

Momentum: The Academic and Economic Value of a 15-Credit First-Semester Course Load for College Students in Tennessee

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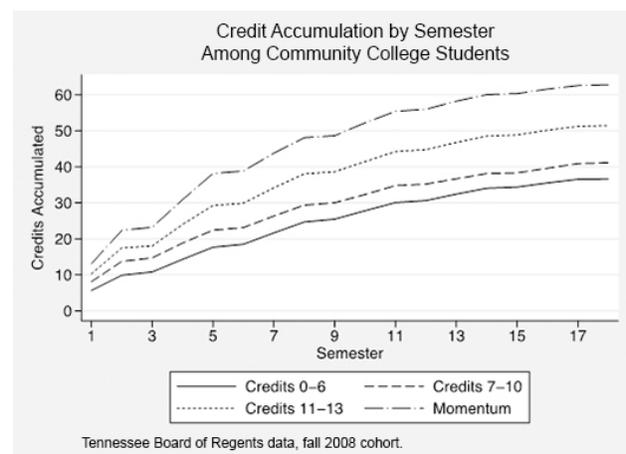
June 2016

At many colleges, entering students are advised to take 12 credits per semester, the minimum number to qualify for full federal financial aid. But a 12-credit-per-semester pace makes it difficult, if not impossible, to finish an associate degree in two years or a bachelor's degree in four. To remedy this issue, a number of colleges and college systems are instituting policies to encourage students to enroll in 15 credits per semester. Recent research suggests this approach is promising, and further, that students' credit load in the first semester is an important predictor of completion: Students who take 15 credits in their first semester are substantially more likely to graduate than are similar students who start by taking 12 credits (a difference of only one course!).

In the current study, we explored both the academic and the economic consequences of taking a higher course load initially. Using student-level data from the Tennessee Board of Regents, we estimated differences in award completion and credit accumulation over six years among students in two- and four-year institutions according to their first-semester and first-year credit loads. Using an economic model, we also estimated the effects on the price per credit hour and degree and on expenditures per completion (i.e., cost efficiency) for students who took 15 credits in their first semester versus 12 credits. We also examined the effects of sustained momentum, comparing students who attempted 27 or more credits in the first year with those who took at least 12 credits in the first semester but less than 27 in the first year.

The Advantage of Momentum

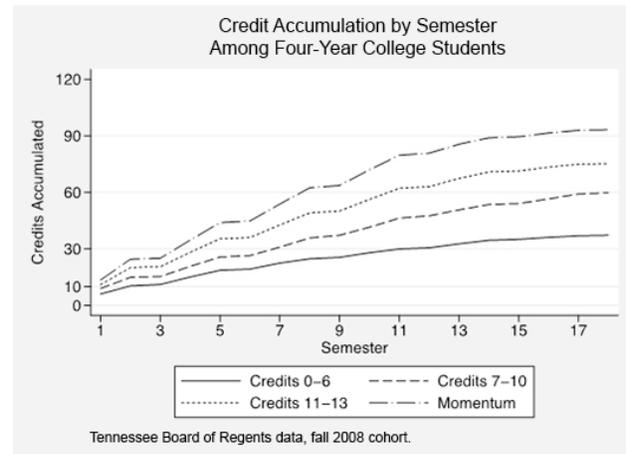
In our sample, the majority of students started with at least 12 semester credits (including both remedial and college-credit courses). However, only 28 percent of Tennessee community college students were first-semester "momentum students"—those who took at least 15 credits to start; in the four-year sector, 71 percent were momentum students. Only one fifth of community college students maintained their momentum over the first year by attempting 27 or more credits. Exactly half of four-year college students attempted 27 or more credits in their first year.



The advantage for community college momentum students was very large. After two years (six semesters), the typical momentum student was 10 credits ahead of the typical student who took 11–13 credits in the first

semester. After six years (18 semesters), the average credit accumulation for momentum students was just over 60—enough for an associate degree. Students who started with lower credit loads accumulated far fewer credits. On average, a student who took less than 11 credits in the first semester had about 40 credits after six years.

Similar gaps were evident for students in four-year colleges. Momentum students accumulated 90 credits on average after six years. Students who started with lower credit loads accumulated credits at a slower rate and ended up with approximately half the credits needed to graduate. This can partly be explained by the higher dropout rate of low-credit starters.



Momentum's Effects on College Completion

Overall, we found statistically significant and strongly positive effects of momentum on college outcomes.

First-semester momentum students were more likely to get an award. Controlling for factors related to completion, first-semester momentum students in community colleges were 6.4 percentage points more likely to earn any award than 12-credit students; for those in four-year colleges, the effect size was 11 percentage points. Momentum also compared favorably to other factors influencing completion: Its effect was approximately half as large as that of high school prior academic performance, and it was as important as the college gender gap.

Looking at first-year momentum, the effects were even larger in terms of awards. Among community college students, first-year momentum students were 11 percentage points more likely to get an associate degree and 8 percentage points more likely to get a bachelor's degree than were students who took 12 credits in their first semester but less than 27 credits in their first year. For four-year students, the overall effect was an increased probability of completion of 19 percentage points.

We also looked at how gains were distributed across subgroups based on academic performance, racial/ethnic minority status, and gender. For students in all subgroups, momentum was strongly advantageous in terms of degree completion and credit accumulation, but some subgroups benefited more than others. There were particularly strong momentum gains for racial/ethnic minority students and positive but not as strong gains for students with lower high school grade point averages. Interestingly, momentum was more beneficial for female students than for male students in our sample.

Overall, momentum was strongly advantageous in terms of degree completion and credit accumulation. Based on these results, a college advisor should be more concerned about a student who chooses to take 12 or fewer credits each term than about one who enters with a mediocre high school record.

The Economic Benefits of Momentum

Because colleges charge certain fixed fees each term, by taking more credits per term, momentum students are "bulk-buying" and paying less per credit hour. And because momentum students graduate at a higher rate than students who start with 12 credits, the cost per completion is lower for momentum students.

According to our economic model for Tennessee colleges, first-semester momentum students who started at a community college paid \$4 (4 percent) less per credit and \$1,560 (9 percent) less per degree. Four-year momentum students paid \$51 (14 percent) less per credit and \$12,800 (19 percent) less per degree.

Initial momentum also produces benefits for taxpayers and society more generally in terms of increased efficiency (or lower total expenditures per degree). For community colleges in our sample, the average expenditure per degree was \$61,950 for 12-credit students and \$56,150 for momentum students. For four-year colleges, the average expenditure per degree was \$173,310 versus \$138,050, respectively. The economic benefits of sustaining momentum throughout the first year were even higher than the benefits of first-term momentum, resulting in a much lower price per credit hour and price per degree for students and much lower expenditures per degree for taxpayers.

Colleges also benefit because momentum students at both community colleges and four-year institutions generate more tuition revenue per student. Thus, colleges stand to gain revenue by investing in practices and policies that encourage more students to take 15 credits.

Conclusion

This analysis for Tennessee shows that first-semester momentum leads to much higher rates of credit accumulation and award receipt. Students who sustain momentum over the first year have even better outcomes. Our research also supports earlier findings that momentum has particularly large benefits for members of racial/ethnic minority groups—these students can handle a higher course load.

In a new extension of the research, our results show that momentum also yields substantial economic benefits. For the student, it leads to lower prices per credit and per degree; for the college and society, it leads to lower expenditures per credit and per degree. Further, for colleges, it leads to higher revenues from tuition and fees as more students are retained. This is an important consideration for college leaders weighing whether to invest in enhanced advising and other practices necessary to encourage more students to take more credits.

Our findings suggest that colleges should consider introducing policies that encourage momentum or higher credit loads. Such policies might include providing program pathway maps that have 15 credits per semester as the default schedule, using scheduling software that enables students to fit more credits—ideally in the courses on their academic plans—into their schedules, tying financial aid incentives to momentum, implementing tuition pricing that favors momentum, or establishing social norms in favor of more intensive course-taking. Further research is needed to understand the mechanisms that underlie momentum's effects in order to determine which policy—or set of policies—would be most effective.

For the complete study, visit <http://ccrc.tc.columbia.edu/publications/momentum-15-credit-course-load.html>

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