

**Date:** August 22, 2018

**Subject:** Book Summary: *Demographics and the Demand for Higher Education* by Nathan Grawe

Nathan Grawe, an economics professor at Carleton College, recently published a book titled "[Demographics and the Demand for Higher Education](#)." Popularized by the Washington Post article "[Higher education is headed for a supply and demand crisis](#)," Grawe's book explores the projected overall decline in high school graduates and predicts the decline's impact on higher education institutions in the United States. While other analyses examine population changes and demographic shifts, Grawe takes this a step further by creating the Higher Education Demand Index (HEDI) which estimates the probability of college-going by institution type, region, and demographic subgroup. Something to keep in mind, according to Grawe, is that "forecasts must make assumptions based on current data, knowing full well that the future may be different" and that his HEDI forecasts "aren't intended to be "right" so much as to put a spotlight on challenges that lie on our current path."<sup>1</sup>

### **Supply and demand: Using federal data and known trends to predict college attendance**

#### ***HEDI and Grawe's general methodology***

Current forecasts of population or high school graduates do not distinguish between those who will attend college and those who will not, nor what type of institution someone is likely to attend. This provides limited use to administrators and policy makers. Grawe's "HEDI" measure attempts to address these shortfalls through weighting population forecasts by the probability of college attendance. Using data from the Education Longitudinal Study (including specific institution attended) and demographic information (sex, race/ethnicity, geographic location, parent education, family income, family structure and nativity), Grawe estimates the probability of attendance at colleges of different types (two-year schools and three tiers of four-year schools). He applies those probabilities to Census Bureau head-count data to forecast the number of college attenders by state and metropolitan area. Grawe then breaks down expected demand by school type (regional, national, and elite institutions).

#### ***Higher education trends and assumptions***

Before diving into HEDI, we can start with some observed trends and generally accepted assumptions, which Grawe's analysis reaffirms and explores the implications of<sup>2</sup>:

- More people are attending college, meaning more people in the future will have family connections to higher education<sup>3</sup>. The children of parents holding college degrees are more likely to attend college themselves<sup>4</sup>.
- Fewer people are having kids. Researchers have observed a steep decline in birth rates that began around 2008 with the great recession<sup>5</sup>. Grawe coins this the "birth dearth."
- People from higher income families are more likely to go to college<sup>6</sup>.
- Asian Americans and non-Hispanic Whites are more likely to acquire some college education than non-Hispanic Blacks and Hispanics, due to historical and institutional disenfranchisement of these latter groups<sup>7</sup>.

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<sup>1</sup> Inside Higher Ed [interview with author Nathan Grawe](#).

<sup>2</sup> To provide an external check on Grawe's analyses and findings as they pertain to Washington specifically, we examined a few other sources, such as [OFM's population forecasts](#), the Forecast Council's Common School Long Range Projection, and others. These either corroborated Grawe's analysis or, at least, did not dispute it.

<sup>3</sup> NCES [Undergraduate Enrollment](#).

<sup>4</sup> NCES "[First-Generation Students: College Access, Persistence, and Postbachelor's Outcomes](#)."

<sup>5</sup> [Fertility rates](#) for women 20 to 24 declined by 23 percent between 2007 and 2013.

<sup>6</sup> Kinsler and Paven, "[Family Income and Higher Education Choices](#)."

<sup>7</sup> Pew Research Center "[Demographic trends and economic well-being](#)."

- Changes in graduating class sizes are expected to vary significantly by region and state. The Northeast and Midwest are projected to experience a significant decline (~20%) in numbers of graduates. In contrast, slight increases are projected in the West and steady, significant increases in the South<sup>8</sup>.

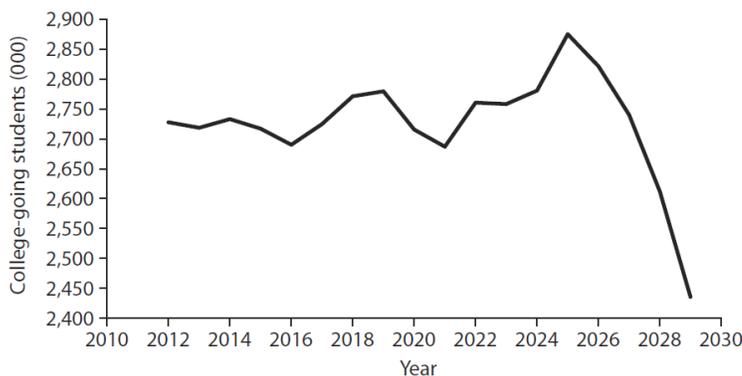
HEDI essentially combines these and other trends and assumptions into one overarching demand forecast that is then broken down by region, demographic group, and institution type and rank. Below, we review a summary of Grawe’s key findings.

**Reduced demand and shifting demographics on a national level**

**Overall demand and regional differences**

According to HEDI, both the college-age population and college-going population are expected to remain stable through the early 2020s, followed by a brief 5 percent increase, and then a swift and steep **reduction of 15 percent or more in the mid to late 2020s** (when the “birth dearth” starts to hit college enrollment). Below, Grawe’s chart (Figure 1<sup>9</sup>) illustrates his national forecast; however, please note that the y-axis scale is selective, which amplifies the fluctuations.

**Figure 1: U.S. college-going demand forecast**



Changes in college-going populations will vary by both region and institution type. The decrease in demand will be felt most strongly in the Northeast and Midwest (areas with historically large markets of students), while portions of the South and West will see small decreases, no change, or even small amounts of growth. Since a large majority of young people now acquire some postsecondary education, overall college demand closely matches underlying population trends.

**Demographic shifts**

Nationally, we should expect growth in the number of potential students with higher levels of parental education (both parents have a BA or higher). This is expected to result in a shift from the current narrative that the proportion of first-generation students will continue to climb. As a whole, demand is expected to grow faster among students whose parents have higher educational backgrounds, causing the share of first-generation students to decrease.

On a national level, the shares of non-Hispanic White and non-Hispanic Black college students are expected to fall, while the shares of Hispanic, Asian American, and Other students are expected to increase. However, the overall national demographic shifts are predicted to be fairly small (a discussion of regional shifts is provided below).

HEDI also analyzes trends in full-pay students by using family income from the American Community Survey and parental education. It predicts steady growth in the number of young people with the profile of a full-pay student (high income families with strong parental education). The increase in full-pay students may provide institutions with some financial relief, which could help offset the financial effects of an overall decrease in student demand.

Of note, the **West is expected to see one of the biggest increases in full-pay students for national schools** (such as the UW in Seattle), while other demographic shifts are expected to be more muted in the West than in other regions.

<sup>8</sup> WICHE “[Knocking at the College Door](#)” 9<sup>th</sup> edition.

<sup>9</sup> Figure 1 is from Grawe’s *Demographics and the Demand for Higher Education* book, figure 4.1, ch. 4 pg. 46.

***Demand by institution type and rank***

Grawe breaks his analysis down into four institution categories:

- Four-year institutions
  - Elite institutions: ranked #1 - #50 by *U.S. News & World Report* Top Colleges and Universities
  - National institutions: ranked #51 - #100 (the UW in Seattle is currently ranked #56<sup>10</sup>)
  - Regional institutions: ranked > #100 (ex: WSU, WWU, and UW Tacoma and Bothell)
- Two-year programs (community and technical colleges)

*Four-Year Institutions*

Demand for four-year institutions is expected to follow overall enrollment trends (slow, steady growth before a significant decline in the mid 2020s), with variations by institutional rank. Specifically, elite institutions will see the most initial growth followed by the smallest decrease, and vice versa.

The geographic markets for the three institutional ranks within the four-year sector vary dramatically. Students travel farther to attend schools with a higher ranking, which is why students at “regional” institutions tend to come from that region, “national” schools have a more national recruitment pool, and elite institutions attract students from all over.

Key takeaways from Grawe’s analysis include:

- Regional institutions in areas with predicted demand decreases will be hit the hardest. For example, demand for regional institutions is predicted to fall 25 percent in the East North Central and New England regions, while regional institution demand in Washington is expected to decrease slightly statewide and increase slightly in the Seattle metro area.
- The overall picture is better for institutions ranked among the top 100 colleges and universities, like the UW in Seattle. National schools can expect declining demand in the Northeast and Midwest, growth in the Pacific and Mountain divisions, and stability in the West South Central and South Atlantic.
- For elite institutions, HEDI predicts growth in seven out of nine census divisions.

*Two-Year Institutions*

All nine census divisions are predicted to see decreased demand during the birth dearth; some will see a reversal from a positive trend, while others will experience a larger rate of decline. The expected rate of contraction in two-year enrollments is almost 20 percent faster than for college enrollments in general, with losses in demand found throughout the country. Demographic shifts will also be more pronounced at two-year institutions, where we can expect them to serve more minority students, especially Hispanic students (except on the West coast/Pacific division where the share of Hispanic students is already large and is expected to decrease slightly).

***Forecasted demand in Washington State (and Seattle metro area) depends on institution type***

The West is one of the few areas that is projected to see some growth (or at least stability) during the mid to late 2020s. However, that depends greatly on institution type. Looking at Washington state and the Seattle metropolitan areas, Grawe’s forecasted growth can help us understand the possible impacts we will see on resident undergraduates:

**Table 1: Forecasted changes in student demand by student location**

Institution type	WA State	Seattle/Tacoma/Bellevue metro area
National institution	Growth of more than 7.5%	Between a 2.5% decline and a 2.5% increase
Regional institution	Decline of 2.5 to 7.5%	Growth of 2.5 to 7.5%
Two-year or CTC	Decline of up to 15%	Decline of up to 15%

<sup>10</sup> UW Seattle is ranked #18 among public schools and #56 among public and private schools by *US News & World Report*.

While national institutions in Washington state (such as the UW in Seattle) can expect student demand growth in our state and stability in the Seattle metro area, the forecasts for Washington’s regional schools (such as UW Bothell and UW Tacoma) are mixed and are particularly bleak for our Washington community and technical colleges.

**What does this mean for the UW?**

Overall, the HEDI predictions are fairly neutral for the UW. We are a nationally-ranked top 100 university located in a region predicted to experience pockets of growth and stability. As such, Grawe’s forecasts are much less dire for our institution than they are for others. However, if Grawe’s college-going population predictions are realized, we will likely face increased competition from institutions in regions with decreases in demand, as those institutions try to shift their enrollment and outreach strategies to recruit students from regions with growth or stability and try harder to keep their homegrown students. Grawe has the following recommendations for institutions as they plan for this upcoming shift.

***Monitor, Plan, and Implement Strategies***

Grawe warns fortunate institutions [against complacency](#). Although we cannot affect fertility trends or demographic shifts, there are things that we can do as an institution to prepare for the future. Grawe provides a roadmap to institutions in preparation for grappling with these trends:

- ***Monitor population trends and actions by other institutions.*** Grawe urges institutions to monitor areas with decreasing demand to see how their peers respond, as well as schools with higher rankings and their applicant pools for potential “spillover.” According to HEDI, elite institutions (except perhaps those in the Northeast) can expect to see demand growth. Since that demand will likely outpace seat count growth at elite schools, we may be able to fill demand gaps through these elite-like students. Similarly, we may be able to expand our recruitment efforts in areas that have forecasted growth but limited educational infrastructure. Institutions that serve local, resident populations may also face some competition from nearby regional schools, and will also want to monitor enrollment trends at feeder schools.
- ***Grow cautiously.*** Even where enrollment is anticipated to grow modestly, the author urges institutions to remain cautious in planning and counting on enrollment growth. Long-term commitments, such as tenure track faculty and buildings with 20- to 30-year amortization schedules should be considered carefully, and long-term, steady, permanent growth cannot necessarily be depended upon.
- ***Focus on the student body.*** Though the UW already has an [above average graduation rate](#) compared to public institutions across the U.S., increasing the retention and graduation rates may be [another way](#) to disperse thinning state subsidies, financial aid, and housing. Increasing graduation and retention rates makes financial sense, and is a benefit to our students. The author also urges institutions to recruit and support the enrollment of underrepresented minority students (URMs) and continue diversifying the student body. UW already supports programs like STARS that help bring in talented URM students, and programs like the Husky Promise that allow students to attend the UW despite financial hardships.
- ***Diversify and increase revenue streams.*** This could mean pursuing more state funding, a fund split fix, public/private partnerships, philanthropy and others.

When talking about his book, Grawe says, “the HEDI forecasts aren’t intended to be ‘right’ so much as to put a spotlight on challenges that lie on our current path. In fact, I hope that schools respond to the information in the model with better retention policy or new recruitment strategies and so survive or thrive despite demographic hurdles...With so much lead time, thoughtful planning using nuanced forecasts should better prepare us for the storm ahead. The HEDI forecasts are intended to provide campus leaders the basis for just such discussions.”<sup>11</sup> While difficult times may be waiting for higher education, especially certain institution types and regions, we have enough information to start preparing now, and we at the UW can start looking now for ways to make our institution even stronger in the meantime.

<sup>11</sup> Inside Higher Ed [interview with author Nathan Grawe](#).