Economic Realities In and Out of Higher Education

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Disclaimer

The views and opinions expressed herein are those of the author. They do not represent an official position of the Federal Reserve Bank of Richmond or the Federal Reserve System.
Overview of Presentation

• Economic Update
  – GDP
  – Inflation
  – Unemployment/Labor Force Participation

• Economic State of Higher Education
  – State Support for Higher Education
  – Tuition Increases
  – Student Debt

• Enrollment
  – Current Trends
  – Data by Sector
  – Future Projections by Region
  – Flagships vs. Smaller Campuses
  – What's Going on with Enrollment?

• What Does the Future Hold?
GDP Growth Rate 2009 - 2022

% Change, SAAR

Q2: 2019
US: 2.0%

Source: Bureau of Economic Analysis, Federal Reserve Board /Haver Analytics
Inflation Rate 2008 - 2022

August 2019
PCE Inflation: 1.4
PCE Less Food & Energy: 1.6

Source: Bureau of Economics Analysis, Federal Reserve Board of Governors/Haver Analytics
Unemployment Rate 2008 - 2022

Source: Bureau of Economics Analysis, Federal Reserve Board of Governors/Haver Analytics
Underemployment

- Looking at the overall unemployment rate alone doesn't tell the whole story.
Labor Force Participation Rate: Men 1975 - 2019

Shaded areas indicate U.S. recessions

Source: U.S. Bureau of Labor Statistics

fred.stlouisfed.org
State Support for Higher Education

- Across the U.S., state support increased by 3.7% in 2018-19 after weak growth of 1.6% in 2017-18. 70% of the growth in 2018-19 was driven by strong growth in 9 states (CA, CO, FL, GA, IL, NY, NC, VA and WA). SC had the largest one year drop at 3.7%

Tuition Rates Continue to Climb

- All data is shown in 2018 dollars.
- The cost of a public four-year college has more than tripled in real terms since 1988.
- Median income for males with a bachelor’s degree in 2018 was $67,435. This number was $65,928 in 1988 (in 2018 dollars), a growth of only 2.3%.
- Median income for females with a bachelor’s degree was $49,011 in 2018. Median income (in 2018 dollars) was around $40,549 in 1988, which represents real growth of 20.8%.

Source: The College Board: Trends in College Pricing and The Census Bureau’s Historical Income Tables
Tuition Rates Continue to Climb (but the rate is slowing)

<table>
<thead>
<tr>
<th>University</th>
<th>Tuition and Fees 2013-14</th>
<th>Tuition and Fees 2019-20</th>
</tr>
</thead>
<tbody>
<tr>
<td>University of Wyoming</td>
<td>$4,645</td>
<td>$5,761</td>
</tr>
<tr>
<td>University of Utah</td>
<td>$7,835</td>
<td>$9,500</td>
</tr>
<tr>
<td>University of Arkansas</td>
<td>$8,209</td>
<td>$9,384</td>
</tr>
<tr>
<td>UNC, Chapel Hill</td>
<td>$8,336</td>
<td>$8,842</td>
</tr>
<tr>
<td>The Ohio State University</td>
<td>$10,037</td>
<td>$11,084</td>
</tr>
<tr>
<td>University of Georgia</td>
<td>$10,836</td>
<td>$12,080</td>
</tr>
<tr>
<td>University of Tennessee</td>
<td>$11,876</td>
<td>$13,264</td>
</tr>
<tr>
<td>UCLA (CA)</td>
<td>$12,862</td>
<td>$13,239</td>
</tr>
<tr>
<td>University of Virginia</td>
<td>$12,948</td>
<td>$16,520</td>
</tr>
<tr>
<td>Clemson University (SC)</td>
<td>$13,808</td>
<td>$15,374</td>
</tr>
<tr>
<td>University of New Hampshire</td>
<td>$16,552</td>
<td>$18,879</td>
</tr>
<tr>
<td>Penn State University</td>
<td>$16,572</td>
<td>$18,454</td>
</tr>
</tbody>
</table>

- The average increase in 6 years at these schools was 13.88%.
- Inflation increased by 10.1% over the same time period.
- The largest increase was 27.59% at the University of Virginia and the smallest was 2.93% at UCLA.
- The University of Virginia froze tuition for 2019-20, and many other schools nation wide focused on minimizing the increase.
  - At what cost?
Does Published Tuition Even Matter?  
Net Price vs. Tuition

- Published tuition and fees are growing more rapidly than net tuition and fees (tuition minus grants and scholarships), especially at private schools.

Public, 4 year Institutions

Private, Nonprofit 4 year Institutions

Source: CollegeBoard
Does Published Tuition Even Matter?
Net Price vs. Tuition

• Who is paying published tuition rates? Answer: Actually a lot of people
  – 39 percent of undergraduate students at public, four year institutions pay full price, while only 23 percent of students at private, non-profit institutions pay full price.
  – Students in the South and Mid-Atlantic states are less likely to pay full tuition than students in other regions.
  – 41 percent of students enrolled in colleges with enrollment greater than 20,000 pay full price.
  – The less selective the college, the higher the percentage of students who pay full price.
  – Higher income students are more likely to pay full price. This is heavily impacted by the Pell Grant, which many lower income students receive. 61 percent of students from families with Adjusted Gross Income greater than 100,000 pay full price.

• Also, published price matters
  – When high school students are searching for colleges, the price that they observe is the published tuition price.
  – Students may make application decisions before they are aware of grants/scholarships that will be afforded to them. Net price calculators are available but are not always perfectly accurate and don’t always include merit aid.
  – This means that students may not apply to schools with published tuition rates above their ability to pay.

• Growth in net tuition has been slower, but barely, at public universities.
  – Between 1998 and 2019, published tuition and fees at public four year institutions increased by 103.8%. Net tuition and fees increased by 100.0% over the same time period.

Source: Kantrowitz, Who Pays the Full Sticker Price for a College Education?
IPEDS
CollegeBoard
So Does Student Debt

- Student loan debt is greater than $1.5 trillion. In 2004, this number was $346 billion. That represents an increase of over 340% in 15 years.
- Approximately 45 million Americans currently have student loan balances.

Source: Federal Reserve Bank of New York Consumer Credit Panel/ Equifax
But the overall debt picture is different than you might expect...

- Over 60% of the debt is held by families with above average income.
- 48% of outstanding debt is held by people with graduate degrees.
- Most borrowers with a bachelor’s degree or less have relatively modest outstanding debt.

**Education Debt Held by Households Age 25 and Older in Each Income Quartile, 2016**

<table>
<thead>
<tr>
<th>Income Quartile</th>
<th>Share of Borrowers</th>
<th>Share of Debt</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lowest quartile</td>
<td>12%</td>
<td>24%</td>
</tr>
<tr>
<td>Second quartile</td>
<td>24%</td>
<td>28%</td>
</tr>
<tr>
<td>Third quartile</td>
<td>29%</td>
<td>31%</td>
</tr>
<tr>
<td>Highest quartile</td>
<td>34%</td>
<td>48%</td>
</tr>
</tbody>
</table>

Source: Survey of Consumer Finances.
Notes: Lowest quartile: $20,000 or below; second quartile: $20,001-$52,000; third quartile: $52,001-$99,000; highest quartile: $97,001 and above. Percentages do not sum to 100 because of rounding.
Is it worth it?

• Paying for college education is an investment and on average it is a very, very good investment. This is even the case when students have to borrow money to pay for school and/or living expenses.
  – Median weekly earnings for bachelor’s degree recipients in 2017 was $337 higher than for those with an associate’s degree and $461 higher than those with just a high school diploma. (source: https://www.bls.gov/careeroutlook/2018/data-on-display/education-pays.htm)
  – In 2015, the Social Security Administration reported that men with bachelor’s degree earn approximately $900,000 more in median lifetime earnings than high school graduates. For women, that number was $630,000. (source: https://www.ssa.gov/policy/docs/research-summaries/education-earnings.html)

• This is predicated on two important factors:
  – That students who borrow money graduate and work in jobs in which they financially benefit from having a college degree.
  – That students are able to borrow the full amount needed to cover the cost of attending college at reasonable interest rates. If a gap remains between available financial aid/grants and the cost of attendance, students may not be able to make the investment, even if they want to.
Enrollment Trends

– Overall enrollment is declining
  • 8.86 percent decline since Spring 2011 (19.2 million students to 17.5 million students)
  • Enrollment has declined every year since 2011
– Enrollment is especially challenging for for-profit and two year public schools
– National peak in high school graduates was in 2011
  • Between 1998 and 2011: 25% increase in the number of high school graduates
  • Between 2011 and 2024: 2% decrease in the number of high school graduates is projected
Enrollment by College Sector (Spring 2011 – Spring 2018)

Enrollment by Sector

Source: National Student Clearinghouse Research Center
Enrollment by College Sector (Fall 2015 – Spring 2019)

Figure 1: Percent Change from Previous Year, Enrollment by Sector (Title IV, Degree-Granting Institutions)

Source: National Student Clearinghouse Research Center
Public Institution Enrollment by State (Fall 2006 – Fall 2016)

Source: CollegeBoard, Trends in College Pricing 2018
Enrollment Projections by State (between now and 2029)

- There will be (are) winners and losers based on geography
- This is leading to recruitment efforts far outside of the typical university region
Flagship Campuses vs. Smaller Schools

- Flagship campuses continue to grow while smaller campuses are shrinking.

- Flagship schools often have longer waitlists and higher demand from student populations.

- Examples:
  - South Carolina:
    - 2007 – 2011:
      - Flagship campuses: Up 12.88%
      - Comprehensive institutions: Up 3.85%
    - 2011 – 2017:
      - Flagship campuses: Up 16.75%
      - Comprehensive Institutions: Down 3.83%

Source: Presentation by Enrollment Management at Winthrop University
Data obtained from IPEDS.
Flagship Campuses vs. Smaller Schools

- **Examples:**
  - **Virginia:**
    - **2007 – 2011:**
      - Flagship campuses: Up 5.32%
      - Comprehensive institutions: Up 7.75%
    - **2011 – 2017:**
      - Flagship campuses: Up 4.50%
      - Comprehensive Institutions: Down 5.78%
  - **Illinois:**
    - **2007 – 2011:**
      - Flagship campuses: Up 4.29%
      - Comprehensive institutions: Up 2.72%
    - **2011 – 2017:**
      - Flagship campuses: Up 11.02%
      - Comprehensive Institutions: Down 18.21%

*Source: Presentation by Enrollment Management at Winthrop University*
*Data obtained from IPEDS.*
Flagship Campuses vs. Smaller Schools

- Fewer colleges are meeting their enrollment goals, and those that do are meeting them later than the traditional May 1st deadline.

<table>
<thead>
<tr>
<th></th>
<th>Public Doctoral</th>
<th>Public Master’s/Bachelor’s</th>
<th>Public Community College</th>
<th>Private Doctoral/Master’s</th>
<th>Private Bachelor’s</th>
</tr>
</thead>
<tbody>
<tr>
<td>Met goal by May 1</td>
<td>45%</td>
<td>36%</td>
<td>33%</td>
<td>44%</td>
<td>29%</td>
</tr>
<tr>
<td>Met goal by June 1</td>
<td>9%</td>
<td>3%</td>
<td>3%</td>
<td>5%</td>
<td>18%</td>
</tr>
<tr>
<td>Met goal by July 1</td>
<td>5%</td>
<td>9%</td>
<td>3%</td>
<td>5%</td>
<td>2%</td>
</tr>
<tr>
<td>Didn’t meet goal by July 1</td>
<td>40%</td>
<td>52%</td>
<td>61%</td>
<td>46%</td>
<td>52%</td>
</tr>
</tbody>
</table>

Source: https://www.insidehighered.com/news/survey/admissions-directors-face-growing-pressure
Flagship Campuses vs. Smaller Schools

- Admissions directors are increasingly concerned about meeting enrollment goals. This varies by type of institution, but a moderate-to-severe level of concern is seen across the board.

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<tr>
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<th>Public Master's/Bachelors</th>
<th>Public Community College</th>
<th>Private Doctoral/Master's</th>
<th>Private Bachelor's</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very concerned</td>
<td>41%</td>
<td>54%</td>
<td>66%</td>
<td>54%</td>
<td>47%</td>
</tr>
<tr>
<td>Moderately concerned</td>
<td>31%</td>
<td>41%</td>
<td>29%</td>
<td>25%</td>
<td>36%</td>
</tr>
<tr>
<td>Not too concerned</td>
<td>20%</td>
<td>5%</td>
<td>5%</td>
<td>11%</td>
<td>14%</td>
</tr>
<tr>
<td>Not concerned at all</td>
<td>8%</td>
<td>0%</td>
<td>&lt;1%</td>
<td>10%</td>
<td>3%</td>
</tr>
</tbody>
</table>

Source: https://www.insidehighered.com/news/survey/admissions-directors-face-growing-pressure
What is going on with enrollment?

1) The economy is strong, and has been very a very long period of time.

![Graph showing U.S. recessions from 1970 to 2015]

When the job market is good, we expect less people to enroll in college. This is especially true for non-traditional students.
What is going on with enrollment?

2) Demographics are changing

- Population is shifting to the south and the west. However, there are larger numbers of colleges and universities in the Midwest and the Northeast.
- Students in the northeast are more likely to attend college than those in the southeast and west, so overall enrollment may decline as the population shifts.
- The only demographic population projected to increase significantly is the Hispanic population. The Department of Homeland Security has estimated that 22 percent of all undocumented immigrants are under age 24. These students are less likely to enroll due to the laws/rules surrounding financial aid.
- During the Great Recession, fertility rates fell 10 percent. This trend hasn’t reversed during the recovery. As of 2016, fertility rates were 15 percent off the 2007 peak. (source: National Vital Statistics Report: CDC; January 2018).
What is going on with enrollment?

- U.S. fertility rate now stands at 1.7 births per women, a historically low level.
  - It needs to be 2.1 to maintain current population (absent immigration).
- By 2050, Nigeria will have more residents than the U.S. We may also be surpassed by Indonesia.
3) Students are entering college with more credits

– According to a National Center for Education Statistics report, 34 percent of students who were 9th graders in 2009 took at least one postsecondary course while in high school.
  • This number has likely increased considerably since then.
– Options for colleges are limited
  • Option #1: Be flexible with students and accept most transfer credits
    – Good for enrollment, but time to graduation falls
  • Option #2: Significantly limit the number of transfer credits (or accept none)
    – Likely only works are very selective colleges and universities
    – Could be very detrimental to enrollment
4) Return on investment may be questionable or hard to calculate
   - The growth in the price of college (even when looking at net tuition) has far exceeded inflation, and the growth of all other commodities and services.
   - Over 70 percent of students now borrow money for college.
   - It is widely reported that average debt at graduation is now over $37,000 and climbing.
   - For many students there is still a large ‘gap’ between the cost of attendance and the maximum amount they can obtain in financial aid.
   - As of 2017, borrowers over age 60 owed $85.4 billion. In 2004, that age group owed only $6.3 billion. Imagine what that statistic might be 30 years from now.
What is going on with enrollment?

5) Colleges and universities are not nimble enough
   - Because of changing demographics and the increased costs, students are more focused on job readiness
     - High schools have responded with technical programs and dual credit for college bound students
     - Traditional colleges have been lest apt to change
   - Schools are slow to abandon traditional models and programs
   - Companies may respond by training employees themselves
     - edX: free courses from schools like Harvard and MIT
     - Internet of Learning Consortium (Accenture, Boeing and Microsoft)
What is going on with enrollment?

• What types of programs ARE growing?
  – Biological Sciences
  – Engineering
  – Computer and Information Sciences
  – Architecture
  – Transportation and Materials Moving (Supply Chain and Logistics)
  – Communications Technologies
  – Construction Trades
  – Science Technologies

• Which areas are shrinking the fastest?
  – Culinary Arts
  – English
  – Public Administration
  – Foreign Languages
  – Philosophy
  – Religion and Theology
What Does the Future Hold?

• Continued school mergers (examples: Georgia and Vermont)
• School closings (20 private colleges closed last year; 20 public colleges closed or consolidated)
• Reduction in the number of subject/degree offerings
• Schools focused on career-ready programs
• Tuition restrictions/free tuition
  – North Carolina Promise (restricts tuition to $1,000 per year at three schools)
  – Tennessee Promise (free community college)
• Student loan forgiveness?
  – Over 12% of student loans are currently in default; This will likely increase over time
  – As more and more people in their 40s, 50s and 60s still have student loans, will the populace vote to forgive them?
• Immigration reform?
• Continued online/flexible offerings as it is cheaper for universities to operate
• And hopefully….innovation that will drive higher education into the next century. It’s happened before and it can happen again.
Questions???