Grade-Compensating Differentials in the Competition between College Majors

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Abstract

Statistical evidence indicates a negative relationship between expected career salaries associated with a college major and grade point average received by students in it. We proceed from this evidence of a trade-off to develop a model of intra-collegiate competition between majors for students. The choices of heterogeneously able students are motivated by future salaries, required learning effort, as well as grades, whereas the expected salary of an individual student is determined by a combination of exogenously given wage rate associated with the major and the student's human capital attainment in it. The latter is signaled by the grade earned by a student according to the major's grading standard, which is known to employers. The majors can thus choose their grading standards strategically to attract or deter students, while facing competition for students from other major programs within a university. We prove the existence of Nash equilibrium for the case of duopoly of majors and analyze its comparative statics with respect to changes in cross-major salary differential. We derive conditions under which increased salary differential will cause grading standards of the less lucrative major to inflate strongly enough to outweigh the negative effect of the diluting ability composition of its student body, such that the average GPA will exhibit an absolute increase, consistent with empirical observations.

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