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FEATURE ARTICLE

Teetering on the Demographic Cliff, Part 1

Prepare Now for the Challenging Times Ahead

by Bryan C. Harvey, EdD

A long-term decline in birth rates raises fundamental planning questions for higher education as the pool of 18-year-olds contracts after 2025. How can planners and leaders use the time we have to prepare for some of the most wrenching changes in a generation?

ABOUT THIS ARTICLE SERIES

This article, Part 1, surveys the planning horizon as we emerge from COVID-19 and describes the challenges ahead. Part 2, to be published in the fall 2021 issue of *Planning for Higher Education*, will consider specific planning strategies institutions can adopt to meet the challenge. Part 3 will be published in the winter 2022 issue. It will tackle perhaps the most daunting challenge: how to mobilize institutions to actually do what needs to be done, however inconvenient (or worse) that may be.

In April of 2018, Carleton College economist Nathan Grawe published a study of the looming impact of demographic shifts on the nation's colleges and universities. His 2018 book, *Demographics and the Demand for Higher Education*, was a masterful synthesis of forces that would shape the enrollment landscape over the coming decade or more, including student migration patterns, college-going rates, and factors driving student admissions choices. But at its heart it revolved around one stark and sobering fact: The Great Recession of 2008–2009 had dramatically altered American child-bearing patterns. Fertility rates had dropped, and a decade later had not recovered. Beginning in 2026, he warned, the pool of 18-year-olds in the US would begin to dry up.



Figure 1 Forecasted percentage change in number of students who will attend post-secondary institutions from 2012 to 2029 by Census Division and Type of Institution

Type of Institution	Census Division									Total
	Pacific	Mountain	West North Central	East North Central	West South Central	East South Central	Middle Atlantic	New England	South Atlantic	
2-Year	-17%	2%	-15%	-21%	3%	-29%	-19%	-13%	-5%	-13%
4-year regional	1%	-6%	-12%	-24%	-4%	-21%	-19%	-26%	-2%	-11%
4-year national	9%	16%	-19%	-25%	-1%	-10%	-12%	-26%	-3%	-10%
4-year elite	14%	104%	44%	-9%	228%	27%	4%	-13%	2%	14%
Any institution	-9%	2%	-11%	-22%	2%	-20%	-18%	-24%	-3%	-11%

Compiled by author from supplemental material for Grawe, Nathan D. *Demographics and the Demand for Higher Education*. Johns Hopkins University Press, 2018b. <https://ngrawe.sites.carleton.edu/demographics-and-the-demand-for-higher-education/2/>.

His model—the Higher Education Demand Index (HEDI)—projected steep declines in the potential applicant pool by the year 2029: “college-going students are expected to hold steady through the early 2020s before a brief and modest 5 percent increase precedes a precipitous reduction of 15 percent or more.” While the scale of the decline was troubling, so was its swiftness. Harking back to the dozen years of the “baby bust” beginning in 1980, he warned that we should expect a “similarly deep contraction accomplished in only half a decade” (Grawe 2018a, 45).

Even more concerning from a planning perspective, the impacts of what he described as a “demographic cliff” would be highly variable by both region and type of institution (Figure 1).

Grawe projected that the national pool of traditional first-year students would shrink by 11 percent on average, but by 20 percent or more in many areas. While “elite” 4-year institutions (defined by Grawe as those in the top 50 of the *US News* rankings for colleges or universities) would actually see their pool increase in most parts of the country, for the

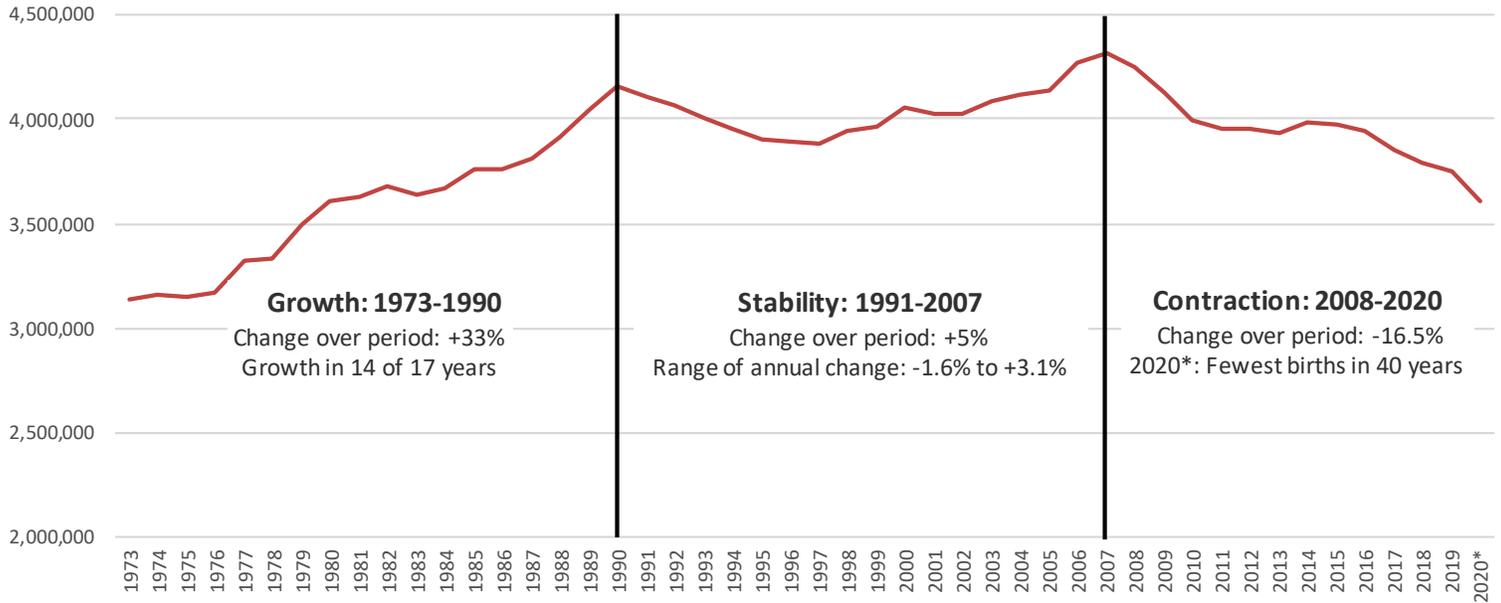
remaining sectors of higher education—educating 92 percent of students in 2012—the threat was obvious. Especially in the higher education-dense regions of New England, the Middle Atlantic, and the Midwest, severe losses could be expected (Grawe 2018b).

Such a change would mark the end of a long, generally benign demographic era. From the low point in 1973 to 1990 US births grew by 33 percent. This was followed by a period of unprecedented demographic stability, with little disruption for 15 years, as shown in Figure 2 (CDC 2003, CDC 2009, Hamilton et al. 2021).

The financial effects of demographic contraction might accelerate even faster than the population losses themselves.



Figure 2 US Births 1973–2020*



Sources: 1973-2003: Table 1.1 Vital Statistics of the United States, 2003, Volume I, Natality; 2004-2007: National Center for Health Statistics, Natality Public-Use Data 2003-2007; and 2008-2020: National Center for Health Statistics, Vital Statistics Rapid Release no. 12.

Yet the demographic threat outlined by Grawe told only half the story. This large-scale reversal of fortunes was occurring in the context of another major trend in higher education: the systematic transfer of college operating costs to students. Tax support for direct subsidies and financial aid programs had lagged behind the brisk rate of growth in college spending, with the result that healthy enrollments became increasingly vital to financial health. In barely more than a decade—from FY2008 to FY2019—total tuition and fee revenue grew by 55 percent at private, non-profit institutions and 72 percent at public institutions. This was accompanied, of course, by considerable enrollment growth. But even inflation-adjusted net revenue per student grew by 12 percent at private institutions and 26 percent at public

(NCES 2020, tables 333.10, 333.40). Rapid, ongoing growth in discount rates suggests that reliance on student revenue will continue to increase (National Association of College and University Business Officers).

The long period of stability and growth allowed institutions to view long-term spending and debt commitments with some confidence, and many took advantage of the opportunity. Grawe’s findings therefore presented a double dilemma: Each student lost to demographic decline would punch a revenue hole that would likely become larger with each passing year. The financial effects of demographic contraction might accelerate even faster than the population losses themselves.



The certain fact is that the demographic decline, which at one time may have seemed comfortingly distant, is now three years closer.

One might have expected Grawe's alarm bell to start a stampede toward transformative planning. The threat was hardly speculative: The US birth rate had already declined, and trends in the college-going rates for different populations of students were already clear. Other important variables, such as the propensity of students to travel to attend college, were known and seemed stable. The demographic cliff Grawe described was already baked into the cake.

To be sure, campuses did not simply sit on their hands. Competitive pressures had been intensifying for decades, even with demographic tailwinds. The struggle for net revenue spawned whole new industries in enrollment management and student success initiatives. Financial management approaches ranging from zero-based budgeting to Responsibility Center Management were explored. Many institutions did recognize that looming demographic change added urgency to an already daunting set of challenges. But for many, their basic strategies remained intact.

And then came COVID-19.

Overnight, thinking about the "distant" future, already complicated, became even more difficult: first, because all hands and minds were required on deck to deal with the immediate crisis; and second, because COVID

upset so many apple carts that prognostication of any kind seemed futile.

COVID-19 certainly stimulated change. From the sudden shift to online learning to massive alterations in campus operations, higher education proved itself capable of rapid, dramatic change in ways previously unimaginable.

But today, as the COVID-19 crisis appears to be easing, the future looms large once again. Where does the higher education community stand in terms of preparing for demographic transformation? Have competition and COVID-19 created more nimble, strategic campuses? Will higher education lift its eyes to the horizon and reckon with the inevitable contraction of its largest and most financially important customer base? And if it does, what should be the focus of planning?

Answering these questions first requires that we step back and consider the demographic challenge with fresh eyes. The certain fact is that the demographic decline, which at one time may have seemed comfortingly distant, is now three years closer. The leading edge of the contracting student cohorts will enter high school this fall.

But three years have passed since Grawe's initial analysis. Based on what we know today, how well do his warnings hold up?



From a planning perspective, we must prepare for progressively smaller recruiting pools for the indefinite future, perhaps well into the 2040s.

Revisiting the Threat

In answering that question, we are aided enormously, once again, by Grawe himself. Earlier this year he published another book, *The Agile College: How Institutions Successfully Navigate Demographic Changes*. This volume both updated his earlier analysis and discussed a number of ways in which colleges and universities have been or might consider responding to the coming demographic challenge.

A central question is whether the birth rate decline has continued. In 2018, it was perhaps possible to imagine the trend as a (large) bump in the road, perhaps amenable to “hunkering down” strategies until better demographic times returned.

It is now clear, however, that the demographic contraction will be no glancing blow. Grawe’s initial analysis drew on birth data through 2011. His recent update incorporated data through 2017. It showed that the underlying trend continued (although with a temporary uptick in births in 2014). Since 2017, however, much has happened to American fertility. Grawe (2021a) warned that fertility trends seemed to be continuing down. And indeed, the final data for 2019 and provisional data for 2020 paint a grim picture. Birth rates set new record lows in both 2018 and 2019,

and apparently again in 2020. Births in 2020 were the lowest since 1979, the sixth consecutive year of decline. Both fertility rates and births fell by 4 percent from 2019 to 2020, more than twice the average of the previous five years (Hamilton et al. 2021).

And then came COVID-19.

It must be emphasized that the record decline in 2020 reflected only a month or so of possible COVID-related impacts. Some observers had speculated that a nation confined to home might produce a “baby bump,” providing at least temporary relief from fertility’s downward slide. But most indications are that the disruption and uncertainty triggered by COVID-19 cast a further pall over willingness to start or expand families.

It now seems clear that the contraction in the pool of college-bound students, when it begins in 2026, will continue with only temporary relief until at least 2039. As Grawe (2021a, 48) noted, “the outer edge of the current . . . projections are not yet an ultimate bottom.” From a planning perspective, we must prepare for progressively smaller recruiting pools for the indefinite future, perhaps well into the 2040s.

But where might the “ultimate bottom” be? What might constitute a reasonable set of planning parameters as colleges and universities contemplate their situations 10 and 20 years ahead?

We can begin by applying Grawe’s general approach to the three years of recent data not incorporated in his 2021 projections. The relationship between births



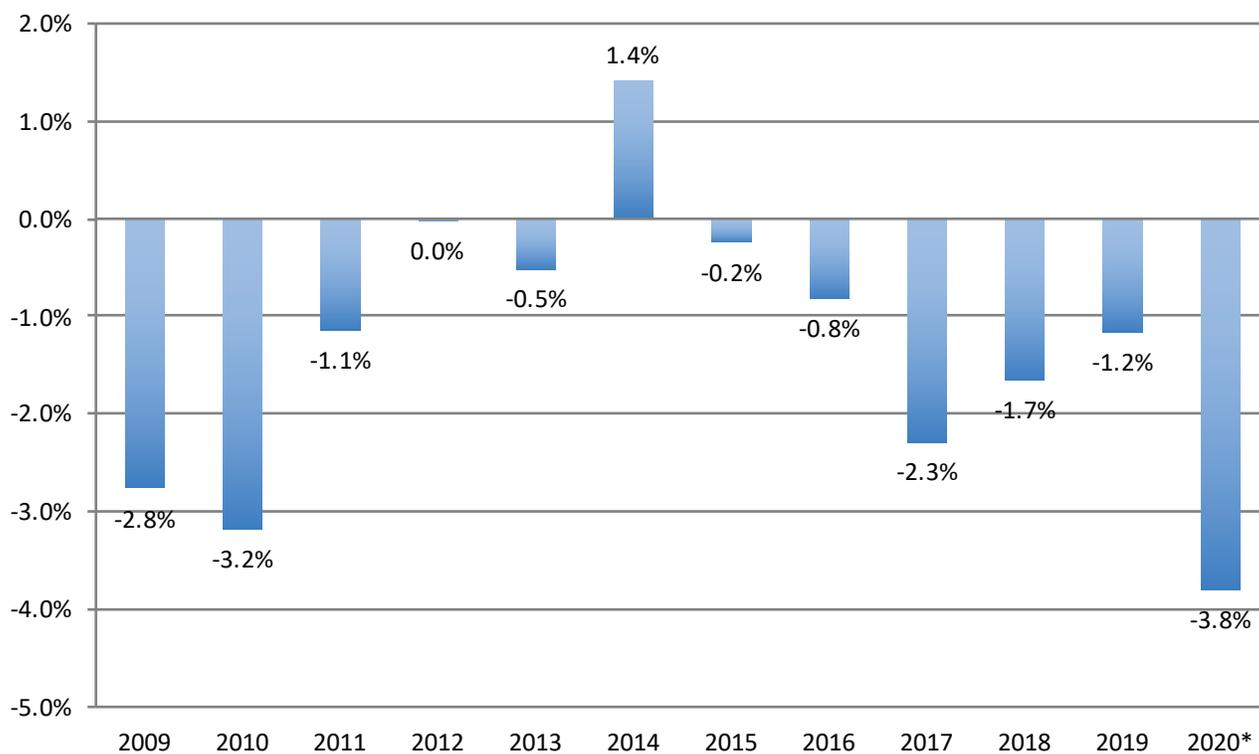
in a given year and his projected enrollment pool 18 years later has been remarkably stable. For the most recent 15 years, the ratio of college-bound graduates to births 18 years earlier ranged only from .74 to .78, averaging .76 (also the ratio for the three most recent years) (author’s calculations from Grawe 2021b and CDC 2009). If this relationship were to hold for another three years, then we would expect the pool in 2035, 2036, and 2037 to decline in parallel with births in 2018, 2019, and 2020 (-1.7 percent, -1.2 percent, and -3.8 percent, respectively).

But what after that? The recurring planning question is whether the troubles will end quickly enough to

allow for “muddling through,” or whether they might require more drastic and enduring action. Given that some of the most important financial decisions made by colleges and universities involve commitments that last for decades (e.g., award of tenure, construction of facilities), squinting a bit further toward the horizon is important.

To do so, we might make one additional assumption: that the trend in births in the coming five years will resemble our recent experience. Figure 3 shows the annual percentage change in births for the past dozen years (Hamilton et al. 2021).

Figure 3 Annual Percentage Change in US Live Births, 2009–20*



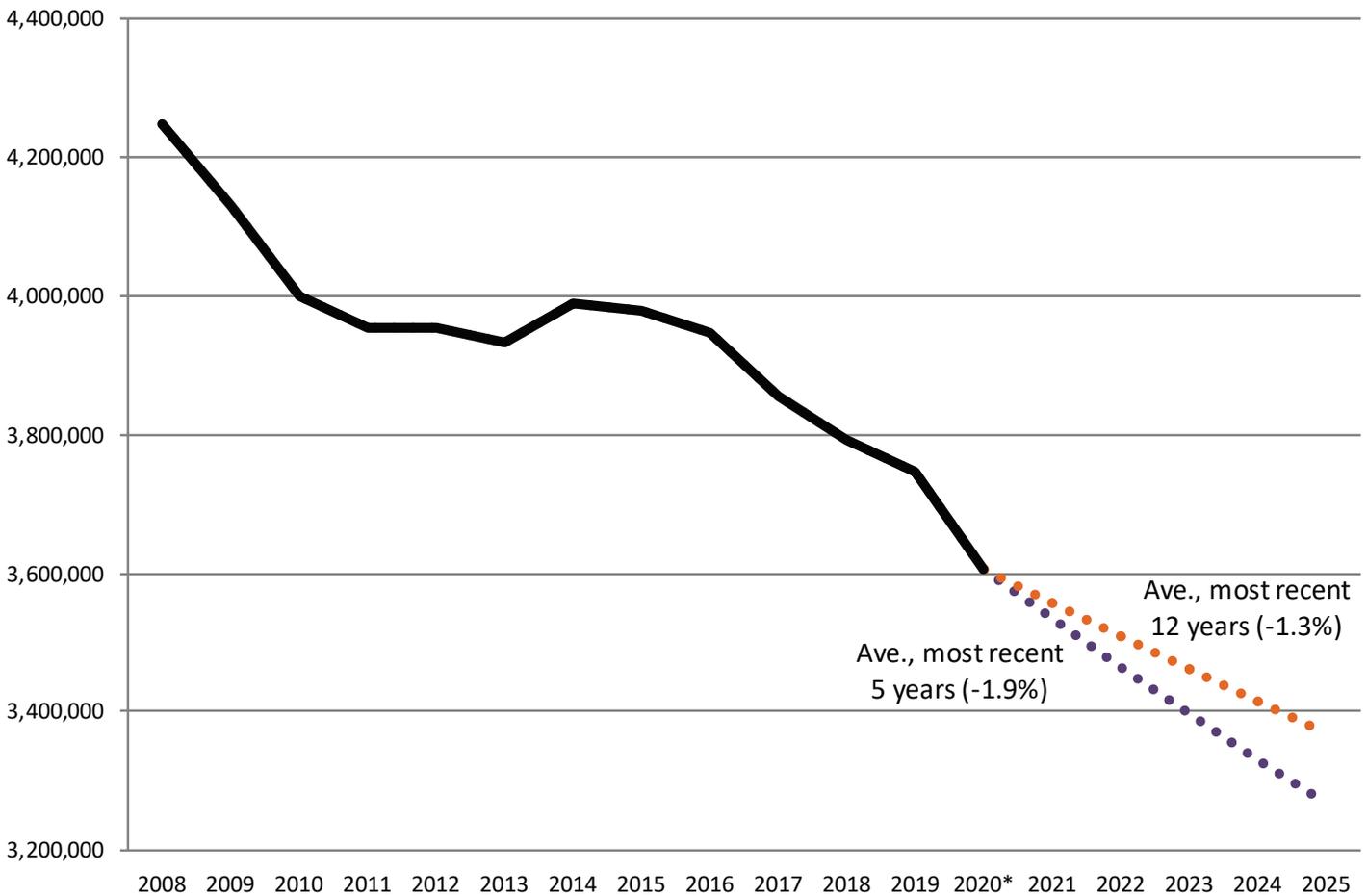
Source: Hamilton, BE, JA Martin, and MJK Osterman. "Births: Provisional Data for 2020." Vital Statistics Rapid Release no. 12 (May 2021). National Center for Health Statistics.



While it is a tale of ups and downs, the downs predominate. Most troubling is the decline in 2020, which may foreshadow even greater losses in 2021. But even without considering COVID-19, it is clear that something has caused the bottom to drop out of US fertility.

If births contract for the next five years at the same rate as the past five, we would anticipate an annual decline of 1.9 percent. If they moderated a bit—say, to the average of the past 12 years—then that might be limited to “only” -1.3 percent (Figure 4).

Figure 4 US Live Births 2008–20* and Two Projections to 2025 Based on Recent Trends



Sources: 2008–2020: Hamilton, BE, JA Martin, and MJK Osterman. "Births: Provisional Data for 2020." Vital Statistics Rapid Release no. 12 (May 2021). National Center for Health Statistics; 2021–2025: Author's calculations.



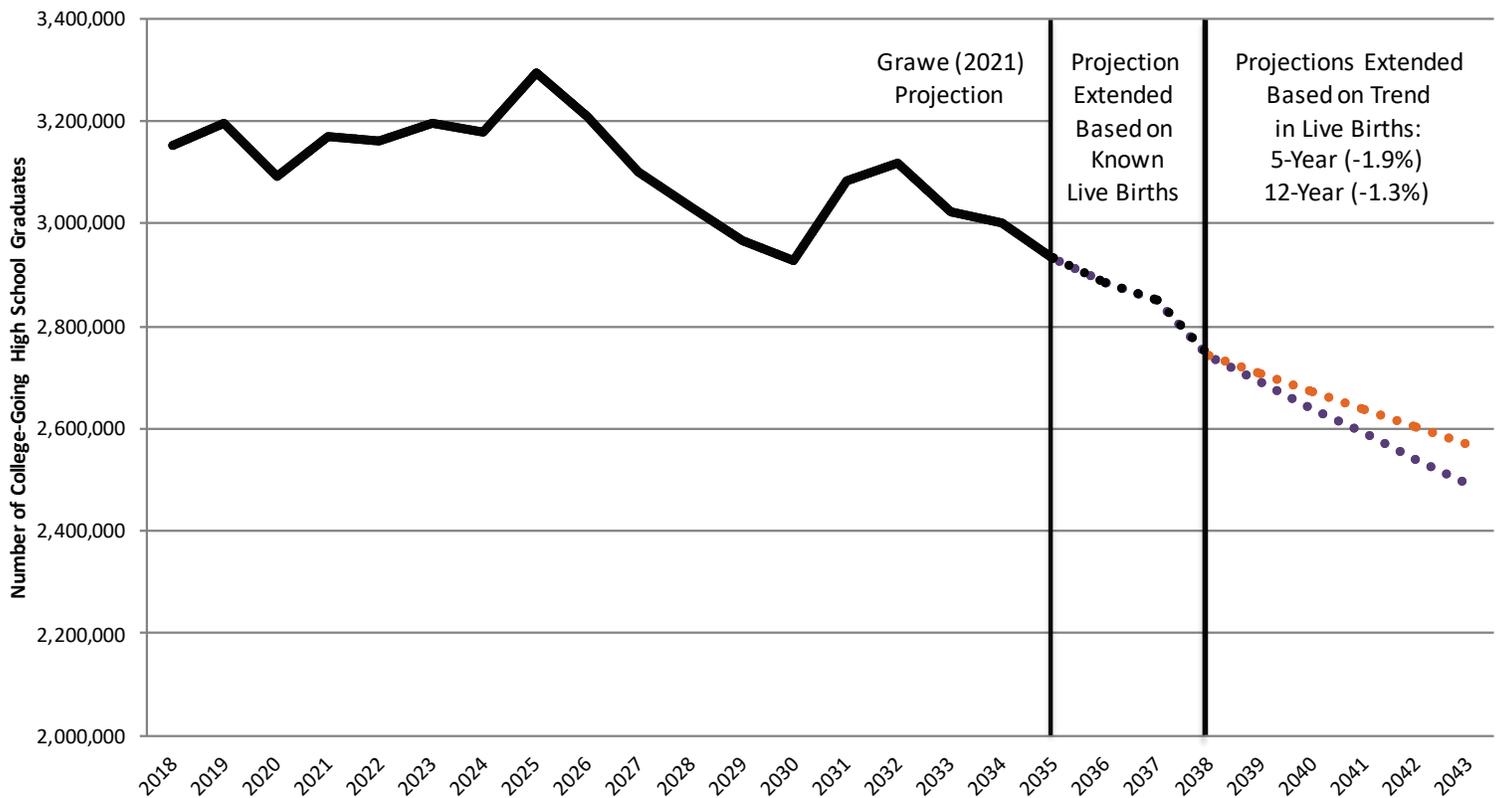
These are, of course, only illustrations of some assumptions. But in order to climb out of a hole one must first stop digging. Unless some currently unforeseen and enduring increase in fertility were to commence quickly, something along these lines seems likely.

Such prospects do not seem bright. Melissa S. Kearney and Phillip Levine of the Brookings Institution have modeled potential future birth rates based on historical patterns, and project births in 2021 to fall by between 245,000 and 320,000 (Kearney and Levine 2020, 3). Even the low estimate would represent nearly twice the record decline of 2020. But what of prospects going forward once COVID-19 has abated?

Examining long trends in declining fertility by mother’s age cohort, Kearney and Levine (2021, 11) conclude that “more than a decade of falling birth rates and declining births at all ages for multiple cohorts of women . . . leads us to expect that US birth rates . . . are not likely to rebound any time soon.”

Offsetting these birth data by 18 years illustrates how they might affect the eventual pool of college-going high school graduates. Again, using the very stable ratio emerging from Grawe’s (2021b) model, we can paint a plausible and perhaps persuasive picture of the planning environment for higher education over the next two decades (Figure 5).

Figure 5 **Projection of College-Going High School Graduates (2018-35) and Illustration of Possible Impact of Ongoing Declines in Birth Rate (2036-43)**



Sources: 2018-2035: Supplemental material for Grawe, Nathan D. *The Agile College: How Institutions Successfully Navigate Demographic Changes*. Johns Hopkins University Press, 2021b. <https://ngrawe.sites.carleton.edu/the-agile-college/27>; 2036-2038: Author's calculations based on Grawe (2021b) and CDC birth data (2018, 2019, 2020 provisional data); 2039-2043: Author's calculations based on Grawe (2021b), CDC (2018-2020), and recent trends in CDC birth data.

... we have been given the gift of time. The question facing educational planners, leaders, and policy makers is both simple and profound: How will we use that time to prepare and change?

Grawe's (2021a) update notes that newer and better data have somewhat taken the edge off his original (2018a) projection. Then, a steep decline through 2029 was the headline. The update, however, shows less of a fall-off through 2029, and captures the uptick in births in 2014 that produces a corresponding bump in the college-going pool in 2032. His new projection extends to 2034, which is still higher than the depths of 2030, and so the view to the horizon of his updated model is a bit rosier.

Stepping further back, however, we can see from Figure 5 that there is more to the picture going forward. The decline from 2025 through 2030, which when published in 2018 was viewed by some as apocalyptic, may now be just a rehearsal for a much longer episode. If your notion of the future extends longer than a decade, the story may be only just beginning.

Where We Stand

As we reassess our planning context it is clear that the demographic challenge did not disappear while we waited or were distracted. In fact, the long-term impact, if anything, appears both more serious and

more prolonged. But we have been given the gift of time. The question facing educational planners, leaders, and policy makers is both simple and profound: How will we use that time to prepare and change?

Planning is an adaptive enterprise. Its value is in understanding changing conditions and optimizing our responses to them. That process begins by sketching the contours of the problem. Are the challenges large or small? Are they isolated or multidimensional? Is the duration long or short? Do we approach them well prepared or stressed? Are resources to respond robust or strained? The answers guide how planning is organized, how leaders engage their campuses and other stakeholders, and how choices are framed and made. Approaches that might be sensible in one context may be useless or worse in another.

In the present case, we can describe our planning context as:

- We confront a challenge of major proportions.
- It involves a complex web of direct and indirect impacts and interrelated factors.
- The impacts will be widely felt but highly variable, with a few institutions spared, many challenged to varying degrees, and some facing existential threats.
- The challenge will be of long duration, and with no clear end in sight.
- It will be relentless, with only one brief interruption.



- It will become progressively more difficult: The decline in the potential enrollment pool accelerates as we look to the horizon.
- Institutions will confront the challenge after having already experienced a protracted period of intensifying competition for students and resources. Many cards have already been played.

In almost every dimension, then, the contours of this problem are sharp and unsettling, not a scenario most planners or decision makers would wish for. But effective planning is rooted in a clear-eyed view of reality. Planners (and, presumably, institutional leaders) go into the business because they like to solve problems and make a difference in the world. For them, this is a moment of truth.

Where We Go from Here

The purpose of this article is to set the stage with a realistic assessment of the planning challenge. Specific suggestions regarding planning strategies and tools to meet this moment will follow in another installment (in the fall 2021 issue of *Planning for Higher Education*).

But pausing here on the brink of the abyss, as it were, can be useful. The stark future presented here suggests that higher education will change in fundamental ways, and that those changes will involve loss for many. We can see how it begins, but not how it ends. For those of us who are invested in the success of colleges and universities, this is a recipe for anxiety. And a state of anxiety is not usually where we do our best work.

But there are ways of thinking about loss that may help us to be more effective planners. Psychologist Elisabeth Kübler-Ross's framework for the "stages of grief" offers some insights. She argues that the prospect of loss can trigger counterproductive responses—denial, anger, bargaining, and negotiation—that block us from moving forward. Progress, she suggests, begins with acceptance of the situation we face (Kübler-Ross and Kessler 2005). Her colleague David Kessler goes a step further, arguing that acceptance also allows us to derive meaning from loss (Berinato 2020). The analogy may not be so far off. This situation may evoke a personal sense of loss in many. The changes being propelled by uncontrollable demographic trends can strike at something vital within each of us.

For decades, the higher education community has embraced a vision of the power of education to transform individual lives, and that this transformative power is a public good that society cherishes. Since World War II this vision has seemed secure: The GI Bill, the rise of the American research university, the invention of community colleges, the Pell Grant, the remarkable rise in college participation rates, and many other achievements have reinforced our dream that higher education serves as a foundational element in American progress. And along the way that dream has become associated with perpetual growth and expansion: bigger enrollments, more faculty, expanded facilities.

But for some as-yet-unknown period, to some as-yet-unknown degree, we can now expect to see less higher education, not more. Some campuses will



become smaller. Some will merge. Some will disappear. Overall, we can foresee fewer faculty, less research, more empty buildings. It can certainly feel like the death of a dream, summoning reactions that block the acceptance needed to unlock progress and meaning.

But a somewhat smaller higher education sector need not be less vital. As Grawe (2021a) notes: “institutions may emerge, not untouched by demographic change but reshaped into better, if sometimes leaner, versions of themselves, prepared to serve students for generations to come” (212). Consider this: In 2020 just under 20 million students were enrolled in American colleges and universities. If demography drives future enrollments down by 25 percent (an example, not a prediction), the remaining 15 million would represent the lowest enrollment since . . . 2000 (NCES 2019, table 303.70). Few of us would say that higher education in 2000 was on its knees, that its energy was spent, or that the dream had died.

The question is not whether higher education will endure with fewer students, but rather how it will adapt. How will we preserve quality with less total student revenue, and perhaps less net revenue per student? How will we ensure an orderly contraction that fulfills our promises to students and society? How will we arrest or reverse the growing gap between have and have-not institutions and students? In short, how will we adapt our policies and practices to allow our dream to live in a quite different world? That is the task of planning, and it is a job that is given to us.

When circumstances change there are always winners and losers. In this case a few may win because they begin with advantages of prestige, geography, and resources. Most winners, however, will have to earn their way through highly effective planning: a dispassionate assessment of their situations; development of realistic and effective interventions; and mobilization of their communities in the relentless pursuit of a clear and explicit plan. Who may attempt this, and who may succeed, is unknown. But the opportunity is open to anyone.

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