

3.36pt

More on College Investment

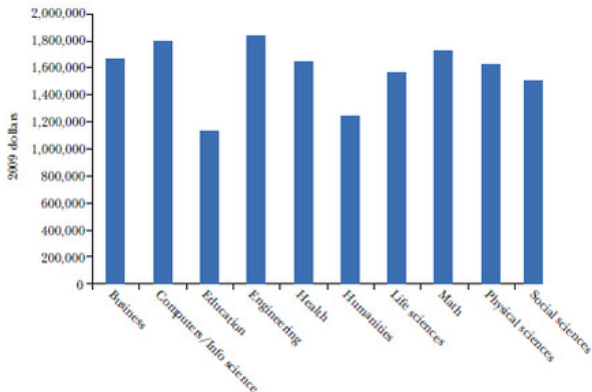
- By now, well established that returns to schooling are large (and growing).
- Outstanding questions:
 - Large heterogeneity in returns: by college selectivity, by choice of major. Are these causal?
 - Are students accumulating too much debt? Too little debt?
 - Why do some populations have very low college attendance rates? Small differences that matter.
 - What do colleges do?

Returns to College Selectivity

- Large heterogeneity financial returns to college investment
 - By college major
 - By type of institution.

Figure 4

Expected Lifetime Earnings by Undergraduate Major, 2008



Source: Authors using data from the American Community Survey (2009).

Note: Based on regression of log annual earnings on dummy variables for undergraduate major, post-baccalaureate degree attainment, a quartic in experience, and indicators for race and gender using data from the American Community Survey (2009) with sample weights.

Source: Avery and Turner, JEP 2012

- Hoxby, “The Return to Attending a More Selective College: 1960 to the Present,” in *Forum Futures: Exploring the Future of Higher Education*, eds. Maureen Devlin and Joel Meyerson (Jossey-Bass Inc., 2001): 13-42.
- Groups colleges into 8 selectivity groups:
 - From Most Competitive to Less Competitive
 - Excludes non-competitive colleges.

TABLE 2.1A. COLLEGES BY BARRON'S SELECTIVITY INDEX

COLLEGES IN RANK GROUP 1 (MOST COMPETITIVE)

Amherst College, Bowdoin College, Brown University, California Institute of Technology, Harvey Mudd College, Pomona College, Columbia College of Columbia University, Cooper Union, Cornell College of Cornell University (private), Dartmouth College, Harvard University, Haverford College, Johns Hopkins University, Massachusetts Institute of Technology, Mount Holyoke College, Princeton University, Rice University, Smith College, Stanford University, Swarthmore College, University of Pennsylvania, Wellesley College, Williams College, Yale University.

COLLEGES IN RANK GROUP 2 (HIGHLY COMPETITIVE PLUS)

Bennington College, Carnegie-Mellon University, Colgate University, Colorado School of Mines, Barnard College, Northwestern University, Reed College, Rose-Hulman Institute of Technology, St. John's College (Maryland), Tufts University, University of California-Berkeley, University of Chicago.

COLLEGES IN RANK GROUP 3 (HIGHLY COMPETITIVE)

Bates College, Brandeis University, Bucknell University, Carleton College, Case Western Reserve University, Colby College, College of William and Mary, Colorado College, Davidson College, Duke University, Franklin and Marshall Colleges, Georgetown University, Georgia Institute of Technology, Grinnell College, Hamilton College, Kalamazoo College, Kenyon College, Lafayette College, Lehigh University, Middlebury College, New College of the University of South Florida, Oberlin College, Occidental College, Polytechnic Institute of New York, Rensselaer Polytechnic Institute, St. John's College (New Mexico), St. Olaf's College, Stevens Institute of Technology, Trinity College, Union College, University of Dallas, University of Notre Dame, University of Rochester, University of the South, University of Virginia, Vassar College, Washington University.

COLLEGES IN RANK GROUP 4 (VERY COMPETITIVE PLUS)

Bard College, Pitzer College, Scripps College, Clark University, Clarkson College of Technology, Coe College, College of the Atlantic, Connecticut College, Emory University, Gustavus Adolphus College, Hampshire College, Illinois Institute of Technology, St. Lawrence University, University of California-Santa Barbara, University of Michigan (Ann Arbor campus), Vanderbilt University, Washington and Lee University.

**TABLE 2.3. AVERAGE INCOME AT AGE THIRTY-TWO,
BY COLLEGE SELECTIVITY**

<i>in Dollars of the Day</i>						
	<i>Men Who Entered College in 1960</i>		<i>Men Who Entered College in 1972</i>		<i>Men Who Entered College in 1982</i>	
	Private Colleges	Public Colleges	Private Colleges	Public Colleges	Private Colleges	Public Colleges
Rank 1 Colleges	\$19,648	nc	\$42,943	nc	\$57,135	nc
Rank 2 Colleges	\$18,987	\$18,420	\$35,992	\$33,453	\$51,200	\$47,631
Rank 3 Colleges	\$19,014	\$18,266	\$35,864	\$33,222	\$49,263	\$45,011
Rank 4 Colleges	\$18,555	\$17,301	\$35,084	\$32,116	\$47,500	\$42,500
Rank 5 Colleges	\$18,223	\$16,881	\$34,929	\$32,049	\$46,837	\$39,373
Rank 6 Colleges	\$16,327	\$14,753	\$34,381	\$31,925	\$41,176	\$37,085
Rank 7 Colleges	\$15,733	\$14,703	\$33,039	\$31,138	\$38,449	\$35,568
Rank 8 Colleges	\$11,792	\$12,811	\$27,735	\$28,601	\$34,459	\$33,660
<i>in 1997 Dollars</i>						
	<i>Men Who Entered College in 1960</i>		<i>Men Who Entered College in 1972</i>		<i>Men Who Entered College in 1982</i>	
	Private Colleges	Public Colleges	Private Colleges	Public Colleges	Private Colleges	Public Colleges
Rank 1 Colleges	\$52,735	nc	\$52,920	nc	\$58,556	nc
Rank 2 Colleges	\$50,961	\$49,439	\$44,354	\$41,225	\$52,473	\$48,815
Rank 3 Colleges	\$51,034	\$49,026	\$44,196	\$40,940	\$50,488	\$46,130
Rank 4 Colleges	\$49,802	\$46,436	\$43,235	\$39,577	\$48,681	\$43,557
Rank 5 Colleges	\$48,911	\$45,309	\$43,044	\$39,495	\$48,002	\$40,352
Rank 6 Colleges	\$43,822	\$39,597	\$42,369	\$39,342	\$42,200	\$38,007
Rank 7 Colleges	\$42,227	\$39,463	\$40,715	\$38,372	\$39,405	\$36,453
Rank 8 Colleges	\$31,650	\$34,385	\$34,178	\$35,246	\$35,316	\$34,497

The calculations are based on men who hold at least a baccalaureate degree and are respondents in the *Occupational Changes in a Generation* survey (1960 college entrants), *National Longitudinal Survey of the Class of 1972* (1972 college entrants), or the *National Longitudinal Survey of Youth* (1983 college entrants). The average incomes are calculated using survey weights so that they are nationally representative. The ab-

- Is the return to college selectivity a causal effect?
- Obviously, some of the qualities that are valued by college admission committees are also valued in the labor market.
- Econometrician typically can control for some characteristics that are observed by admission committees (SAT score, high school GPA, high school “quality”)...
- ... but not all (quality of the essay, recommendations by guidance counselors, etc...)

- Key findings:

- ① Selection on observables: Control for all available characteristics, substantial return to college selectivity.
- ② Selection on unobservables: Control for the pool of colleges that candidate applied and were accepted to
 - identify effect from individuals that were accepted at two colleges, but one chose the more selective one.
 - Main finding: no effect of college selectivity.

Model

- Rule used by college j to admit applicants:

if $Z_{ij} = \gamma_1 X_{1i} + \gamma_2 X_{2i} + e_{ij} > C_j$ then admit;
otherwise reject

- X_{1i} observed by both admissions committee and econometrician (SAT, GPA);
 - X_{2i} observed only by admissions committee (motivation, maturity).
- Income equation:

$$\ln W_i = \beta_0 + \delta SAT_{j^*} + \beta_1 X_{1i} + \beta_2 X_{2i} + \epsilon_i.$$

- We can only estimate

$$\ln W_i = \beta'_0 + \delta' SAT_{j^*} + \beta_1 X_{1i} + u_i.$$

where $u_i = (\beta_2 X_{2i} + \epsilon_i)$. u_i is positively correlated with SAT_{j^*} , δ biased upwards.

Selection bias:

$$E(\ln W_i | SAT_{j^*}, X_{1i}) = \beta_0 + \delta SAT_{j^*} + \beta_1 X_{1i} + E(u_i | X_{1i}, \gamma_1 X_{1i} + \gamma_2 X_{2i} + e_{ij^*} > C_{j^*})$$

- Expected value of u_i is higher for students who were admitted to more selective schools.
- But, students who were accepted and rejected by the same set of schools will have the same value of u_i .
- Empirical implementation: condition on fixed effects for types of schools that accepted and rejected student.
 - Key identifying assumption: conditional on set of schools that admitted students, actual school attended is as good as random.
- Main question mark: if two students are accepted by MIT and BU, why does one choose MIT and the other BU?

TABLE I
ILLUSTRATION OF HOW MATCHED-APPLICANT GROUPS WERE CONSTRUCTED

Student	Matched-applicant group	Student applications to college							
		Application 1		Application 2		Application 3		Application 4	
		School average SAT	School admissions decision	School average SAT	School admissions decision	School average SAT	School admissions decision	School average SAT	School admissions decision
Student A	1	1280	Reject	1226	Accept*	1215	Accept	na	na
Student B	1	1280	Reject	1226	Accept	1215	Accept*	na	na
Student C	2	1360	Accept	1310	Reject	1270	Accept*	1155	Accept
Student D	2	1355	Accept	1316	Reject	1270	Accept*	1160	Accept
Student E	2	1370	Accept*	1316	Reject	1260	Accept	1150	Accept
Student F	Excluded	1180	Accept*	na	na	na	na	na	na
Student G	Excluded	1180	Accept*	na	na	na	na	na	na
Student H	3	1360	Accept	1308	Accept*	1260	Accept	1160	Accept
Student I	3	1370	Accept*	1311	Accept	1255	Accept	1155	Accept
Student J	3	1350	Accept	1316	Accept*	1265	Accept	1155	Accept
Student K	4	1245	Reject	1217	Reject	1180	Accept*	na	na
Student L	4	1235	Reject	1209	Reject	1180	Accept*	na	na
Student M	5	1140	Accept	1055	Accept*	na	na	na	na
Student N	5	1145	Accept*	1060	Accept	na	na	na	na
Student O	No match	1370	Reject	1038	Accept*	na	na	na	na

* Denotes school attended.

na = did not report submitting application.

The data shown on this table represent hypothetical students. Students F and G would be excluded from the matched-applicant subsample because they applied to only one school (the school they attended). Student O would be excluded because no other student applied to an equivalent set of institutions.

Data

- College and Beyond: 34 relatively selective colleges, 4 historically black colleges excluded.
 - Most selective: Yale; least selective: Denison.
- Students enrolled in 1976, surveyed in 1995 (recall bias?).
 - 80% response rate
 - Income data categorical.
- $N = 14,000$

Results:

TABLE III
LOG EARNINGS REGRESSIONS USING COLLEGE AND BEYOND SURVEY,
SAMPLE OF MALE AND FEMALE FULL-TIME WORKERS

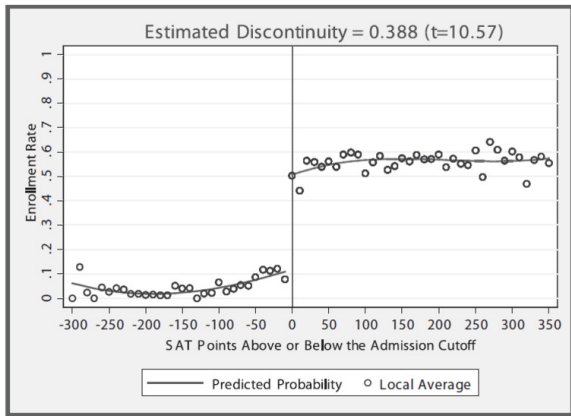
Variable	Model					
	Basic model: no selection controls		Matched- applicant model	Alternative matched-applicant models		Self- revelation model
	Full sample	Restricted sample	Similar school- SAT matches*	Exact school- SAT matches**	Barron's matches***	
	1	2	3	4	5	6
School-average SAT score/100	0.076 (0.016)	0.082 (0.014)	-0.016 (0.022)	-0.106 (0.036)	0.004 (0.016)	-0.001 (0.018)
Predicted log(parental income)	0.187 (0.024)	0.190 (0.033)	0.163 (0.033)	0.232 (0.079)	0.154 (0.028)	0.161 (0.025)
Own SAT score/100	0.018 (0.006)	0.006 (0.007)	-0.011 (0.007)	0.003 (0.014)	-0.005 (0.005)	0.009 (0.006)
Female	-0.403 (0.015)	-0.410 (0.018)	-0.395 (0.024)	-0.476 (0.049)	-0.400 (0.017)	-0.396 (0.014)
Black	-0.023 (0.035)	-0.026 (0.053)	-0.057 (0.053)	-0.028 (0.049)	-0.057 (0.039)	-0.034 (0.035)
Hispanic	0.015 (0.052)	0.070 (0.076)	0.020 (0.099)	-0.248 (0.206)	0.036 (0.066)	0.007 (0.053)
Asian	0.173 (0.036)	0.245 (0.054)	0.241 (0.064)	0.368 (0.141)	0.163 (0.049)	0.155 (0.037)
Other/missing race	-0.188 (0.119)	-0.048 (0.143)	0.060 (0.180)	-0.072 (0.083)	-0.050 (0.134)	-0.192 (0.116)
High school top 10 percent	0.061 (0.018)	0.091 (0.022)	0.079 (0.026)	0.091 (0.032)	0.079 (0.024)	0.063 (0.019)
High school rank missing	0.001 (0.024)	0.040 (0.026)	0.016 (0.038)	0.029 (0.066)	0.025 (0.027)	-0.009 (0.022)
Athlete	0.102 (0.025)	0.088 (0.030)	0.104 (0.039)	0.169 (0.096)	0.093 (0.033)	0.094 (0.024)
Average SAT score/ 100 of schools applied to						0.090 (0.013)

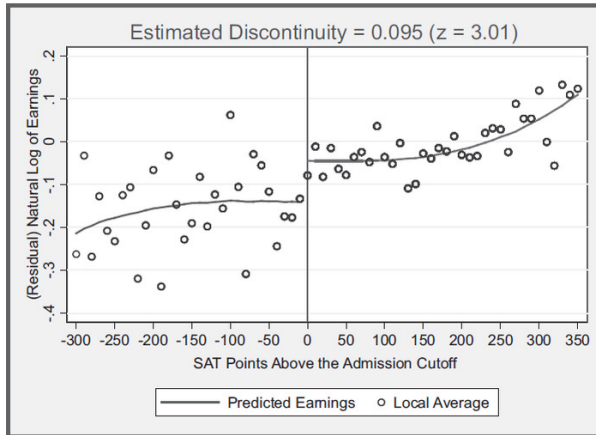
Conclusion

- “Students who attended more selective colleges do not earn more than other students who were accepted and rejected by comparable schools but attended less selective colleges.

- What is the effect of attending the flagship state university?
- RD design: Compares earnings of 28-33 year olds who were just above and below the admission cutoff for the flagship state university.
 - Admission cutoff based on a combination of high school GPA and SAT score.
- Data: administrative data from flagship university, matched with UI records 10-15 years after HS graduation ($N = 12,000$)
- Drawbacks:
 - Actual cutoff not known.
 - No info on what those below the cutoff ended up doing (but conjectures that they were in college).

FIGURE 1.—FRACTION ENROLLED AT THE FLAGSHIP STATE UNIVERSITY





Summary

- Large positive effects for attending flagship state university.
- Other RD studies:
 - Large returns to college quality estimated in Colombia (Saavedra, 2006); high school quality in Romania (Pop-Eleches and Urquiola, 2011).
 - Mixed results in Chile (2013);
 - Zero effects in Boston and NY exam schools (Abdulkadiroglu et al, 2011).

Do Students Borrow Too Much – or Not Enough?

- Avery and Turner, JEP 2012.
- Types of student loans:
 - Stafford subsidized
 - Stafford unsubsidized
 - PLUS
 - Perkins
 - Private loans.
- What has happened to student borrowing over time?
- Present various calculations of net present value of lifetime discounted earnings stream for college and high school.
- Who borrows too much? Too little?

Table 1

Percentage of All Undergraduate Borrowing, by Student and Institution Characteristics

	1989-90	1992-93	1995-96	1999-2000	2003-04	2007-08
<i>Percent of undergraduates borrowing</i>						
Total	19%	19%	25%	27%	32%	35%
Type of institution						
Public 4-year	19%	23%	37%	39%	43%	41%
Private nonprofit 4-year	31%	34%	47%	49%	53%	54%
Public 2-year	4%	6%	4%	5%	8%	10%
For-profit	63%	47%	59%	74%	76%	88%
Dependency status						
Dependent	18%	20%	31%	34%	36%	36%
Independent	19%	17%	19%	21%	28%	33%

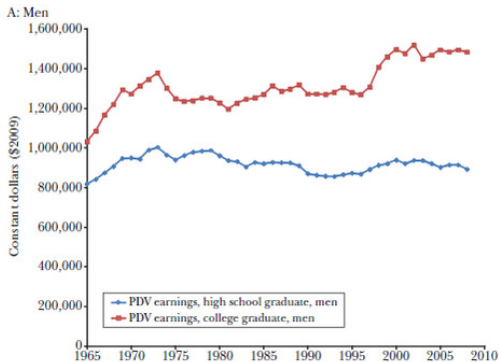
Source: The information in the table is taken from Table 1.1 of *Trends in Undergraduate Stafford Loan Borrowing: 1989-90 to 2007-08* (Wei 2010). The table is based on data from U.S. Department of Education, National Center for Education Statistics, and 1989-90, 1992-93, 1995-96, 1999-2000, 2003-04, and 2007-08 National Postsecondary Student Aid Studies (NPSAS:90, NPSAS:93, NPSAS:96, NPSAS:2000, NPSAS:04, NPSAS:08).

Note: This table includes both subsidized and unsubsidized borrowing from the Stafford program.

Substantial increase in undergraduate borrowing, especially among those attending for-profit institutions.

Figure 2

Trends in the Present Discounted Value (PDV) of High School and College Earnings Net of Tuition



NPV of college has risen substantially, despite increase in tuition.

Unrealistic expectations?

Table 2

Expected Degree Completion, Realized Degree Completion, and Borrowing

	<i>Expected attainment</i>			
	<i>No degree</i>	<i>Certificate</i>	<i>AA</i>	<i>BA</i>
Distribution by expected attainment	3.6%	4.0%	13.0%	79.4%
Realized attainment				
No degree	66.2%	51.9%	62.0%	38.0%
Certificate	7.0%	31.9%	9.1%	2.1%
AA	4.9%	5.5%	21.5%	7.5%
BA	21.9%	10.8%	7.3%	52.4%
Percentage with student loans				
No degree	35.6%	37.0%	39.2%	51.3%
Certificate	22.0%	29.8%	47.9%	43.8%
AA	54.6%	35.1%	54.7%	55.6%
BA	66.3%	42.8%	65.4%	63.7%
Average student loans (unconditional)				
No degree	\$4,475	\$4,128	\$4,222	\$7,413
Certificate	\$1,618	\$2,788	\$4,794	\$5,113
AA	\$7,651	\$3,565	\$8,544	\$9,564
BA	\$22,183	\$9,658	\$16,645	\$15,562
Average student loans among borrowers				
No degree	\$12,571	\$11,160	\$10,758	\$14,457
Certificate	\$7,367	\$9,361	\$10,008	\$11,666
AA	\$14,006	\$10,149	\$15,609	\$17,194
BA	\$33,480	\$22,582	\$25,465	\$24,437

Source: Authors' tabulations from Beginning Postsecondary Survey (BPS) 2004:2009, including survey results in 2008–09 for students who entered any four-year college or public two-year college in 2003–2004.

Note: AA is Associate's degree; BA is Bachelor's degree.

Heterogenity and Uncertainty

- Returns to college are *heterogeneous*, but also *uncertain*.
 - Student cannot know ex-ante what his/her future earnings will be.
- Take student at the p^{th} percentile of the high-school earnings distribution: what would his/her earnings be if he were to attend college and:
 - college earnings rank is perfectly correlated with high school earnings rank?
 - correlation is 0.75?
 - correlation is 0?

Table 3

Projected Net Lifetime Earnings with a College Degree, and College–High School Differential, Alternative Assumptions, 1978 and 2008

Percentile of earnings distribution	1978			2008		
	$\rho = 1$	$\rho = .75$	$\rho = 0$	$\rho = 1$	$\rho = .75$	$\rho = 0$
Expected PDV collegiate earnings						
<i>Women</i>						
10	378,180	492,778	579,126	436,140	588,301	901,908
25	492,775	564,747	579,126	603,199	697,208	901,908
50	646,042	646,042	579,126	840,787	840,787	901,908
75	824,934	736,132	579,126	1,154,114	996,244	901,908
90	1,012,494	824,934	579,126	1,571,831	1,195,242	901,908
95	1,162,783	869,542	579,126	1,929,559	1,274,998	901,908
99	1,418,246	930,391	579,126	3,337,826	1,470,333	901,908
<i>Men</i>						
10	603,625	838,579	1,138,378	570,865	786,540	1,261,489
25	810,516	926,495	1,138,378	795,659	941,104	1,261,489
50	1,072,293	1,072,293	1,138,378	1,143,475	1,143,475	1,261,489
75	1,372,471	1,217,483	1,138,378	1,639,365	1,413,594	1,261,489
90	1,814,302	1,366,319	1,138,378	2,357,862	1,734,813	1,261,489
95	2,172,964	1,440,285	1,138,378	3,337,949	1,871,475	1,261,489
99	3,095,903	1,552,359	1,138,378	5,031,368	2,278,956	1,261,489

Percentile of high school wage distribution	1978			2008		
	$\rho = 1$	$\rho = .75$	$\rho = 0$	$\rho = 1$	$\rho = .75$	$\rho = 0$
Expected net returns (Coll-HS)						
<i>Women</i>						
10	134,813	249,411	335,759	203,784	355,945	669,552
25	167,899	239,871	254,250	305,930	399,938	604,639
50	221,041	221,041	154,125	439,393	439,393	500,514
75	273,940	185,138	28,132	644,108	486,238	391,902
90	296,916	109,356	-136,452	886,685	510,096	216,762
95	322,090	28,849	-261,567	1,108,659	454,099	81,008
99	292,183	-195,673	-546,937	2,327,401	459,908	-108,517
<i>Men</i>						
10	235,318	470,272	770,070	277,920	493,595	968,544
25	298,880	414,859	626,742	408,338	553,783	874,169
50	361,800	361,800	427,885	607,035	607,035	725,050
75	410,767	255,779	176,674	896,534	670,763	518,658
90	599,569	151,586	-76,355	1,326,780	703,732	230,408
95	813,152	80,473	-221,434	1,941,625	475,151	-134,834
99	1,116,979	-426,564	-840,546	3,024,145	271,733	-745,734

Table 4

Borrowing Distribution after Six Years, by Degree Type and First Institution

	<i>Type of institution of first enrollment</i>			
	<i>Public 4-year</i>	<i>Private nonprofit 4-year</i>	<i>Private for-profit 4-year</i>	<i>Public 2-year</i>
<i>All students beginning in 2004</i>				
% Borrowing	61%	68%	89%	41%
Percentile of borrowers				
10 th	\$0	\$0	\$0	\$0
25 th	\$0	\$0	\$6,376	\$0
50 th	\$6,000	\$11,500	\$13,961	\$0
75 th	\$19,000	\$24,750	\$28,863	\$6,625
90 th	\$30,000	\$40,000	\$45,000	\$18,000
Mean	\$11,706	\$16,606	\$19,726	\$5,586
<i>BA recipients</i>				
BA completion	61.5%	70.7%	14.8%	13%
% Borrowing	59%	66%	92%	69%
Percentile of borrowers				
10 th	\$0	\$0	\$12,000	\$0
25 th	\$0	\$0	\$30,000	\$0
50 th	\$7,500	\$15,500	\$45,000	\$11,971
75 th	\$20,000	\$27,000	\$50,000	\$23,265
90 th	\$32,405	\$45,000	\$100,000	\$40,000
Mean	\$12,922	\$18,700	\$45,042	\$15,960

Source: Authors' tabulations based on the Beginning Postsecondary Survey 2004:2009.

Too much borrowing for those attending for-profit colleges?

- Potentially, too little borrowing for some others.
- Cadena and Keys (2013): people avoid borrowing as a commitment device.
- Among students with credit card debt ($\text{APR}=17\%+$), 45% did *not* have Stafford loans ($\text{APR} = 3\text{-}6\%$).
- Among those working 20+ hours a week in college, more than half had no Stafford loans.

For profit colleges

- For-profit sector (i.e., University of Phoenix and the like) is the fastest growing sector in higher education.
- Deming, Goldin and Katz (2011):
 - For-profit colleges educate a large share of minority and disadvantaged students.
 - Somewhat successful at retaining students.
 - But for-profit graduates have higher unemployment rates, lower earnings, and far greater debt burdens and default rates.
- Lang and Weinstein (2012): look at returns to certification from for-profits, and find broadly similar results.

Are disadvantage students making the right choices?

- Hoxby and Avery (2012): high achieving, low-income students do not apply to selective colleges and universities.
- Despite the fact that selective institutions would cost them less.

Table 1
College Costs and Resources by Selectivity

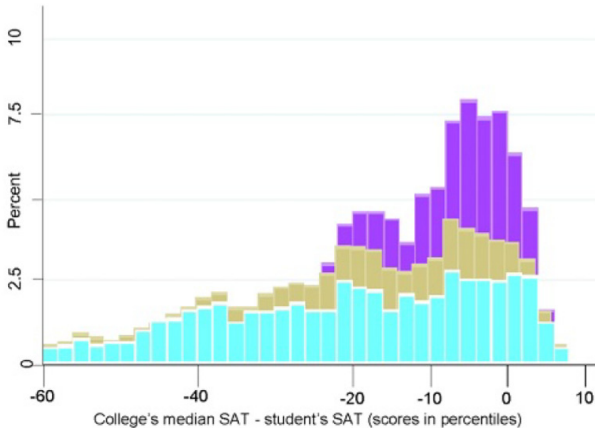
Selectivity (Barron's)	Out-of-Pocket Cost for a Student at the 20 th Percentile of Family Income (includes room and board)	Comprehensive Cost (includes room and board)	Instructional Expenditure per Student
most competitive	6,754	45,540	27,001
highly competitive plus	13,755	38,603	13,732
highly competitive	17,437	35,811	12,163
very competitive plus	15,977	31,591	9,605
very competitive	23,813	29,173	8,300
competitive plus	23,552	27,436	6,970
competitive	19,400	24,166	6,542
less competitive	26,335	21,262	5,359
some or no selection, 4- year	18,981	16,638	5,119
private 2-year	14,852	17,822	6,796
public 2-year	7,573	10,543	4,991
for-profit 2-year	18,486	21,456	3,257

Notes: The sources are colleges' net cost calculators for the out-of-pocket cost column and IPEDS for the remaining columns. The net cost data were gathered for the 2009-10 school year by the authors, for the institutions at the very competitive and more selective levels. For the institutions of lower selectivity, net cost estimates are based on the institution's published net cost calculator for the year closest to 2009-10--never later than 2011-12. Net costs are then reduced to approximate 2009-10 levels using the institution's own room and board and tuition net of aid numbers from IPEDS, for the relevant years.

Figure 9

Low, Middle, and High Income Students' Portfolios of College Applications
Excluding Applications to Non-Selective Institutions (1 student = weight of 1)

blue = low income, brown = middle income, purple = high income



How to induce disadvantaged students to attend college?

- Mounting evidence that decision to attend college may not be adequately captured by life-cycle optimizing framework.
- Small interventions can have large effects.
- Bettinger et al. (2012):
 - Completing college financial aid form (FAFSA) is extremely cumbersome (an order of magnitude more complicated than income tax returns).
 - Partnered with H&R Block to set up randomized experiment.
 - Two treatments: a) information + help in completing FAFSA; b) information only; plus control group.
 - College enrollment substantially higher for those who received help, but not for those in the information only treatment.

- Hoxby and Turner (2012)

- low-income. high achieving students can be induced to attend more selective colleges (with higher graduation rates, and that cost them *less*), by simply sending them customized information about college net costs and choice set available.
- Key point: high achieving, low income students are not surrounded by a critical mass of similar peers that will help them make the best choices.