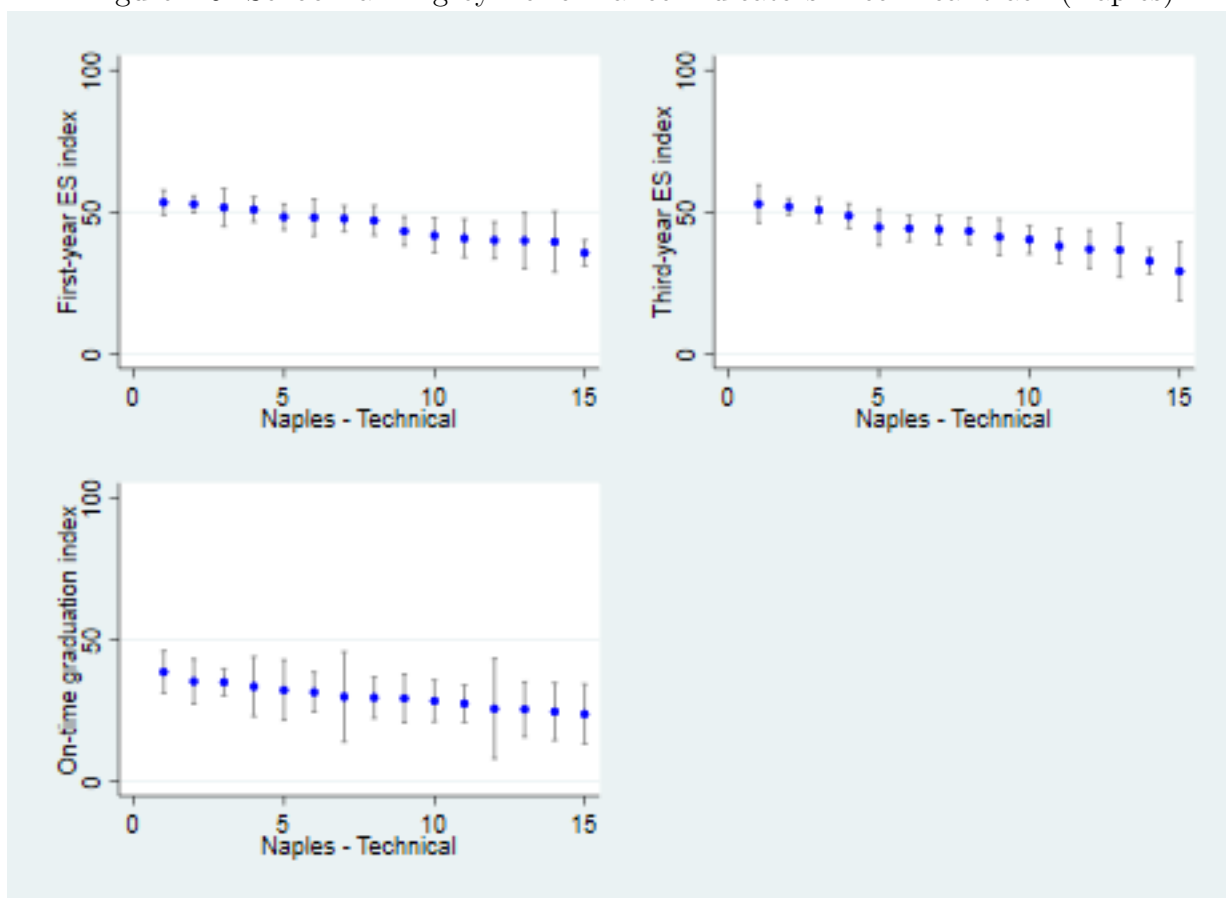
Note. Each graph reports the school ranking according to each Performance Indicator, namely, first-year *Eduscopio* (ES) index, third-year *Eduscopio* (ES) index and On-time graduation index along with the 95% confidence interval.

Figure D5: School ranking by Performance Indicators: Human Sciences and Linguistic track (Naples)



Note. Each graph reports the school ranking according to each Performance Indicator, namely, first-year *Eduscopio* (ES) index, third-year *Eduscopio* (ES) index and On-time graduation index along with the 95% confidence interval.

Figure D6: School ranking by Performance Indicators: Technical track (Naples)



Note. Each graph reports the school ranking according to each Performance Indicator, namely, first-year *Eduscopio* (ES) index, third-year *Eduscopio* (ES) index and On-time graduation index along with the 95% confidence interval.

References

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