Strengthening Community Colleges’ Influence on Economic Mobility

presentation to
The Federal Reserve Bank of San Francisco Conference:
Creating and Employing a Skilled Work Force:
Challenges and Opportunities

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Topics discussed

Part I: The impetus to improve academic preparation and lower post-secondary cost
- College attendance in the US and Florida
- How HS preparation affects educational attainment
- How educational attainment affects earnings

Part II: The impetus to more carefully select field-of-study
- How postsecondary field-of-study affects earnings
- Which high-return fields-of-study:
  ✓ Are easily completed by students who did not perform well academically in high school
  ✓ Require acquiring only one or two years’ of credits.

Part III: How to increase community college ROI (return-on-investment).
✓ Expand career counseling and assessment.
✓ Tie funding to benefits and costs.
Data

- The first two slides use published data.
- The remaining slides use a special longitudinal database covering 135,000 students in the Florida public high school class of 2000.
- For each student the database includes:
  - Demographics including receipt of Free and Reduced Price Lunches (FRLs) in 8th grade (as a measure of low-income).
  - College Credentials.
College attendance across the states

Percent of 9th Graders Continuing to College, 2000

Solid bar = All Students
Shaded bar = Low-Income Students
Educational outcomes in FL

- Reach 12th grade: 59% to 74%
- Graduate from high school: 55% to 62%
- Attend college within 2 years: 34% to 48%
- Receive any credential within 6 years: 14% to 19%

Number of students (thousands)
Educational outcomes in FL for low-income students
(FRL = free and reduced price lunch)

- Reach 12th grade: FRL 55%, Non-FRL 62%
- Attend college within 2 yrs: FRL 25%, Non-FRL 39%
- Complete a year's worth of college courses: FRL 17%, Non-FRL 30%
- Attain any credential w/in 6 yrs: FRL 9%, Non-FRL 20%
- Attain a health or professional credential: FRL 3%, Non-FRL 8%
HS–GPA strongly affects entering and completing Florida public college programs

A Student
- No college: 53%
- Some college: 21%
- College credential: 26%

B Student
- No college: 43%
- Some college: 37%
- College credential: 20%

C or below Student
- No college: 61%
- Some college: 33%
- College credential: 6%
HS–GPA strongly affects type of college attended

- **A Student**: 27% attended 2-yr college directly, 28% transferred to 4-yr, 45% attended 4-yr college directly.
- **B Student**: 18% attended 2-yr college directly, 16% transferred to 4-yr, 66% attended 4-yr college directly.
- **C or below Student**: 5% attended 2-yr college directly, 7% transferred to 4-yr, 88% attended 4-yr college directly.

Legend:
- Attended 2-yr college directly
- Transfer 2-yr to 4-yr
- Attended 4-yr college directly
HS–GPA Strongly Affects College Outcomes

- Attend College: 41%
- Attain a Credential (2-yr starters): 18%
- Transfer to 4-year college: 6%
- Attain a BA (4-yr starters): 26%

Categories:
- C
- C+
- B
- A/B+
Credentials Strongly Affect Earnings

Highest annual earnings for students leaving college and working full time.
Two ways to Strengthen Community Colleges’ Influence on Economic Mobility

- **Improve academic performance of students at each education stage:** Pre-K, Elementary, Secondary, Postsecondary
  - Notable example: No Child Left Behind
  - Outcome: Modest improvement in test score in some states based on the National Assessment of Educational Progress
  - Key issue: Goal is to improve skills to 10th grade level needed for a high school diploma, not to 12th grade level to complete college.

- **Make postsecondary education affordable for high-performing low-income students.**
  - Notable example: Pell Grants
  - Outcome: Makes college affordable for students from low-income families
  - Key issue: Loans are required to pay for tuition, room, and board at selective universities
Return Category by Field–of–Study at Community Colleges for two–year degrees and one or two year certificates

- **High Return**
  - Healthcare*
- **Moderate Return**
  - Business*
  - Protective Services
  - Trade & Industry
- **Low Return**
  - Arts and Sciences
  - Personal and Social Services
  - Computer Science and Engineering*
  - Education*
  - Remedial

* Indicates high–return at four–year colleges
Earnings by Attainment and by Field-of-Study being High or Low Return at the 2-Year Degree Level

**TOP-3**

- 2Yr dgr - mod/hi conc.
  - $36,100

- 2Yr & 4Yr degree
  - $35,400

- Certificate
  - $34,000

**BOTTOM-3**

- 25+ credits
  - $25,300

- 2Yr dgr - low conc.
  - $24,100

- 1-24 credits
  - $22,100
Percentage of Students with A or B HS–GPAs (as a measure of academic challenge)

- 2Yr & 4Yr degree: 76.0%
- 2Yr dgr - mod/hi conc.: 66.1%
- 2Yr dgr - low conc.: 61.4%
- Certificate: 34.6%
- 25+ credits: 35.6%
- 1-24 credits: 29.8%
Number of credits at community and four-year colleges

- **2Yr & 4Yr degree**: CC credits per student (58.4), 4YC credits per student (71.6)
- **2Yr dgr - mod/hi conc.**: CC credits per student (83.0), 4YC credits per student (17.6)
- **2Yr dgr - low conc.**: CC credits per student (70.6), 4YC credits per student (13.1)
- **Certificate**: CC credits per student (53.8), 4YC credits per student (1.7)
- **25+ credits**: CC credits per student (50.8), 4YC credits per student (1.6)
- **1-24 credits**: CC credits per student (10.8), 4YC credits per student (0.1)
KEY POLICY–RELEVANT FINDINGS

- Students with certificates earn $8,700 more per year than those with 25+ credits and no credential.

- Among students with 2-year degrees who do not go on to obtain 4-year degrees, those with hi/mod return concentrations earn $11,300 more per year than students with low-return concentrations.

- Students in two of the Bottom-3 outcome groups could substantially increase their earnings by changing the mix of credits completed without completing:
  - More courses.
  - More academically demanding courses.
A third way to Strengthen Community Colleges’ Influence on Economic Mobility

- Increase completion of higher return courses by:
  - **Influencing demand**—improving access to high-quality assessment, career counseling, and supportive services.
  - **Influencing supply**—providing incentives and funding to increase high-return slots.

- **Influencing demand** is attractive because students want to enhance career outcomes but lack accurate information about:
  - What programs are available.
  - How their choice of program affects earnings.
  - The likelihood of completing a program given their own backgrounds.
  - How to get timely help to resolve academic and personal problems.
Providing accurate information

- Depends on having accurate information about program outcomes by: field-of-study, training provider, student characteristics.
- This information could be developed using the type of data used for this presentation.
- These data could help One-Stop Career Centers funded by the US Department of Labor fulfill their mandate to:
  - Identify local high-demand high-pay occupations.
  - Measure the returns to all types of training.
  - Maintain a list of approved training-providers by field.
  - Act as an honest-broker.
Impediments to Increasing Supply of High-Return Courses

- Funding is inadequate to expand high-return programs.
- Taxpayer subsidies create perverse incentives by:
  - Not taking into account high-return courses being much more expensive than low-return courses.
  - Favoring academic over career courses.
  - Not rewarding colleges for superior performance.
- Key perverse incentive is to enroll students in low-cost low-return courses to cross-subsidize high-cost high-return courses.
- Students often are required to take remedial and other low-return courses.
Ways to Overcome Impediments

- **Provide more aid to community colleges but tie aid to:**
  - Covering the full cost of each course.
  - Giving equal treatment to academic and career courses with similar returns.
  - Giving bonuses to colleges that provide superior outcomes taking into account students' background.

- **Reduce requirements to develop nonessential skills based on:**
  - Having to pass tests or enter remediation
  - Having to pass distributional courses.

- **Notable examples:**
  - Expansion of technical colleges
  - Expansion of for-profit career colleges

- **Outcome:** Large increase in number of students completing high-return programs
The size of investments relative to their returns

- The investments and the returns are high for the Top–3 groups.
- The investments are high but the returns low for 2 of the Bottom–3 groups.
- The investments are low and the returns low for the 1–24 credit group.
Conclusion about increasing ROI

- The two key groups to focus on are students with:
  - 2-year degrees with low return concentrations.
  - 25+ credits with no credentials.

- This reinforces the view that the “low-hanging fruit” is having:
  - More two-year degree students concentrating in high and moderate return concentrations.
  - More 25+ credit students with no credentials obtaining certificates.
Supplemental Slides
Ways to Boost Earnings

- Avoid being in a low-income family.
  (Not an action item unless reincarnation is possible.)

Follow the advice your mother gave you:

- Perform well in high school.
- Progress as far as possible in college.
- Select high-return college courses.
Conclusions about academic challenge
(based on differences in HS–GPA)

Most, but not all, students with 2–year degrees with low–return concentrations could:

◦ Have gotten 2–year degrees with higher return concentrations because the HS GPAs of students in the two terminal 2–year degree groups are about the same.
◦ But obtaining 4–years would be more difficult since the HS–GPAs of students with 2 & 4 year degrees are higher than for the low–return 2–year degree students.

Most students with no credentials could have obtained certificates because the Bottom–3 groups have about the same HS GPAs.
Conclusions about taking more courses
(based on differences in credits earned)

- Most students with 25+ credits could have obtained certificates since credits earned by these two groups are about the same.

- Most, but not all students with low return 2-year degrees could have obtained a 2-year degree with a higher returns since the difference in credits is modest.

- Students with low-return 2-year degrees would have a difficult time completing a 4-year degree because students with 4-year degrees completed many more credits and completed most credits at 4-year colleges.

- Students with 1–24 credits would have difficulty obtaining certificates because they would have to complete many more courses.
Cross-College Variation in Outcomes

- Top-3: 45.4%
- 2Yr & 4Yr degree: 22.5%
- 2Yr dgr - mod/hi conc.: 16.4%
- 2Yr dgr - low conc.: 7.7%
- Certificate: 27.5%
- 25+ credits: 30.3%
- 1-24 credits: 50.8%
Why is there so much variation across CCs?

- About 67 percent of the variation is due to differences in the:
  - HS–GPAs of the students.
  - Percentage of students coming from rural high schools.
Transition to high school—starting 9th grade in AY96 (fall 1996)

Transition to college—fall 2000

Transition to workforce—spring 2004

Timeline for a typical BA student

- High School: 4 yrs
- College: 4 yrs
- Workforce: 3 yrs

Age 18
Age 22
Age 25
Certificate and AA field of study strongly affects earnings

Post-College Earnings Certificates & AAs

<table>
<thead>
<tr>
<th>Field of Study</th>
<th>25th Percentile</th>
<th>75th Percentile</th>
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<tbody>
<tr>
<td>Health-Related</td>
<td>$26,812</td>
<td>$45,968</td>
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<tr>
<td>Humanities</td>
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</tr>
</tbody>
</table>

Humanities Earnings: Median

Health Earnings: Median

Median Humanities Earnings: $23,528

Median Health Earnings: $35,188

- $ 25,000
- $50,000
- $75,000

[Bar chart showing earnings distribution by field of study]
BA field of study modestly affects earnings

Post-College Earnings for BAs

- **Humanities**
  - Median Humanities Earnings: $33,552

- **Health-Related**
  - Median Health Earnings: $45,680

- **Professional**
  - Median Earnings: $39,912

- **Vo/Tech**
  - Median Earnings: $39,360

- **Social Science**
  - Median Earnings: $38,212

- **STEM**
  - Median Earnings: $46,052