

Desarrollo Económico

Andrés Barrios Fernández

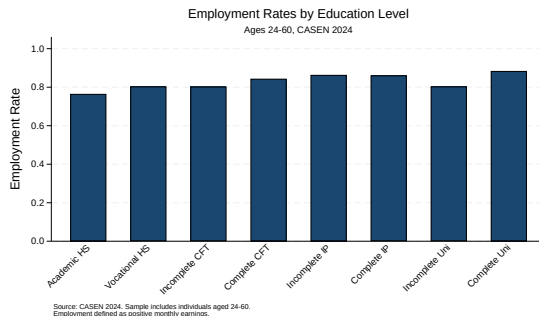
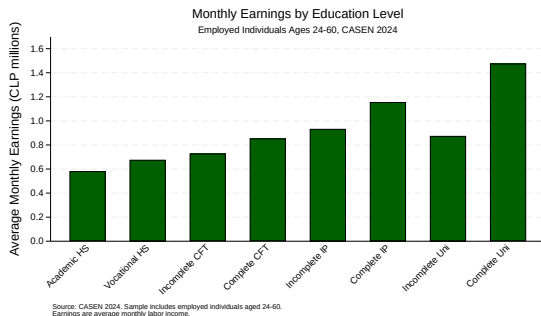
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Universidad de los Andes

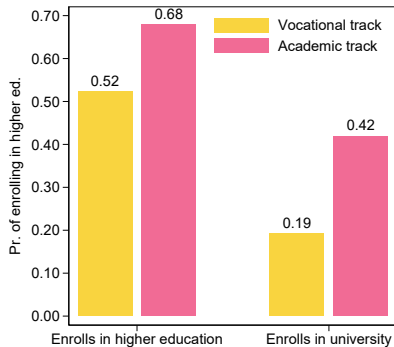
October 23, 2026

Retornos a la Educación

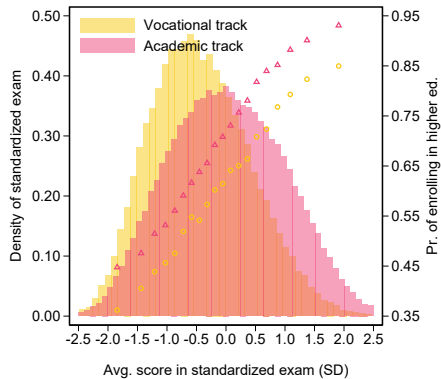
- Positivos y significativos (estadísticamente y económicamente).
- Esconden bastante heterogeneidad: calidad del match estudiante-institución.
 - Características de los estudiantes.
 - Características de las instituciones.



Diferencias en trayectorias educativas

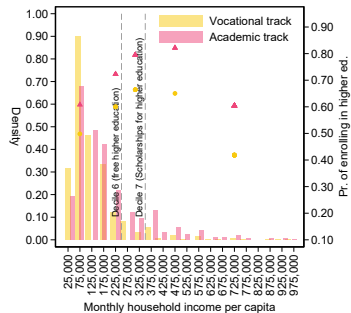


Gap in higher ed enrollment

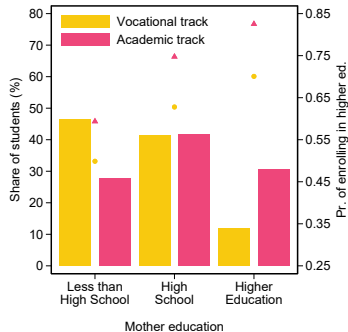


Gap by test scores

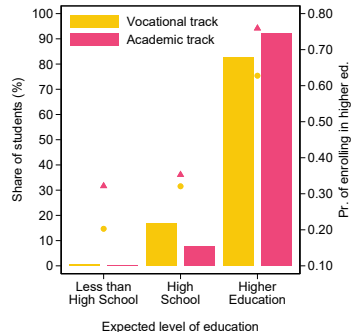
Trayectorias educativas y antecedentes familiares



Gap by hh income

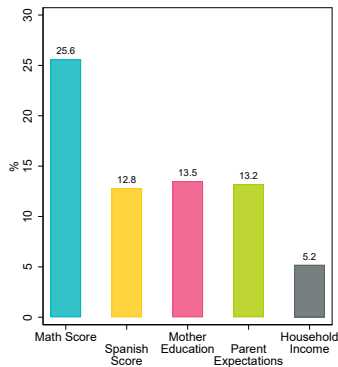


Gap by mother ed



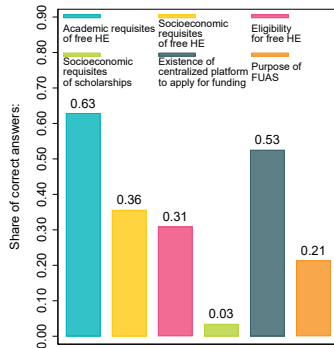
Gap by parental exp

Entendiendo la brecha en trayectorias educativas

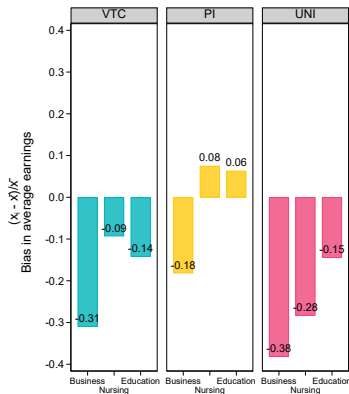


Decomposition of the gap

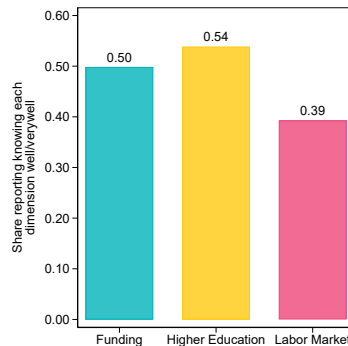
Fricciones de información



Knowledge on financial aid

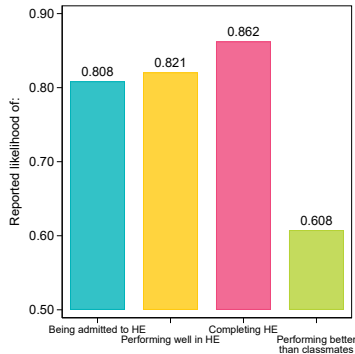


Knowledge on labor market

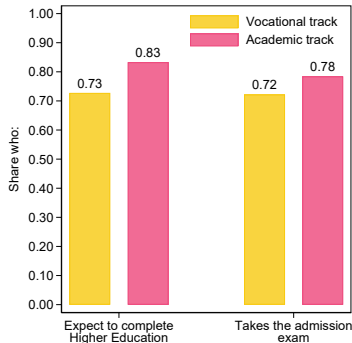


Perceived knowledge level

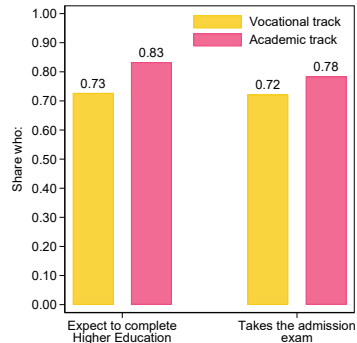
Confianza y Demanda por Educación Superior



Self-efficacy



Expected education



Plans for future education

Restricciones y fricciones en inversión en educación

Missing talent:

- Hoxby, C. M., & Avery, C. (2013). The Missing “One-Offs”: The Hidden Supply of High-Achieving, Low-Income Students. Brookings Papers on Economic Activity, Spring.

Affirmative action:

- Zachary Bleemer, Affirmative Action, Mismatch, and Economic Mobility after California's Proposition 209, The Quarterly Journal of Economics, Volume 137, Issue 1, February 2022, Pages 115–160.
- Tincani, M. M., Kosse, F., & Miglino, E. (2022). The Effect of Preferential Admissions on the College Participation of Disadvantaged Students: The Role of Pre-College Choices.

Credit constraints:

- Solis, A. (2017). Credit access and college enrollment. Journal of Political Economy, 125(2), 562-622.

Restricciones y fricciones en inversión en educación

Information constraints:

- Jensen, R. (2010). The (perceived) returns to education and the demand for schooling. *The Quarterly Journal of Economics*, 125(2), 515-548.
- Hoxby, C. M., & Turner, S. (2015). What high-achieving low-income students know about college. *American Economic Review*, 105(5), 514-17.
- Dynarski, S., Libassi, C. J., Micheltore, K., & Owen, S. (2021). Closing the gap: The effect of reducing complexity and uncertainty in college pricing on the choices of low-income students. *American Economic Review*, 111(6), 1721-56.

Other constraints:

- Bettinger, E. P., Long, B. T., Oreopoulos, P., & Sanbonmatsu, L. (2012). The role of application assistance and information in college decisions: Results from the H&R Block FAFSA experiment. *The Quarterly Journal of Economics*, 127(3), 1205-1242.
- Carrell, S. & Sacerdote, B. (2017). Why do college-going interventions work? *American Economic Journal: Applied Economics*, 9(3), 124-51
- Oreopolous, P. (2017). "Behavioral Barriers to Education."
<https://www.nber.org/reporter/2017number1/behavioral-barriers-education>
- Adam M. Lavecchia, Philip Oreopoulos, and Robert S. Brown (2020). "Long-Run Effects from Comprehensive Student Support: Evidence from Pathways to Education." *AER: Insights* 2020, 2(2): 209-224
<https://doi.org/10.1257/aeri.20190114>.

Hoxby, C. M., & Avery, C. (2013)

Talented students from disadvantaged backgrounds and college applications

Figure 3. High-Achieving Students, by Parents' Educational Attainment^a

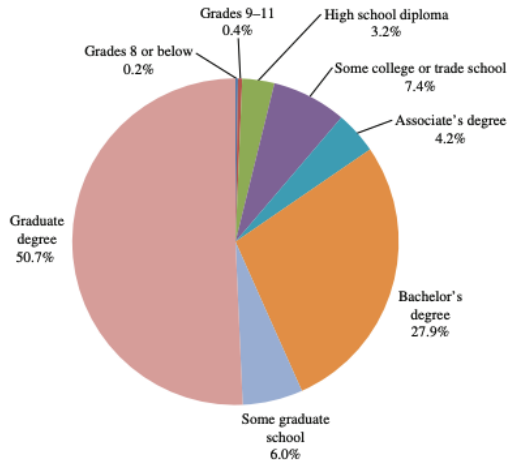
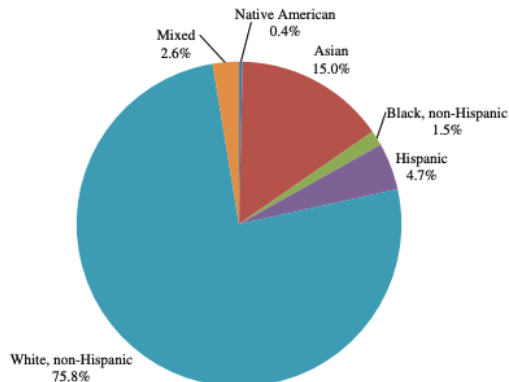


Figure 4. High-Achieving Students, by Race and Ethnicity^a



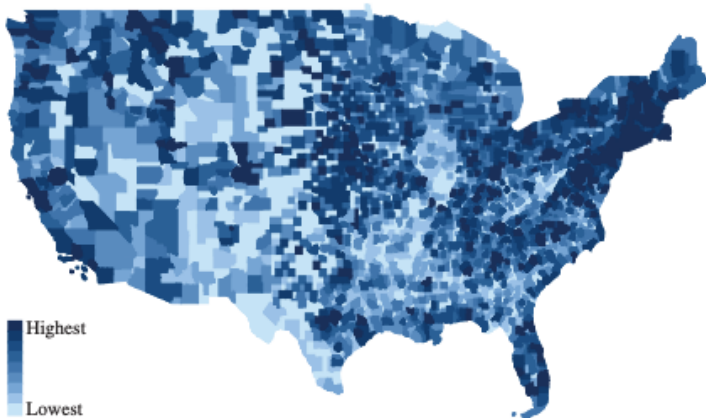
Source: Authors' calculations using the combined data set described in the text.

a. Percentages are of those high-achieving students (defined as in table 2) who took an ACT or a College Board test and answered the question about their race or ethnicity (2.1 percent of high achievers declined to answer).

Hoxby, C. M., & Avery, C. (2013)

Talented students from disadvantaged backgrounds and college applications

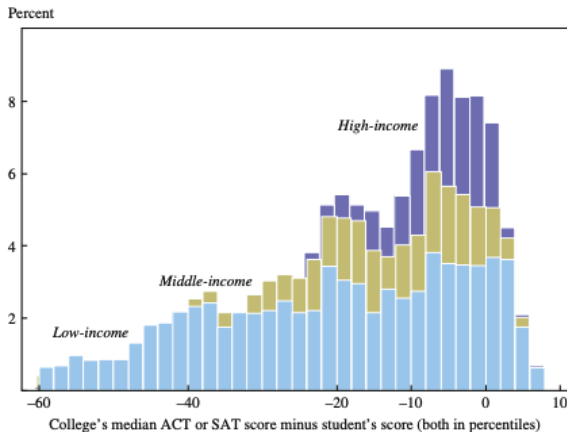
Figure 7. Shares of All 17-Year-Olds Who Are High-Achieving, by County^a



Hoxby, C. M., & Avery, C. (2013)

Talented students from disadvantaged backgrounds and college applications

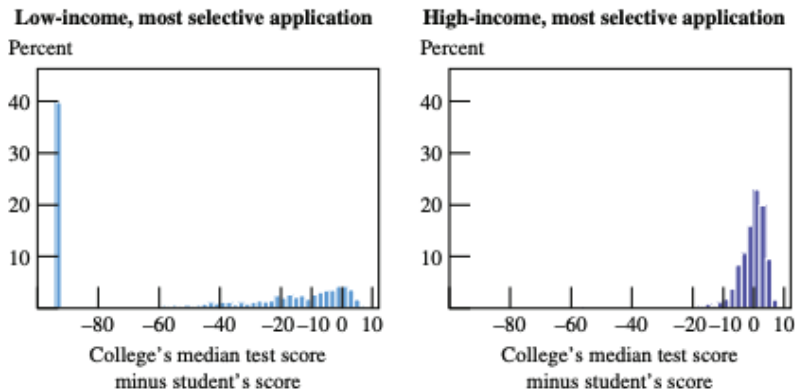
Figure 10. Distribution of All High-Achieving Students' College Applications to Selective Institutions, by Student-College Match^a



Hoxby, C. M., & Avery, C. (2013)

Talented students from disadvantaged backgrounds and college applications

Figure 11. Distributions of High-Achieving Students' Most Selective and Second Most Selective College Applications, by Family Income^a



Affirmative action and special admission plans

Definiciones

Los programas de admisión especial típicamente buscan expandir el acceso a educación superior de grupos sub-representados:

- Raza
- Sexo
- Nivel socioeconómico

Tensión entre equidad y eficiencia:

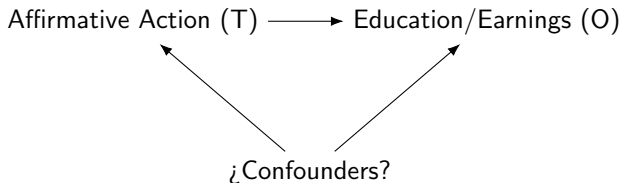
- ¿Cómo les va a los estudiantes favorecidos?
- ¿Hay estudiantes perjudicados?
- ¿Cómo se comparan las ganancias y pérdidas?

Bleemer (2022)

Affirmative action effects on URM and non-URM

El sistema universitario de California tuvo Affirmative Action hasta 1998:

- Decreto 209 declaro inconstitucional dar ventajas en admisión universitaria por la raza de los postulantes.
- Surgieron “Percentage admission plans” como respuesta (no tan efectivos en acceso).



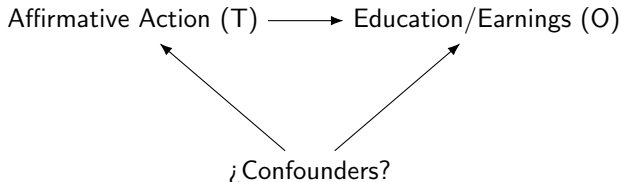
Bleemer (2022)

Affirmative action effects on URM and non-URM

Este paper intenta eliminar el sesgo de selección usando diferencias-en-diferencias:

- Δ_1 : antes y después de decreto 209.
- Δ_2 : URM y non-URM residentes de CA postulando a UC.

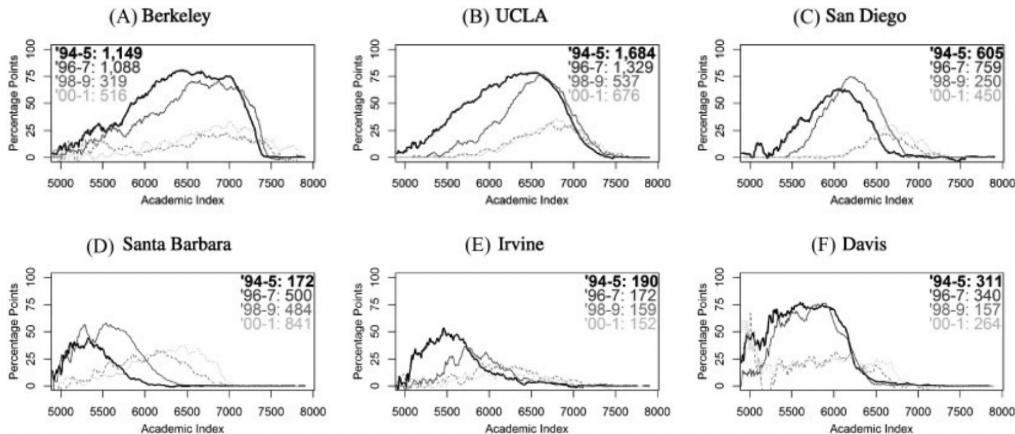
$$Y_{iy} = \alpha_{h_i} + \delta_y + \beta_0 URM_i + \sum_{t=1994}^{2002} 1_{t=y} \beta_t URM_i + \delta X_{iy} + \varepsilon_{iy}$$



Bleemer (2022)

Affirmative action effects on URM and non-URM

La participación de estudiantes de URM en el sistema universitario de California cayó considerablemente:



Bleemer (2022)

Affirmative action effects on URM and non-URM

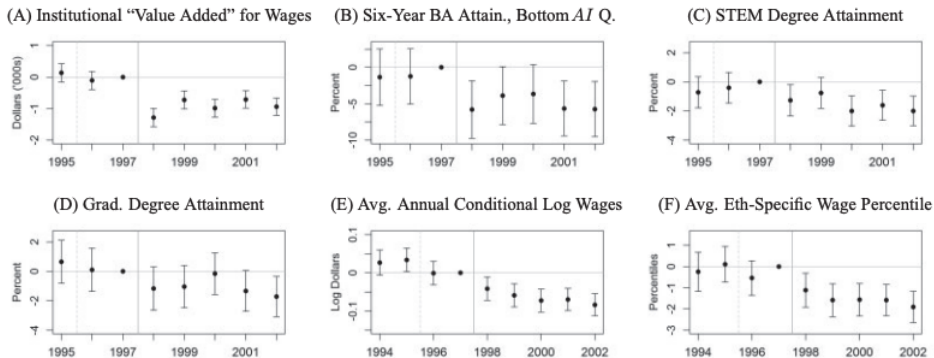


FIGURE IV

Annual Difference-in-Differences Estimates of URM UC Applicants' Outcomes after Prop 209

Bleemer (2022)

Affirmative action effects on URM and non-URM

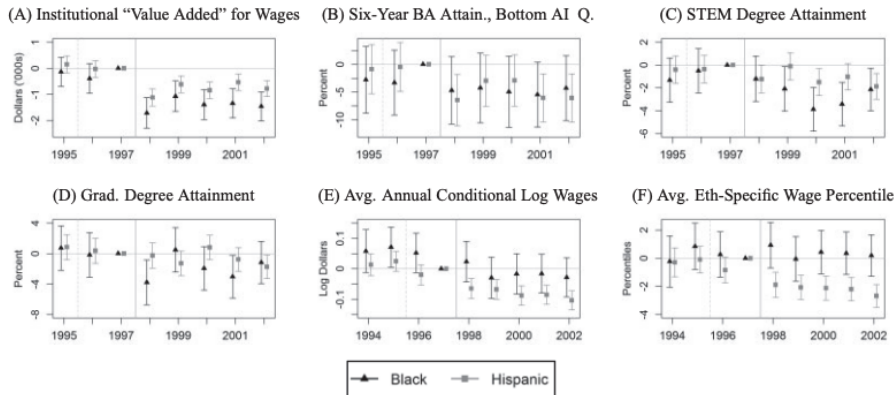


FIGURE VI

Annual Difference-in-Differences Estimates of URM UC Applicant Outcomes by Ethnicity

Bleemer (2022)

Affirmative action effects on URM and non-URM

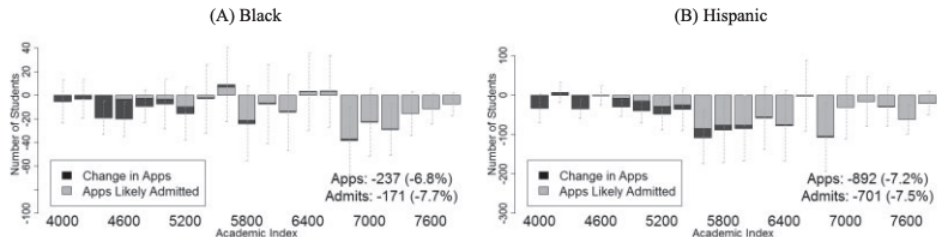


FIGURE VII

Estimated Declines in Annual 1998–99 Applications and Admissions by Ethnicity

Bleemer (2022)

Affirmative action effects on URM and non-URM

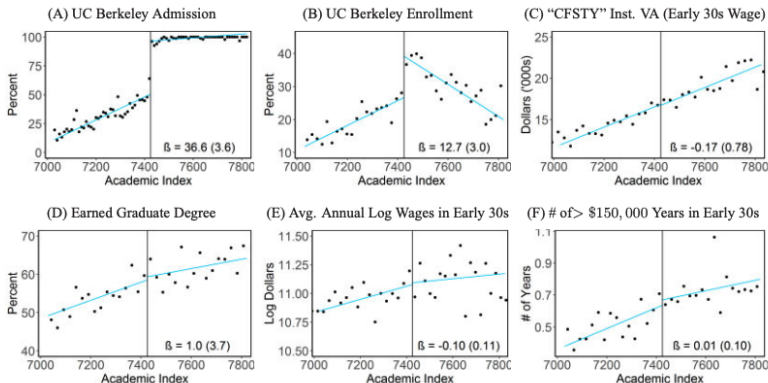


FIGURE VIII

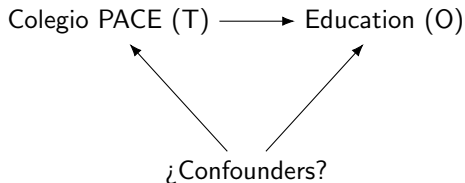
Estimated Return to 1996-97 UC Berkeley Enrollment for On-the-Margin Non-URM Applicants

Tincani et al (2023)

Preferential admissions and college participation of disadvantaged students

Este paper estudia un programa de admisión preferencial a la universidad dirigido a estudiantes de colegios vulnerables en Chile (PACE):

- Cupo garantizado en la universidad para estudiantes en el top 15% de su promoción.
- Requisitos:
 - Asistir continuamente a últimos dos años de educación media en colegio PACE.
 - Rendir PSU/PAES (aunque no afecte admisión).



Para eliminar el sesgo de selección, este paper aprovecha que los colegios PACE fueron uniéndose al programa de manera aleatoria (2014-2015)...

Tincani et al (2023)

Preferential admissions and college participation of disadvantaged students

Table 1: SAMPLE BALANCE ACROSS TREATMENT AND CONTROL GROUPS

	Control (1)	Difference between Treatment and Control (2)	p-Value (Difference equals zero) (3)	N (4)
Female	0.476	0.001 (0.054)	0.988	9,006
Age (years)	17.541	0.031 (0.052)	0.561	9,006
Very-low-SES student	0.602	0.014 (0.020)	0.489	9,006
Mother's education (years)	9.553	0.081 (0.168)	0.631	6,000
Father's education (years)	9.320	0.115 (0.178)	0.517	5,722
Family income (1,000 CLP)	283.950	14.335 (12.794)	0.265	6,018
SIMCE score (points)	221.355	7.600 (5.256)	0.151	8,944
Never failed a year	0.970	-0.010 (0.006)	0.101	8,944
Santiago resident	0.140	0.051 (0.073)	0.482	9,006
Academic high-school track	0.229	0.055 (0.073)	0.451	9,006

NOTE.— Standard errors clustered at the school level are shown in parentheses. Very-low-SES student is a student that the Government classified as very socioeconomically vulnerable (*Prioritario*). SIMCE is a standardized achievement test taken in 10th grade.

Tincani et al (2023)

Preferential admissions and college participation of disadvantaged students

Table 4: EFFECT OF PERCENT PLAN ON ADMISSIONS AND ENROLLMENTS

	Admissions	Enrollments
	(1)	(2)
Treatment	0.037*** (0.012)	0.027** (0.011)
Observations	8,944	8,944
Pseudo- R^2	0.243	0.235

Tincani et al (2023)

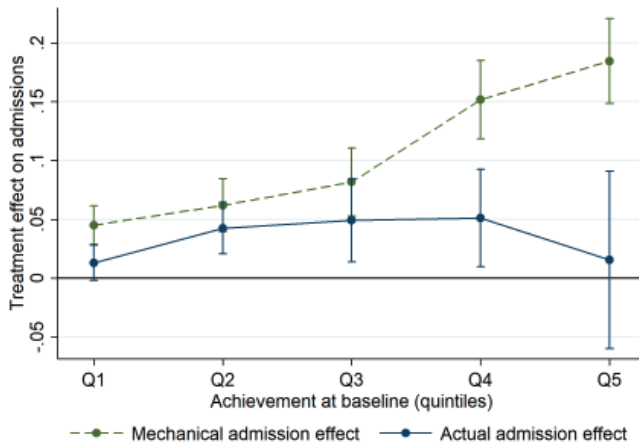
Preferential admissions and college participation of disadvantaged students

Table 5: EFFECT OF PERCENT PLAN ON PRE-COLLEGE CHOICES AND OUTCOMES

	Achievement Score		Study Effort Score		Entrance-exam taking
	(1)	(2)	(3)	(4)	(5)
Treatment	-0.104** (0.050)	-0.099** (0.050)	-0.086** (0.039)	-0.088** (0.038)	-0.036 (0.027)
Inverse Probability Weights	No	Yes	No	Yes	No
Observations	6,054	6,054	5,631	5,631	8,944
R^2	0.260	0.259	0.047	0.047	0.094

Tincani et al (2023)

Preferential admissions and college participation of disadvantaged students

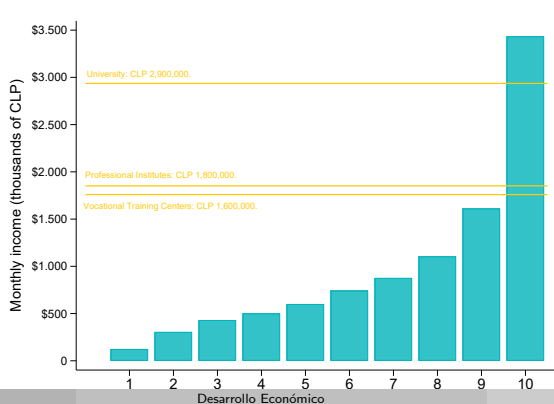


Solis (2017)

Credit Access and College Enrollment

Credit constraints:

- Invertir en capital humano es costoso: aranceles, mantención, foregone earnings.
- Capital humano no puede usarse como colateral: si no pagas, no puedo expropiar tu capital humano.
- Esto puede generar inversión sub-óptima en educación.



Solis (2017)

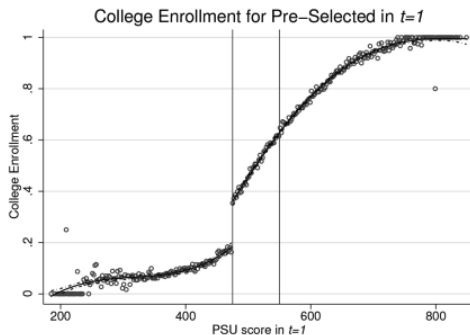
Credit Access and College Enrollment

¿Cuál es el efecto del acceso a crédito en asistencia a la educación superior?

Este paper aprovecha que en Chile los créditos estudiantiles se adjudican en función de tu puntaje en la PSU (≥ 475)

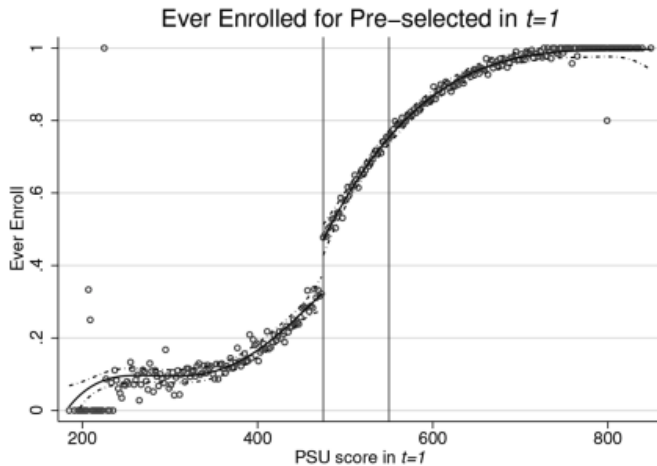
Access to Credit (T) $\longrightarrow$ Enrollment in University (O)

¿Confounders?



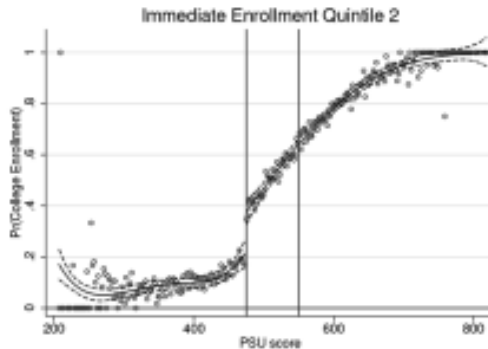
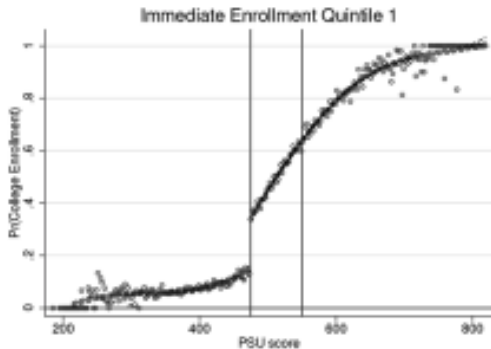
Solis (2017)

Credit Access and College Enrollment



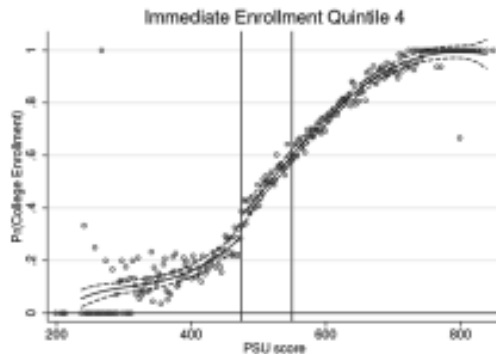
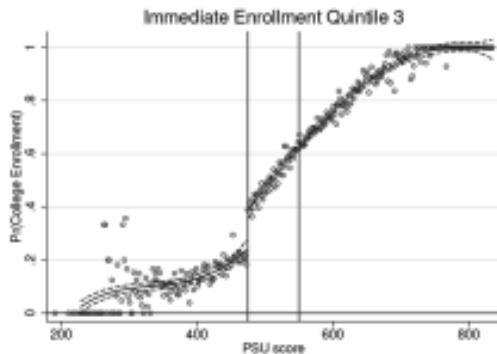
Solis (2017)

Credit Access and College Enrollment



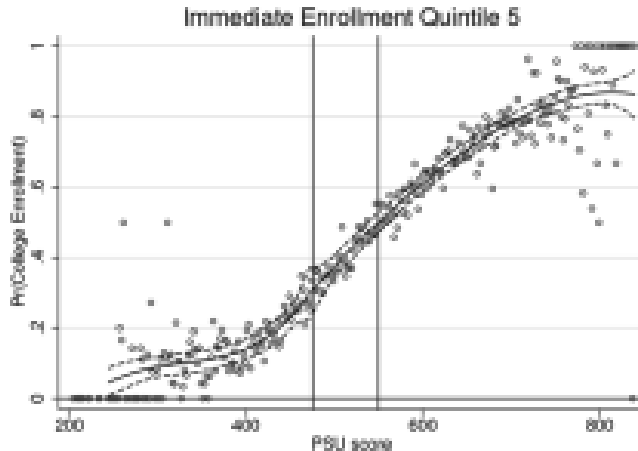
Solis (2017)

Credit Access and College Enrollment



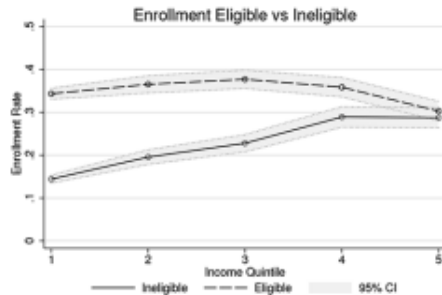
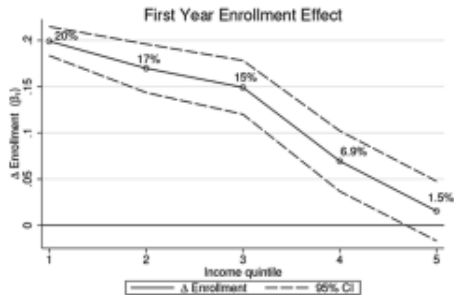
Solis (2017)

Credit Access and College Enrollment



Solis (2017)

Credit Access and College Enrollment



Jensen (2010)

Perceived returns to education and schooling

Este paper estudia cómo la percepción de retornos de la educación afectan la escolaridad en República Dominicana:

- El modelo que estudiamos al comienzo de esta unidad no distingue entre retornos percividos y reales.
- La decisión de estudiar depende de las *beliefs*.
- Importante: si grupos desaventajados sub-estiman retornos a la educación van a invertir menos en ella.

TABLE III
MEASURED AND PERCEIVED MONTHLY EARNINGS, MALES AGED 30–40

	(1) Measured mean	(2) Perceived (self)	(3) Perceived (others)
Primary	3,180 [1,400]	3,516 [884]	3,478 [863]
Secondary	4,479 [1,432]	3,845 [1,044]	3,765 [997]
Tertiary	9,681 [3,107]	5,127 [1,629]	5,099 [1,588]
Secondary – primary	1,299	329 [403]	287 [373]
Tertiary – secondary	5,202	1,282 [1,341]	1,334 [1,272]

Notes. All figures in 2001 Dominican pesos (RD\$). Standard deviations in brackets. Column (1) provides the mean earnings among men aged 30–40 from a household survey conducted by the author in January 2001. The number of observations is 1,278 primary, 339 secondary, and 83 tertiary. Columns (2) and (3) provide data from the Round 1 survey of eighth-grade male students, conducted by the author in April/May 2001. Column (2) refers to what current students expect to earn themselves under different education scenarios when they are 30–40. Column (3) refers to what current students believe current workers 30–40 years old with

Jensen (2010)

Perceived returns to education and schooling

TABLE IV
EFFECT OF THE INTERVENTION ON EXPECTED RETURNS AND SCHOOLING: NO COVARIATES

Panel A. Perceived returns to school					
	Round 1		Round 2		
	Control	Treatment	Control	Treatment	Difference-in-difference
Expected earnings (self):					
Primary (only)	3,548 (116)	3,484 (124)	3,583 (118)	3,230 (92)	-284*** (43)
Secondary (only)	3,884 (132)	3,806 (145)	4,001 (132)	3,995 (114)	82* (44)
Implied perceived returns	336 (25)	322 (27)	418 (24)	765 (34)	366*** (29)
Expected earnings (others):					
Primary (only)	3,509 (112)	3,447 (120)	3,546 (113)	3,204 (92)	-274*** (41)
Secondary (only)	3,802 (126)	3,728 (143)	3,892 (120)	3,916 (111)	102** (45)
Implied perceived returns	293 (23)	281 (29)	346 (22)	712 (31)	377*** (26)
Number of observations	1,003	1,022	922	977	1,859

Jensen (2010)

Perceived returns to education and schooling

TABLE IV
(CONTINUED)

	Panel B. Schooling					
	Round 2			Round 3		
	Control	Treatment	Difference	Control	Treatment	Difference
Returned to school?	0.55 (0.02)	0.59 (0.02)	0.042* (0.025)			
Completed secondary school?				0.30 (0.02)	0.32 (0.02)	0.020 (0.024)
Years of schooling completed				9.75 (0.070)	9.93 (0.073)	0.18* (0.098)
Number of observations	1,118	1,123	2,241	1,033	1,041	2,074

Notes. Standard errors, corrected for clustering at the school level, in parentheses. All measures of expected earnings are for earnings at 30–40, measured in nominal (2001) Dominican pesos (RD\$). Data are from a survey of eighth-grade male students, conducted by the author. Round 1 was conducted in April and May of 2001; Round 2 was conducted in October of 2001; Round 3 was conducted in May and June of 2005.

*Significant at 10%.

**Significant at 5%.

***Significant at 1%.

Jensen (2010)

Perceived returns to education and schooling

TABLE V
EFFECTS OF THE INTERVENTION ON EXPECTED RETURNS AND SCHOOLING

	Full sample				Poor households				Least poor households			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
	Returned next year	Finished school	Years of schooling	Perceived returns	Returned next year	Finished school	Years of schooling	Perceived returns	Returned next year	Finished school	Years of schooling	Perceived returns
Treatment	0.041*	0.023	0.20**	367***	0.006	-0.01	0.037	344***	0.072*	0.054*	0.33***	386***
	(0.023)	(0.020)	(0.082)	(28)	(0.034)	(0.026)	(0.11)	(41)	(0.038)	(0.031)	(0.12)	(41)
Log	0.095**	0.23***	0.79***	29.0	0.054	0.26***	0.69***	188**	0.047	0.10	0.51	23
(inc. per capita)	(0.040)	(0.044)	(0.16)	(47)	(0.068)	(0.062)	(0.23)	(87)	(0.12)	(0.13)	(0.45)	(133)
School	0.011	0.019**	0.086**	0.74	0.001	0.015	0.064	-9.5	0.025*	0.024*	0.10**	8.2
performance	(0.010)	(0.009)	(0.034)	(14)	(0.014)	(0.012)	(0.048)	(13.5)	(0.013)	(0.012)	(0.048)	(22)
Father	0.074**	0.050*	0.26**	-24	0.056	0.019	0.16	-29.1	0.096**	0.096**	0.36**	-3.8
finished sec.	(0.030)	(0.030)	(0.12)	(32)	(0.045)	(0.043)	(0.18)	(62)	(0.038)	(0.038)	(0.14)	(40)
Age	-0.010	0.004	-0.006	-42*	-0.042	0.002	-0.071	-46	0.005	0.005	0.025	-35
	(0.016)	(0.015)	(0.059)	(21)	(0.030)	(0.019)	(0.088)	(32)	(0.025)	(0.035)	(0.087)	(29)
R ²	.016	.040	.049	.090	.007	.019	.014	.094	.020	.020	.029	.090
Observations	2,241	2,205	2,074	1,859	1,055	1,055	1,007	920	1,056	1,056	1,002	939

Notes. Heteroscedasticity-consistent standard errors accounting for clustering at the school level in parentheses. Data are from a survey of eighth-grade male students, conducted by the author. Returned next year is measured in Round 2; finished school and years of schooling are measured in Round 3. Perceived returns in columns (4), (8), and (12) is the change between Round 2 and Round 1 in the difference between what students expect to earn themselves with primary and secondary schooling when they are 30–40, measured in 2001 Dominican pesos (RD\$). All regressions also include an indicator for whether income data were unavailable (these households are assigned the median sample income). In columns (5)–(12), youths are split according to whether they live in a household that is below (poor) or above (least poor) the median household income per capita; households with missing income data are excluded from both categories. School performance is teacher assessment of the student's performance, on a scale of 1 to 5 (much worse than average, worse than average, average, above average, much better than average). Age, school performance, and whether the father finished secondary were gathered in the first round; income was gathered in the second round.

*Significant at 10%.

**Significant at 5%.

***Significant at 1%.

Jensen (2010)

Perceived returns to education and schooling

TABLE V
EFFECTS OF THE INTERVENTION ON EXPECTED RETURNS AND SCHOOLING

	Full sample				Poor households				Least poor households			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
	Returned next year	Finished school	Years of schooling	Perceived returns	Returned next year	Finished school	Years of schooling	Perceived returns	Returned next year	Finished school	Years of schooling	Perceived returns
Treatment	0.041*	0.023	0.20**	367***	0.006	-0.01	0.037	344***	0.072*	0.054*	0.33***	386***
	(0.023)	(0.020)	(0.082)	(28)	(0.034)	(0.026)	(0.11)	(41)	(0.038)	(0.031)	(0.12)	(41)
Log	0.095**	0.23***	0.79***	29.0	0.054	0.26***	0.69***	188**	0.047	0.10	0.51	23
(inc. per capita)	(0.040)	(0.044)	(0.16)	(47)	(0.068)	(0.062)	(0.23)	(87)	(0.12)	(0.13)	(0.45)	(133)
School	0.011	0.019**	0.086**	0.74	0.001	0.015	0.064	-9.5	0.025*	0.024*	0.10**	8.2
performance	(0.010)	(0.009)	(0.034)	(14)	(0.014)	(0.012)	(0.048)	(13.5)	(0.013)	(0.012)	(0.048)	(22)
Father	0.074**	0.050*	0.26**	-24	0.056	0.019	0.16	-29.1	0.096**	0.096**	0.36**	-3.8
finished sec.	(0.030)	(0.030)	(0.12)	(32)	(0.045)	(0.043)	(0.18)	(62)	(0.038)	(0.038)	(0.14)	(40)
Age	-0.010	0.004	-0.006	-42*	-0.042	0.002	-0.071	-46	0.005	0.005	0.025	-35
	(0.016)	(0.015)	(0.059)	(21)	(0.030)	(0.019)	(0.088)	(32)	(0.025)	(0.035)	(0.087)	(29)
R ²	.016	.040	.049	.090	.007	.019	.014	.094	.020	.020	.029	.090
Observations	2,241	2,205	2,074	1,859	1,055	1,055	1,007	920	1,056	1,056	1,002	939

Notes. Heteroscedasticity-consistent standard errors accounting for clustering at the school level in parentheses. Data are from a survey of eighth-grade male students, conducted by the author. Returned next year is measured in Round 2; finished school and years of schooling are measured in Round 3. Perceived returns in columns (4), (8), and (12) is the change between Round 2 and Round 1 in the difference between what students expect to earn themselves with primary and secondary schooling when they are 30–40, measured in 2001 Dominican pesos (RD\$). All regressions also include an indicator for whether income data were unavailable (these households are assigned the median sample income). In columns (5)–(12), youths are split according to whether they live in a household that is below (poor) or above (least poor) the median household income per capita; households with missing income data are excluded from both categories. School performance is teacher assessment of the student's performance, on a scale of 1 to 5 (much worse than average, worse than average, average, above average, much better than average). Age, school performance, and whether the father finished secondary were gathered in the first round; income was gathered in the second round.

*Significant at 10%.

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¿Qué hemos aprendido?

Existen distintas barreras que impiden a jóvenes de contextos desaventajados acceder a programas selectivos de educación superior:

- Diferencias en preparación académica y performance en exámenes de admisión.
- Restricciones presupuestarias/crediticias.
- Fricciones de información.
- Fricciones de comportamiento.

Es posible relajarlas a través de distintas medidas...

¿Qué hemos aprendido?

Existen distintas barreras que impiden a jóvenes de contextos desaventajados acceder a programas selectivos de educación superior:

- Diferencias en preparación académica y performance en exámenes de admisión → programas de admisión especial.
- Restricciones presupuestarias/crediticias → becas y créditos estudiantiles.
- Fricciones de información → provisión de información.
- Fricciones de comportamiento. → ayuda adicional (mentorías, apoyo personalizado).

Es posible relajarlas a través de distintas medidas...

Desarrollo Económico

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October 23, 2026