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# Decreasing Time to Baccalaureate Degree in the United States

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Abstract

After increasing in the 1970s and 1980s, time to bachelor's degree has declined since the 1990s. We document this fact using data from three nationally representative surveys. We show that this pattern is occurring across school types and for all student types. Using administrative student records from 11 large universities, we confirm the finding and show that it is robust to alternative sample definitions. We discuss what might explain the decline in time to bachelor's degree by considering trends in student preparation, state funding, student enrollment, study time, and student employment during college.

## 1. Introduction

Attending and completing college has many benefits such as higher labor market earnings and lower probability of unemployment (Oreopoulos and Salvanes 2011, Barrow and Malamud 2015). However, there are also costs to attending college including tuition, psychic costs, and foregone earnings. Conditional on receiving a degree, spending less time in college results in lower costs.

In an influential paper, Bound, Lovenheim, and Turner (2012) documented an important fact: time to baccalaureate degree was *increasing* from the 1970s to the 1990s. We document a new fact: since the 1990s, time to baccalaureate degree has been decreasing--the previously established trend in time to completion of bachelor's degrees has reversed. Moreover, we find decreasing time to degree across all school types and across different student demographics.[1]

We discuss a few potential explanations for this change. We rely heavily on findings from Denning, et al. (2020) and discuss how changes in student preparation, student enrollment patterns, state funding for higher education, student employment during college, and study time could collectively predict declining time to degree.

## 2. Data

We primarily use the Baccalaureate and Beyond (B&B) 1993, 2000, and 2008 to document this fact. These surveys, collected by the National Center for Education Statistics, are designed to be nationally representative and follow students who received a bachelor's degree and gather information on their subsequent labor force and other outcomes. The first B&B tracks the experiences of a cohort of college graduates who received the baccalaureate degree during the 1992–1993 academic year and were first

[1] We also note that a companion paper, Denning, et al. (2020) documents that college graduation rates are increasing over this time frame. This represents a similar reversal of the trend from the 1970s to 1990s as documented in Bound, Lovenheim, and Turner (2010).

interviewed as part of the National Postsecondary Student Aid Study (NPSAS). Similarly, the second survey follows the 1999-2000 cohort, and the third follows the 2007-2008 cohort, each taken from the NPSAS cohort. In each of these surveys, extensive information is available on students' postsecondary educational and labor market experiences, including detailed financial aid information.[2] We make sample restrictions similar to Bound, Lovenheim, and Turner (2012) to aid in comparability to their paper. Namely, students that go to college within two years of graduating high school, and students who receive a bachelor's degree within eight years of graduating high school.[3] When using date variables such as high school graduation date, college start date, and bachelor's degree date, we convert the date into a school year, by rounding the year up by one if these events happened after August. Once all these variables are in school years, simple subtraction gives us both a time to degree variable and a time between high school and college variable.

We also consider different types of schools separately. We follow the convention of Bound, Lovenheim, and Turner (2010) for comparability. The categories include: top 50 public, non-top 50 public, highly selective private, and less selective private. We assign the highest rated 50 public schools to the "top 50 public" category. The 65 highest rated private universities, the 50 highest rated liberal arts colleges, and the armed service academies are categorized as "highly selective private".[4] Other 4-year public schools are assigned to the "non-top 50 public" category, and other 4-year not-for-profit private schools are assigned to the "less selective private" category.

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[2] Each of these surveys have follow ups. The 1993 and 2008 surveys have three follow ups, one, four, and ten years after graduation respectively, while the 2000 survey only has only one follow up that was a year after graduation. Throughout our analysis we use the same restrictions for each survey.

[3] We have data on students who start at two- and four-year colleges, but as the results are largely the same, we choose to restrict our sample to those who started at a four-year college.

[4] Service academies are publicly funded but resemble liberal arts colleges along many dimensions including academic ability of students and class size. This follows the convention of Bound, Lovenheim, and Turner (2010, 2012). We use the 2005 U.S. News and World Report rankings again following Bound, Lovenheim, and Turner (2010).

We supplement the nationally representative B&B data with administrative student data from 12 public universities which we call the State School Sample.[5] These data were obtained from schools' registrars through the MIDFIELD partnership.[6] While these universities are not nationally representative, they offer several advantages. First, we can confirm the trends in the B&B data with more detailed longitudinal student data for over 200,000 students. Second, we can use an alternative sample definition, looking at time to degree by the year the student started college rather than by graduation year. Third, we have student ability measures and can confirm if the decline in time to degree holds for students in different ability groups.

Again, following the convention of Bound, Lovenheim, and Turner (2010), the state school sample includes only those students who graduated from one of the 11 universities within eight years of first starting at the university. The college start year and bachelor's degree year are rounded up by one if these events happened after August. Transfer students are removed from the sample as we do not observe when the student graduated from high school or first started attending college.

## 3. Trends in Time to Degree

Table 1 documents the main results for our paper. Each row in the top panel is a separate Baccalaureate and Beyond survey for all schools in our sample. This table presents information on students who ultimately receive a bachelor's degree within 8 years of starting. The first four columns show the proportion of eventual graduates who earn their degree within 4, 5, 6, and 7 years. The first column shows that the fraction of

[5] The universities included are Clemson, Colorado, Colorado State, Florida, Florida A&M, Florida State, Georgia Tech, North Carolina A&T, North Carolina State, North Carolina – Charlotte, Purdue, and Virginia Tech.

[6] Institutions that participate in the MIDFIELD partnership share de-identified longitudinal student record data for all degree-seeking undergraduate students. The data includes demographic and admissions information as well as course grades and degree earned.

students graduating within 4 years from entry increased from 44 percent in 1993 to 58 percent in 2008. In contrast, the probability of receiving a degree in exactly 5 years or exactly 6 years declined. For example, the probability of graduating in exactly 5 years fell from 0.33 (0.77 - 0.44) in 1993 to 0.26 (0.84 - 0.58) in 2008; the comparable numbers for exactly 6 years are 0.14 in 1993 and 0.09 in 2008.

Another summary measure presented in the fifth column and labeled the Mean TTD is the average time to degree in years. This started at 4.90 in 1993 and fell to 4.65 in 2008. The next panel of Table 1 shows p-values from t-tests for differences in average time to degree across survey years, and we see that the differences are significant at the 1 percent level in each case. These results summarize the main finding of our paper, which is that average time to degree decreased starting in the 1990s.

We also compute a measure of how long after high school graduation students began college. This is in the column labeled HS Lag and is measured in months. This does not seem to have changed much over the time frame, but we are unable to compute this for the 2000 cohort.

We next examine whether time to degree varies by school type and report the results in the bottom panels of Table 1. We find a remarkably consistent pattern across all school types. Average time to degree fell at public institutions, going from 5.16 to 4.92 years at non-top 50 publics and from 4.81 to 4.49 years at top 50 publics. Average time to degree also fell at private universities, dropping from 4.68 to 4.43 years at less selective private schools, and declining from 4.40 to 4.31 at selective private schools.

Table 2 shows the trends by race/ethnicity, gender, and Pell Grant status. We use Pell Grant status defined as receiving a Pell Grant in the year a student graduates as a proxy for income. We see that there are differences in average time to degree across these groups of students. White students finish faster than Hispanic and Black students. Female students finish faster than male students. Students who do not receive the Pell Grant finish faster than students who do. Despite these differences in levels—the trend

is similar for all groups. Time to degree is declining for White, Hispanic, and Black students. Similarly, time to degree is declining for male and female students as well as students who receive the Pell Grant versus students who do not.

Table 3 uses the state school sample which has a similar distribution of time to degree as the B&B sample in schools ranked in the public top 50. We have fewer years available in the state school sample which results in smaller declines in total time to degree, but the patterns are very similar. The top panel shows that time to degree by graduation cohort shows a similar pattern to that reported in Table 1 with the fraction of students graduating in exactly 4 years increasing by 0.053 over the 6 reported years and the time to degree falling from 4.73 to 4.64.

The state school sample allows us to examine the distribution of the time to degree by college entrance year rather than by graduation year. The second panel of Table 3 shows that the average time to degree fell from 4.75 for the 1990 entering cohort to 4.68 for the 1996 entering cohort. Appendix Figures A1 and A2 show the average time to degree over time separately by school.

Finally, the state school sample contains some pre-college achievement measures from the student's college application including the SAT math score.[7] The bottom two panels of Table 3 report the distribution of time to degree for students in the Top Quartile which is defined as SAT math score above 600 and for students in the Bottom Half which is defined as SAT math score below 520.[8] Time to degree is decreasing for both students in the top quartile and for students in the bottom half.

## 4. Discussion

[7] ACT math scores are converted into SAT math scores. For students who have both scores, we use the higher of the two. Data for the entering cohort year 1990 is dropped because of missing SAT scores at some institutions.

[8] These percentiles correspond roughly to the national distribution of SAT scores.

There are several possible explanations for why time to degree could change. Bound, Lovenheim, and Turner (2012) discuss "supply side" and "demand side" factors. Supply side factors include things such as which schools students attended and school resources. Since we see declines in time to degree across all school types, school types that students attend cannot explain the decline. Moreover, Denning et al. (2020) document that student resources stagnated or slightly decreased while price for college increased (Collegeboard 2017) over this time frame, which would predict increasing time to degree (Deming and Walter 2017). Hence, supply side factors are unlikely to describe the decline in time to degree. In fact, they would predict increasing time to degree.

Demand side factors could drive the decline in time to degree. For instance, students could be studying more, working less, or coming to college more prepared. However, Babcock and Marks (2011) document that students are studying less; Scott-Clayton (2011) documents that students are employed more while attending college; and Denning et al. (2020) argue that student preparation is not increasing because more students are attending college and performance on the National Assessment of Educational Progress (NAEP) among 17-year-olds is unchanged over this time period. Taken together, demand side factors actually suggest increasing time to degree.

Changes in student enrollment patterns such as where they attend college or their demographic characteristics could be driving changes in time to degree. Table 4 shows summary statistics for these enrollment patterns by survey wave. We do not see large changes in where students attend or in student demographic characteristics, which suggests that enrollment patterns and demographics are unlikely to explain the phenomenon.

The trends we have reviewed that seem to be the most likely candidates for explaining declines in time to degree suggest time to degree should be *increasing.* This mirrors the discussion and conclusion of Denning et al. (2020). Ideally, we could

perform a decomposition exercise similar to Bound, Lovenheim, and Turner (2012) to assess the extent to which the various supply-side and demand-side factors account for decreasing time to degree. However, this type of analysis requires data with measures of pre-college achievement, and unfortunately, this is not collected for all students in the Baccalaureate and Beyond.[9]

We are left with a puzzle because student study time, student employment, student preparation, funding for higher education, and school attended cannot explain the decrease in time to degree. This puzzle is similar to the puzzle of increasing college graduation rates over this time period as discussed in Denning et al. (2020), who propose that changing standards of degree receipt could explain the increase in college completion rates. Declining standards for degree receipt could explain decreasing time to degree as well.

However, because we lack suitable nationally-representative data for a decomposition we simply discuss relevant trends and possible explanations. We leave it to future research to understand the causes of the change in time to degree receipt.

## 5. Conclusion

This paper documents that since the 1990s, time to baccalaureate degree has been decreasing. This stands in contrast to the documented increase in time to degree in the 1970s and 1980s. We briefly discuss potential reasons for this decline. Several explanations seem unlikely to account for the change, including student time studying, student preparation, resources, and colleges attended. Future research should focus on exploring potential explanations for declining time to degree.

[9] Alternatively, we could use the Education Longitudinal Study of 2002 (ELS:2002) and the National Education Longitudinal Study of 1988 (NELS:88) as in Denning et al. (2020) to perform a decomposition analysis. However, this data does not show any change in time to degree over this time period making a decomposition uninformative. However, we are confident in the decreasing time to degree because it is verified in the B&B and State School Sample.

**Works Cited**

Babcock, P., & Marks, M. (2011). The falling time cost of college: Evidence from half a century of time use data. *Review of Economics and Statistics*, *93*(2), 468-478.

Bound, J., Lovenheim, M. F., & Turner, S. (2010). Why have college completion rates declined? An analysis of changing student preparation and collegiate resources. *American Economic Journal: Applied Economics*, *2*(3), 129-57.

Bound, J., Lovenheim, M. F., & Turner, S. (2012). Increasing time to baccalaureate degree in the United States. *Education Finance and Policy*, *7*(4), 375-424.

Barrow, L., & Malamud, O. (2015). Is college a worthwhile investment?. *Annu. Rev. Econ.*, *7*(1), 519-555.

CollegeBoard. "Trends in College Pricing 2017" Trends in Higher Education Series. (2017)

Denning, J., Eide, E., Mumford, K., Patterson, R., & Warnick, M. (2020). Why Have College Completion Rates Increased?.

Deming, D., & Walters, C. (2017). The impacts of price and spending subsidies on US postsecondary attainment. *NBER Working Paper*, *23736*.

Oreopoulos, P., & Salvanes, K. G. (2011). Priceless: The nonpecuniary benefits of schooling. *Journal of Economic perspectives*, *25*(1), 159-84.

Scott-Clayton, J. (2012). What explains trends in labor supply among US undergraduates?. *National Tax Journal*, *65*(1), 181-211.

**Tables**

*Table 1: Eight Year Time to Degree Distributions for the full B&B Sample and by College Selectivity*

| | TTD Distribution | | | | Mean | HS | |
|---|---|---|---|---|---|---|---|
| | **4** | **5** | **6** | **7** | **TTD** | **Lag** | **N** |
| ***Full Sample*** | | | | | | | |
| *B&B 1993* | 0.442 | 0.774 | 0.909 | 0.964 | 4.90 | 3.43 | 6820 |
| *B&B 2000* | 0.523 | 0.826 | 0.926 | 0.973 | 4.74 | --- | 6130 |
| *B&B 2008* | 0.584 | 0.839 | 0.932 | 0.975 | 4.65 | 3.20 | 8670 |
| ***Full Sample T-tests*** | | | | | **P value** | | |
| *1993=2000* | | | | | 0.000 | | |
| *1993=2008* | | | | | 0.000 | | |
| *2000=2008* | | | | | 0.000 | | |
| *1993=2000=2008* | | | | | 0.000 | | |
| ***Public Not Top 50*** | | | | | | | |
| *B&B 1993* | 0.308 | 0.692 | 0.878 | 0.954 | 5.16 | 3.47 | 3060 |
| *B&B 2000* | 0.355 | 0.736 | 0.886 | 0.958 | 5.05 | --- | 2680 |
| *B&B 2008* | 0.435 | 0.764 | 0.902 | 0.962 | 4.92 | 3.33 | 3590 |
| *P-Value* | | | | | 0.000 | | |
| ***Public Top 50*** | | | | | | | |
| *B&B 1993* | 0.431 | 0.826 | 0.943 | 0.981 | 4.81 | 3.24 | 1370 |
| *B&B 2000* | 0.542 | 0.879 | 0.961 | 0.984 | 4.61 | --- | 1030 |
| *B&B 2008* | 0.640 | 0.891 | 0.958 | 0.987 | 4.49 | 2.88 | 1360 |
| *P-Value* | | | | | 0.000 | | |
| ***Private Less Selective*** | | | | | | | |
| *B&B 1993* | 0.592 | 0.835 | 0.921 | 0.964 | 4.68 | 3.55 | 1480 |
| *B&B 2000* | 0.654 | 0.883 | 0.946 | 0.983 | 4.52 | --- | 1620 |
| *B&B 2008* | 0.710 | 0.892 | 0.954 | 0.985 | 4.43 | 3.25 | 2640 |
| *P-Value* | | | | | 0.000 | | |
| ***Private Highly Selective*** | | | | | | | |
| *B&B 1993* | 0.740 | 0.905 | 0.954 | 0.979 | 4.40 | 3.28 | 880 |
| *B&B 2000* | 0.758 | 0.904 | 0.951 | 0.984 | 4.39 | --- | 780 |
| *B&B 2008* | 0.784 | 0.933 | 0.964 | 0.987 | 4.31 | 3.10 | 1010 |
| *P-Value* | | | | | 0.041 | | |

SOURCE: U.S. Department of Education, National Center for Education Statistics, Baccalaureate and Beyond 1993, 2000, 2008. Sample consists of students that go to college within two years of graduating high school and receive a bachelor's degree within eight years of graduating high school. The four TTD Distribution columns show the proportion of graduates who earn their degree within 4, 5, 6, and 7 years. The Mean TTD is the average time to degree in years. The HS Lag column reports the average number of months between high school graduation and cohort high school graduation. Sample sizes are rounded to the nearest 10 per the data use agreement.

*Table 2: Eight Year Time to Degree Distributions for the B&B Sample by Race, Gender, Pell Status*

| | | TTD Distribution | | | | Mean | HS | |
|---|---|---|---|---|---|---|---|---|
| | | 4 | 5 | 6 | 7 | TTD | Lag | N |
| ***White*** | | | | | | | | |
| | *B&B 1993* | 0.455 | 0.783 | 0.913 | 0.966 | 4.87 | 3.43 | 5810 |
| | *B&B 2000* | 0.541 | 0.849 | 0.938 | 0.978 | 4.68 | --- | 4910 |
| | *B&B 2008* | 0.608 | 0.853 | 0.937 | 0.977 | 4.60 | 3.16 | 6440 |
| | *P-Value* | | | | | 0.000 | | |
| ***Hispanic*** | | | | | | | | |
| | *B&B 1993* | 0.305 | 0.699 | 0.843 | 0.933 | 5.21 | 3.59 | 310 |
| | *B&B 2000* | 0.438 | 0.692 | 0.860 | 0.944 | 5.05 | --- | 380 |
| | *B&B 2008* | 0.480 | 0.785 | 0.918 | 0.975 | 4.82 | 3.02 | 680 |
| | *P-Value* | | | | | 0.000 | | |
| ***Black*** | | | | | | | | |
| | *B&B 1993* | 0.359 | 0.727 | 0.889 | 0.958 | 5.06 | 3.22 | 350 |
| | *B&B 2000* | 0.410 | 0.755 | 0.880 | 0.969 | 4.97 | --- | 420 |
| | *B&B 2008* | 0.481 | 0.782 | 0.902 | 0.954 | 4.86 | 3.64 | 650 |
| | *P-Value* | | | | | 0.024 | | |
| ***Male*** | | | | | | | | |
| | *B&B 1993* | 0.371 | 0.725 | 0.894 | 0.960 | 5.05 | 3.63 | 2970 |
| | *B&B 2000* | 0.463 | 0.795 | 0.920 | 0.975 | 4.83 | --- | 2350 |
| | *B&B 2008* | 0.522 | 0.810 | 0.918 | 0.970 | 4.76 | 3.20 | 3560 |
| | *P-Value* | | | | | 0.000 | | |
| ***Female*** | | | | | | | | |
| | *B&B 1993* | 0.499 | 0.814 | 0.921 | 0.967 | 4.79 | 3.27 | 3850 |
| | *B&B 2000* | 0.568 | 0.849 | 0.930 | 0.972 | 4.66 | --- | 3790 |
| | *B&B 2008* | 0.630 | 0.861 | 0.942 | 0.978 | 4.57 | 3.20 | 5110 |
| | *P-Value* | | | | | 0.000 | | |
| ***No Pell Grant*** | | | | | | | | |
| | *B&B 1993* | 0.460 | 0.788 | 0.923 | 0.969 | 4.85 | 3.31 | 5430 |
| | *B&B 2000* | 0.552 | 0.857 | 0.945 | 0.979 | 4.65 | --- | 4920 |
| | *B&B 2008* | 0.619 | 0.868 | 0.948 | 0.981 | 4.56 | 3.14 | 5430 |
| | *P-Value* | | | | | 0.000 | | |
| ***Pell Grant*** | | | | | | | | |
| | *B&B 1993* | 0.339 | 0.699 | 0.834 | 0.935 | 5.18 | 4.12 | 1390 |
| | *B&B 2000* | 0.396 | 0.688 | 0.842 | 0.947 | 5.12 | --- | 1210 |
| | *B&B 2008* | 0.430 | 0.713 | 0.863 | 0.948 | 5.04 | 3.50 | 3250 |
| | *P-Value* | | | | | 0.001 | | |

SOURCE: U.S. Department of Education, National Center for Education Statistics, Baccalaureate and Beyond 1993, 2000, 2008. Uses the same sample and definitions as Table 1. Sample sizes are rounded to the nearest 10 per the data use agreement.

*Table 3: Eight Year Time to Degree Distributions for the State School Sample by College Start Year and Graduation Year*

| | TTD Distribution | | | | Mean | |
|---|---|---|---|---|---|---|
| | **4** | **5** | **6** | **7** | **TTD** | **N** |
| ***Graduation Year*** | | | | | | |
| *1995* | 0.442 | 0.822 | 0.950 | 0.985 | 4.73 | 20,774 |
| *1996* | 0.445 | 0.815 | 0.947 | 0.986 | 4.74 | 21,790 |
| *1997* | 0.451 | 0.826 | 0.948 | 0.985 | 4.73 | 22,187 |
| *1998* | 0.470 | 0.833 | 0.951 | 0.986 | 4.69 | 23,561 |
| *1999* | 0.483 | 0.851 | 0.957 | 0.987 | 4.66 | 23,647 |
| *2000* | 0.495 | 0.852 | 0.958 | 0.988 | 4.64 | 24,712 |
| ***College Start Year*** | | | | | | |
| *1990* | 0.438 | 0.812 | 0.942 | 0.984 | 4.75 | 20,494 |
| *1991* | 0.430 | 0.808 | 0.945 | 0.985 | 4.76 | 20,895 |
| *1992* | 0.435 | 0.818 | 0.946 | 0.985 | 4.75 | 21,096 |
| *1993* | 0.444 | 0.826 | 0.954 | 0.986 | 4.72 | 21,762 |
| *1994* | 0.455 | 0.839 | 0.952 | 0.986 | 4.70 | 22,248 |
| *1995* | 0.465 | 0.839 | 0.952 | 0.986 | 4.70 | 23,219 |
| *1996* | 0.474 | 0.840 | 0.953 | 0.984 | 4.68 | 24,085 |
| ***Top Quartile SAT Math by College Start Year*** | | | | | | |
| *1991* | 0.430 | 0.825 | 0.952 | 0.987 | 4.76 | 7,389 |
| *1992* | 0.423 | 0.837 | 0.954 | 0.989 | 4.75 | 7,813 |
| *1993* | 0.437 | 0.840 | 0.962 | 0.990 | 4.73 | 7,990 |
| *1994* | 0.446 | 0.861 | 0.960 | 0.989 | 4.70 | 8,194 |
| *1995* | 0.472 | 0.859 | 0.959 | 0.988 | 4.68 | 9,005 |
| *1996* | 0.479 | 0.853 | 0.957 | 0.986 | 4.67 | 9,275 |
| ***Bottom Half SAT Math by College Start Year*** | | | | | | |
| *1991* | 0.423 | 0.780 | 0.934 | 0.981 | 4.78 | 6,679 |
| *1992* | 0.433 | 0.789 | 0.935 | 0.982 | 4.76 | 6,545 |
| *1993* | 0.448 | 0.808 | 0.946 | 0.983 | 4.71 | 6,951 |
| *1994* | 0.453 | 0.812 | 0.942 | 0.981 | 4.71 | 7,033 |
| *1995* | 0.460 | 0.820 | 0.946 | 0.984 | 4.70 | 7,299 |
| *1996* | 0.473 | 0.824 | 0.943 | 0.982 | 4.69 | 7,023 |

SOURCE: Sample consists of students who receive a bachelor's degree within eight years of starting college with transfer students excluded at Clemson, Colorado, Colorado State, Florida, Florida A&M, Florida State, Georgia Tech, North Carolina A&T, North Carolina State, North Carolina – Charlotte, Purdue, and Virginia Tech. The four TTD Distribution columns show the proportion of graduates who earn their degree within 4, 5, 6, and 7 years. The Mean TTD is the average time to degree in years. Top Quartile is defined as students with an SAT math score above 600 while Bottom Half is defined as an SAT math score below 520.

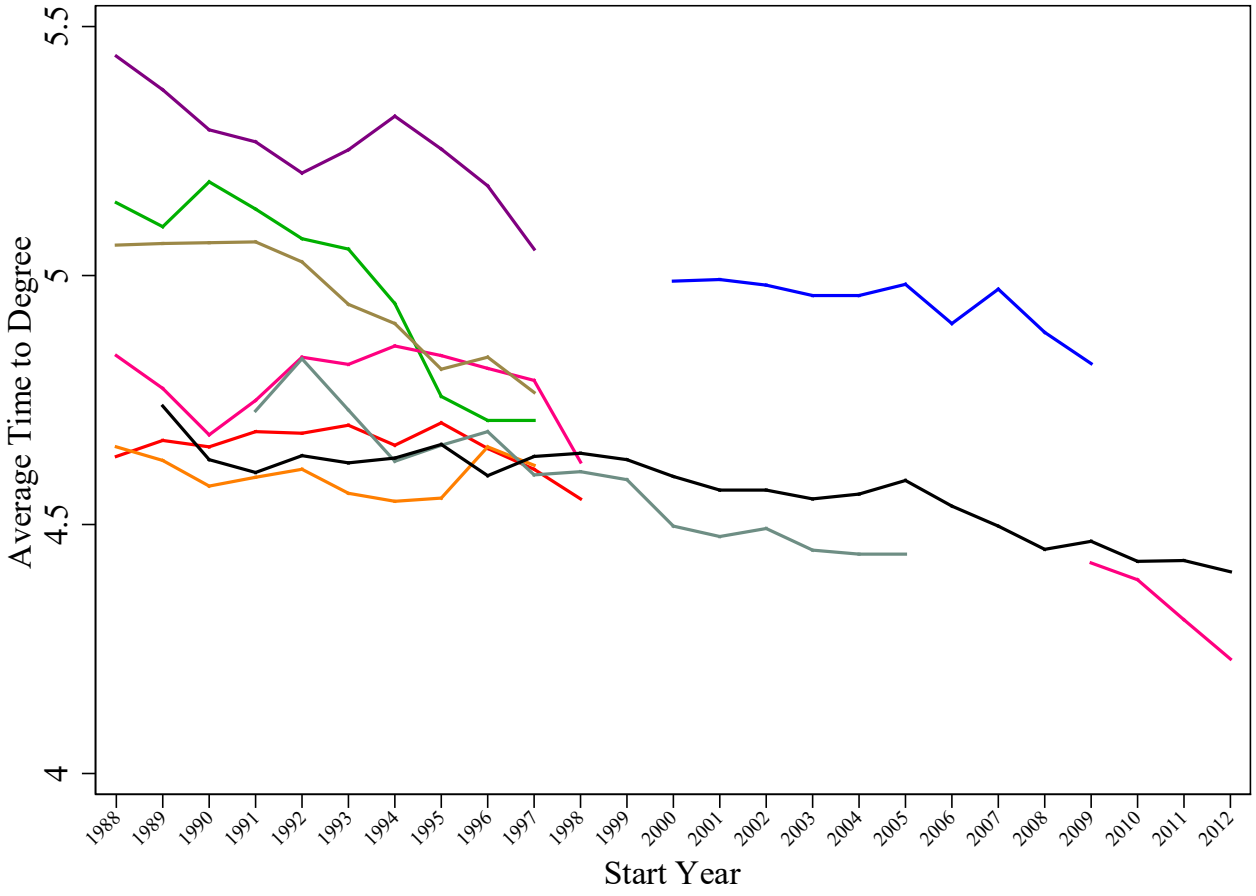
*Table 4: Sample Averages*

| | **B&B 1993** | **B&B 2000** | **B&B 2008** |
|---|---|---|---|
| *Asian or Pacific Islander* | 0.039 | 0.068 | 0.067 |
| *Black* | 0.050 | 0.075 | 0.069 |
| *Hispanic* | 0.044 | 0.076 | 0.070 |
| *White* | 0.856 | 0.765 | 0.767 |
| *Female* | 0.549 | 0.572 | 0.572 |
| *Pell* | 0.156 | 0.185 | 0.186 |
| *Age at Beginning of Survey Year* | 23.2 | 23.2 | 23.0 |
| *Public Not Top 50* | 0.460 | 0.405 | 0.438 |
| *Public Top 50* | 0.223 | 0.213 | 0.189 |
| *Private Less Selective* | 0.191 | 0.247 | 0.245 |
| *Private Highly Selective* | 0.120 | 0.132 | 0.122 |
| | | | |
| *N* | 6820 | 6130 | 8670 |

SOURCE: U.S. Department of Education, National Center for Education Statistics, Baccalaureate and Beyond 1993, 2000, 2008. See the text for details about sample construction. Sample sizes are rounded to the nearest 10 per the data use agreement.

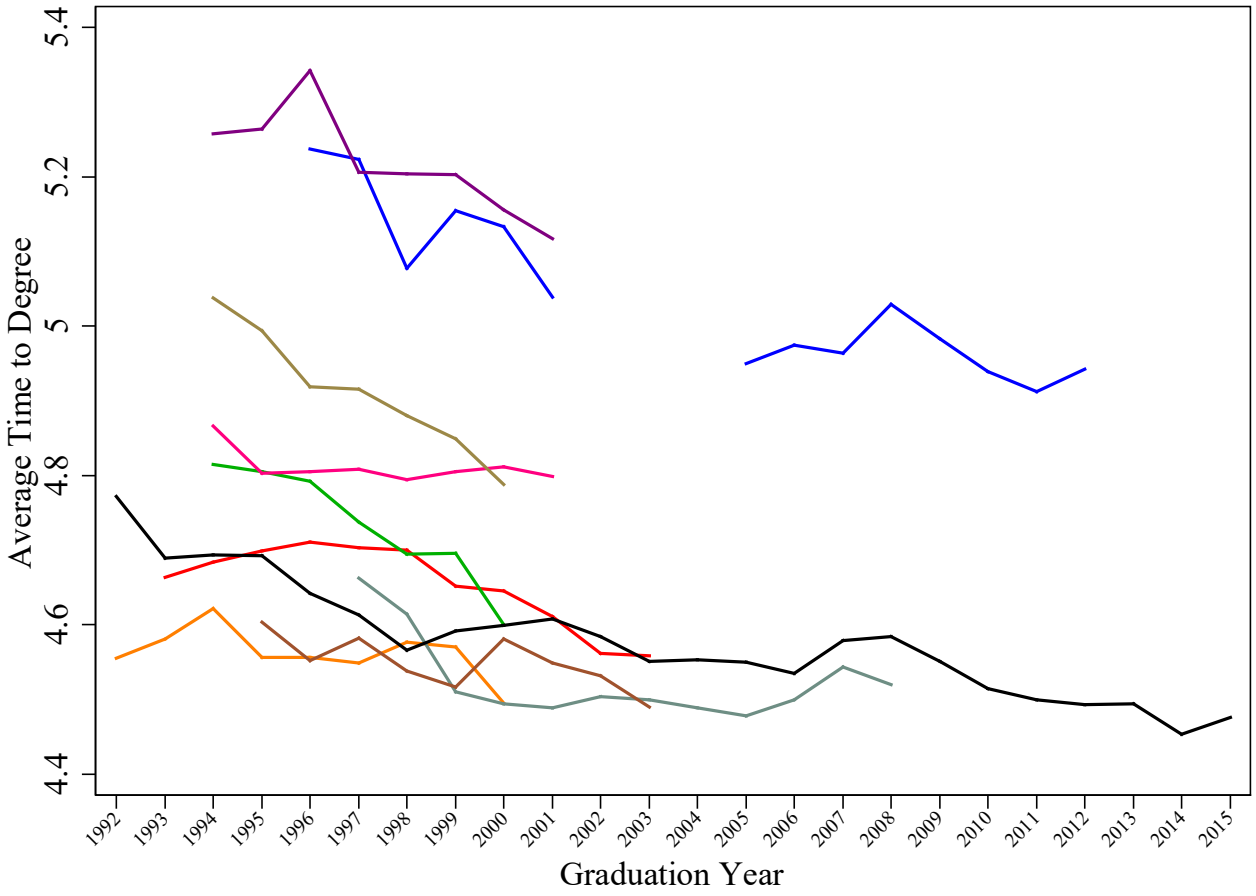
Appendix Figures

*Figure A1: Average Time to Degree by Institution by College Entering Cohort*




SOURCE: Sample consists of students who receive a bachelor's degree within eight years of starting college with transfer students excluded at Clemson, Colorado, Colorado State, Florida, Florida A&M, Florida State, Georgia Tech, North Carolina State, North Carolina – Charlotte, Purdue, and Virginia Tech. Each line represents a different school.

*Figure A2: Average Time to Degree by Institution by College Graduation Cohort*




SOURCE: Sample consists of students who receive a bachelor's degree within eight years of starting college with transfer students excluded at Clemson, Colorado, Colorado State, Florida, Florida A&M, Florida State, North Carolina A&T, North Carolina State, North Carolina – Charlotte, Purdue, and Virginia Tech. Each line represents a different school.