The Role of Education in Students’ Economic Mobility and Long Term Outcomes

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The views expressed here are those of the presenter and do not necessarily represent those of the Federal Reserve Bank of New York or the Federal Reserve System.
Outline

• Large Returns to Higher Education & More Important Today
• However, large increase in student debt in past two decades
  – Critical to understand whether student debt holdings have affected young Americans’ later life outcomes, example homeownership
  – Almost 25% of student debt holders default by their early 30s
  – Economic Mobility, Student debt/default, labor market outcomes integrally related
• Underscores the importance of understanding whether Education (Graduation, Major, College Type and Selectivity) Matters
  – For default
  – For Homeownership
  – For Earnings, Employment, Economic Mobility
• Leverage unique mergers of few datasets
  – New York Fed Consumer Credit Panel and National Student Clearinghouse
  – National Student Loan Data System and Treasury data
Total Household Debt Passed 2008Q3 Peak But Composition Has Changed

Total Debt Balance and Its Composition

<table>
<thead>
<tr>
<th>Trillions of Dollars</th>
<th>Mortgage</th>
<th>HE Revolving</th>
<th>Auto Loan</th>
<th>Credit Card</th>
<th>Student Loan</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>2017Q4 Total: $13.15 Trillion</td>
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Source: New York Fed Consumer Credit Panel/Equifax
Delinquency and Default Associated with Lower Credit Scores and Homeownership Rates at Age 30

Median Credit Score in 2016*

- 744: never late (52%)
- 667: ever 30-90 days late (5%)
- 596: ever 120+ days late (12%)
- 549: ever defaulted (31%)

Homeownership in 2016*

- 36%: never late (52%)
- 18%: ever 30-90 days late (5%)
- 12%: ever 120+ days late (12%)
- 3%: ever defaulted (31%)

* Among borrowers who were age 30 in 2016 and left school between 2006-2011.

Source: New York Fed Consumer Credit Panel/Equifax
Does Education Type Matter for Default?
Associates Students Have Markedly Higher Default Default Rates than Bachelor’s

- At age 33, Associates students have 15% higher default rates than Bachelor’s students.

Percentage ever defaulted by each age, out of college-goers with student loans. Bachelor’s and Bachelor’s+ refer synonymously refer to Bachelor’s and post-Bachelor’s students. Source: New York Fed Consumer Credit Panel/Equifax and National Student Clearinghouse
Non-Graduates Have Higher Default Rates, Regardless of Degree Type

The gap between Bachelor’s graduates and non-graduates is 23 percentage points.

Percentage ever defaulted by each age, out of college-goers with student loans. Bachelor’s and Bachelor’s+ refer synonymously refer to Bachelor’s and post-Bachelor’s students. Source: New York Fed Consumer Credit Panel/Equifax and National Student Clearinghouse
For-profit College Students Have, By Far, the Highest Default Rates

• Default rates of for-profit students are 23 (13) ppt higher than private not-for-profit (public).

Percentage ever defaulted by each age, out of college-goers with student loans. Source: New York Fed Consumer Credit Panel/Equifax and National Student Clearinghouse
Default Rates of Community College Students Not Too Different from For-profit Students

- Wide divergence (16 ppt at age 33) of default rates between 2 year and 4 year public college students, unlike for for-profits and not-for-profits.

Percentage ever defaulted by each age, out of college-goers with student loans. Source: New York Fed Consumer Credit Panel/Equifax and National Student Clearinghouse
Yawning Gap Between Less-Advantaged For-Profit Students And Advantaged Not-For-Profit Students

• Default Gap At Age 33 Between Less-advantaged For-Profit Students And Advantaged Not-For-Profit Students is Almost 30 ppt.

Percentage ever defaulted by each age, out of college-goers with student loans. Family background proxied by 2010 zip code-level mean income where an individual resided at the youngest age we observe. Mean income is $55,000. Source: New York Fed Consumer Credit Panel/Equifax and National Student Clearinghouse
Does Student Debt Matter for Homeownership?

Does Education Mediate this Relationship?
College Attendance Associated With Markedly Higher Homeownership

![Graph showing Homeownership Rate by College Attendance, Student Debt Status and Age](image_url)

Source: New York Fed Consumer Credit Panel/Equifax and National Student Clearinghouse
Bachelor’s Students Have Higher Homeownership Rates Than Associates, Regardless Of Debt Status

Bachelor’s+ includes bachelor’s and higher-level degrees. Source: New York Fed Consumer Credit Panel/Equifax and National Student Clearinghouse
Graduates Have Higher Homeownership Rates, Regardless Of Debt Status

Homeownership Rate By College Attendance, Graduation Status, Student Debt Status And Age

Source: New York Fed Consumer Credit Panel/Equifax and National Student Clearinghouse
College Attendance Appears To Mitigate The Importance Of Family Background

Homeownership Rate By College Attendance, Family Income, And Age

- College, Above Mean Income
- College, Below Mean Income
- No College, Above Mean Income
- No College, Below Mean Income

Family background proxied by 2010 zip code-level mean income where an individual resided at the youngest age we observe. Mean income is $55,000. Source: New York Fed Consumer Credit Panel/Equifax and National Student Clearinghouse
Role of Education in Earnings and Economic Mobility
Major Matters for Medium-term Earnings, and so does College Type and Selectivity

- Large premium for selective college attendance (11% higher earnings)
- For-profit (FP) attendance leads to 17% (26%) lower earnings relative to not-for-profits (NFP)
- STEM has highest premium followed by Business (10% increase in share of STEM leads to 6% (2%) increase in mean earnings)
Economic (or Social) Mobility

• Upward mobility
  – Individuals move up the earnings distribution over time

• What are the determinants of upward mobility?
  – Do certain types of educational background (major, selectivity, college type) promote upward mobility more than others?
Selective Colleges Promote Upward Mobility; For-profit Colleges Hinder Upward Mobility

<table>
<thead>
<tr>
<th>Difference ($)</th>
<th>Earnings Gap between Highest and Lowest Terciles, 6yrs after Enrollment</th>
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<tbody>
<tr>
<td>8000</td>
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</tbody>
</table>

- 4-year Public colleges serve as equalizers; NFP is polarizing and so are Business and STEM
- STEM more lucrative, but less equalizing (relative to Arts); but more equalizing in long term
- While 4-year public colleges equalizers, Community colleges (2 yr Public) are polarizers
Key Takeaways (Default)

- While almost 30% of student debt holders default by early 30s, there is much heterogeneity.

- Groups with high default rates
  - Associates students
  - Non-graduates
  - For-profit, community college and non-selective college students
  - Arts students
Key Takeaways (Homeownership)

• College education associated with markedly higher homeownership rate, regardless of debt status
  – Homeownership rates for Bachelors’ higher than Associates’ regardless of debt status
  – Lowest homeownership rates for those who do not go to college and gap widens over time
  – Graduates have significantly higher homeownership rates than non-graduates, regardless of debt status

• At each degree/completion level, students with debt have lower homeownership rates

• College education appears to mitigate importance of family background
Key Takeaways (Returns)

- Heterogeneity in returns to Majors and College-types
  - Large premium to selective colleges & STEM
  - Large penalties to FP college attendance
Key Takeaways (Economic Mobility)

• Economic Mobility
  – Selective colleges are not only lucrative, but are equalizing (conditional on access)
  – For-profit colleges thwart upward mobility even though they cater overwhelmingly to low income students
  – Business and STEM are polarizing, though lucrative
  – Public 4-year colleges are equalizing, but Community Colleges are not
## Examples of School Types

<table>
<thead>
<tr>
<th>School Type</th>
<th>Examples</th>
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</thead>
<tbody>
<tr>
<td>Public (4yr)</td>
<td>University of California at Berkeley, Ohio State University, CUNY Queens College, ...</td>
</tr>
<tr>
<td>Private Not-for-Profit (4yr)</td>
<td>Columbia University, Selma University, Manhattan College, ...</td>
</tr>
<tr>
<td>Private For-Profit (4yr)</td>
<td>University of Phoenix, Devry University, American College of Acupuncture and Oriental Medicine, ...</td>
</tr>
<tr>
<td>Public (2yr)</td>
<td>Jefferson Davis Community College, Palo Alto College, Coffeyville Community College, ...</td>
</tr>
<tr>
<td>Private Not-for-Profit (2yr)</td>
<td>St. Luke’s College, Springfield College in Illinois, National Latino Education Institute, ...</td>
</tr>
<tr>
<td>Private For-Profit (2yr)</td>
<td>Kaplan College, Faust Institute of Cosmetology, Austin Institute of Real Estate, ...</td>
</tr>
<tr>
<td>Selective (4yr)</td>
<td>Harvard University, Wesleyan University, Wheaton College, ...</td>
</tr>
<tr>
<td>Non-Selective (4yr)</td>
<td>San Diego State University, University of North Dakota, Devry University,...</td>
</tr>
</tbody>
</table>
## Examples of Major Types

<table>
<thead>
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<th>School Type</th>
<th>Examples</th>
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</thead>
<tbody>
<tr>
<td>Arts</td>
<td>Gender Studies, Languages (e.g. Arabic), Linguistics, Theology, ...</td>
</tr>
<tr>
<td>Business</td>
<td>Family and Consumer Sciences, Legal Studies, Marketing, Management, ...</td>
</tr>
<tr>
<td>STEM</td>
<td>Computer Science, Engineering, Mathematics, Physical Sciences, ...</td>
</tr>
<tr>
<td>Vocation</td>
<td>Agriculture, Culinary Services, Fitness Studies, Homeland Security, Mechanic and Repair Technologies, ...</td>
</tr>
</tbody>
</table>
Homeownership Gap Between Students With And Without Student Debt Widens Slightly Over Time

Homeownership Rate By College Attendance, Student Debt Status, And Age/Year

Source: New York Fed Consumer Credit Panel/Equifax and National Student Clearinghouse
Homeownership Rate By College Attendance, Student Debt Status, And Age/Year

Homeownership Gap Between Students With and Without Student Debt Widens Slightly Over Time

Source: New York Fed Consumer Credit Panel/Equifax and National Student Clearinghouse
Business and STEM are Polarizing, and so are Community Colleges and For-Profits: Two-year colleges

- Business and STEM polarizing relative to Arts, although lucrative
- 2-year NFPs relatively lucrative and equalizing
STEM becomes an equalizer in the long-run

- 4-year Public colleges serve as equalizers; NFP is polarizing and so is business.
- STEM less equalizing in short-run, more equalizing in long-run.
- While 4-year public colleges are equalizers, Community colleges (2 yr Public) are polarizers.

**Difference in Mean Earnings, 10yrs after Enrollment**

<table>
<thead>
<tr>
<th>Difference ($)</th>
<th>Difference ($)</th>
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<tbody>
<tr>
<td>$8,000</td>
<td>$6,000</td>
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<tr>
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<td>$-2,000</td>
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<tr>
<td>$-2,000</td>
<td>$-4,000</td>
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</table>

<table>
<thead>
<tr>
<th>Selective school</th>
<th>For-Profit school</th>
<th>Public school</th>
<th>%Business majors</th>
<th>%Vocational majors</th>
<th>%STEM majors</th>
</tr>
</thead>
<tbody>
<tr>
<td>In comparison to Non-Selective Schools</td>
<td>In comparison to Non-ForProfit schools</td>
<td>In comparison to %Arts Majors</td>
<td></td>
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