

THE DETERMINANTS OF GRADE INFLATION: A RESEARCH NOTE

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Using Census data and grade information provided by four year public universities in the southwestern United States, this research note offers a conjecture about the relationship between the size of state university systems and the severity of grade inflation.

HYPOTHESES ABOUT GRADE INFLATION

Grade inflation has been a concern in higher education in America since the 1970s. At that time, researchers in colleges and universities began to notice an increase in grade point averages without a commensurate increase in achievement levels (Summerville and Ridley 1990). The literature has identified a number of possible causes for the increase in average grades over the last thirty years. One early argument focussed on the political and social disruptions of the Vietnam war. At that time, researchers suggested that the problem reflected professors' leniency in response to the draft, and that the problem would correct itself after the war ended and college deferments to avoid conscription

were no longer an issue. However, the problem persisted even after the war, and the draft, ended (Lanning 1995).

When the problem failed to disappear after the war ended, other possible explanations surfaced. A second line of argument suggested that students today are not required to master as much material as were students a generation ago. According to this argument, it has become easier for today's students to achieve a high score in most classes not because professors have relaxed their grading standards, but because they have begun to water down the content of their courses. This hypothesis, if true, is particularly disturbing because it means that even if students are mastering what they have been asked to master they are still not as well prepared to serve society as were students in the past (Basinger 1997).

A third cluster of explanations for the rise in average grades highlights how schools across the nation have provided students with greater options for enhancing their GPAs. For example, many colleges and universities now have a liberal drop policy. At some institutions, students are allowed to drop a course any time before the final exam, thus reducing the impact of poor or failing grades on students' overall numerical rating. Some schools (including Oklahoma's) allow students to repeat courses or even entire semesters, thereby allowing them to wipe out their initial poor grades and replace them with subsequent course work. From this perspective, grade inflation is aggravated not by lower standards or thinner content, but by the strategic choices made by grade-maximizing students (Weller 1986).

A fourth possible factor contributing to grade inflation involves the use of student evaluations in the personnel policies common in higher education (Lanning and Perkins 1995). Many schools have attempted to develop quantitative methods for use in faculty retention, tenure, and promotion decisions. In attempting to develop such a methodology, student evaluations of faculty are one convenient tool to use in the evaluation of professors. Professors, particularly adjuncts, are acutely aware that their popularity with students may well have a significant impact on their retention and promotion. This hypothesis is particularly suggestive given that many institutions, because of fiscal concerns, are relying more heavily on adjunct faculty. Adjuncts are particularly vulnerable to low student evaluations since they do not enjoy many of the guarantees and protections that come with being a full time tenured professor.

While conjectures abound about grade inflation, few studies have taken quantitative approaches to the problem. Most of the literature acknowledges that the problem exists, and proposes hypotheses as to why it began and why it continues to occur, but few studies have proposed causes that are easily quantifiable. Most of the studies that have attempted to quantify the problem have been limited to studying particular institutions, or departments within and across a particular school. One exception is Weller's (1986) comparison of attitudes towards grade inflation among Deans of Colleges of Education and Deans of Arts and Sciences. Yet even Weller's study merely solicited and compared opinions about why educators believed the problem was occurring; his study did not directly test one hypothesis or another.

In view of the state of inquiry into grade inflation, this research note ventures a line of explanation by making an analogy between grade inflation and economic inflation. In a market economy, inflation is defined as a general increase in the general level of prices. Typically, inflation is calculated and expressed in terms of an index (superficially similar to a GPA) calculated against a basket of representative goods. Inflation can occur in two general ways. Supply-side or cost push inflation occurs when an increase in costs pushes prices up (for example, an oil shock). Demand-pull inflation occurs when an increase in aggregate demand causes prices to rise. Such inflation is essentially the result of excess purchasing power: too many dollars chasing too few goods and services.

In the spirit of this analogy, the following analysis takes a brief look at the possibility that the size of a given state's higher education system, in relation to its population, has an impact on the mean grade point average of undergraduate students in the state. The conjecture is that the larger the state's higher education system, relative to its population, the more schools within the system have to compete to attract and retain students. This competition for limited "resources" (i.e. students and their tuition dollars) leads to pressure on faculty to give higher grades in order to recruit and retain student populations.

Data on mean GPAs were collected in a survey of public colleges and universities within the Southwestern region. The states included are: Arkansas, Colorado, Kansas, Louisiana, Missouri, Oklahoma, New Mexico, and Texas. The director of institutional research or the registrar's office at each institution was contacted and asked to provide the institution's average grade awarded (on a standard four point scale) for

for all undergraduate students for the Fall 1998, the most recent semester for which averages were available from all schools in the survey.

United States Census Bureau data from 1995 were used to determine the size of each state's higher education system. The number of employees in each state's higher education system was used as a measure of the size of those systems. The Census Bureau data on state government employees are reported in the following categories: full-time equivalent employees, full-time employees, and part-time employees. Further, in each of these categories the data are broken down into twenty-eight employment classifications. The Census Bureau lists state employees in higher education in the following two classifications: Higher Education-Instruction and Higher Education-Other. Both classifications were used to determine the size of each state's higher education system. The employees per 10,000 figure is useful because it allows for an easy comparison across states that otherwise vary widely in terms of population.

All of the institutions polled used the standard four point grade point scale (A=4, B=3, etc.) In order to test the hypothesis that the size of a given state's system has an impact on the average grade awarded to students in that system, a simple correlation was employed. A Pearson Correlation of the two variables suggests a substantial, if crude,

	Mean GPA	Employees per 10,000 population
Arkansas	2.70	89.43
Colorado	2.90	124.03
Kansas	2.87	102.05
Louisiana	2.85	100.46
Missouri	2.83	69.80
Oklahoma	2.90	111.08
New Mexico	2.95	148.71
Texas	2.64	58.91

Grade Inflation: More is More?

relationship: the larger a state's education system, the higher a state's mean GPA relative to the average of the eight-state group ($r^2 = .674$, significant at the .012 level). While suggestive, a major limitation even at this preliminary stage is the small number of cases. Yet, as the scatter plot shows, no one observation skews the results in a noticeable way.

TOWARDS AN ECONOMIC MODEL OF ACADEMIC INFLATION

As suggestive as the above relationship is, a complete study of the determinants of grade inflation must exploit more fully the analogy between the economic and academic varieties of inflation. Both varieties presume a unit of account — a numerical grade, a denomination of currency — whose value declines because of the unit's changing relationship with the real economies of academic achievement or industrial production. In the case of money, whether the impetus comes from a shock on the supply or the demand side, inflation ultimately occurs only when the central bank accommodates this shock through cheaper

credit. By analogy, then, it is the professorate that plays the role of academia's central banker, accommodating or not accommodating inflationary pressures depending upon the opportunities and constraints under which professors operate.

The premises of neoclassical economics preclude the possibility of generalized over- or under-production; similarly, by analogy to the academic world we exclude the prospect of grade point averages rising or falling because of general shifts in the intelligence or capacity of student bodies (the "Lake Wobegon" effect). Neoclassical economics also assumes the rationality of individual actors who seek to maximize their utility subject to budget or production constraints. By extension, we might in the academic world assume that rational students seek to maximize their grade point averages, grades being viewed here not as evidence for subjective intellectual satisfaction or objective academic achievement but as expressions of the credentialist functions of higher education. That is to say, the analogy instructs us to assume that students attend college and university in order to improve their future employment prospects. All things being equal, from this perspective higher grades provide better credentials, quite apart from what students do, or what they learn, to earn those grades. Faculty in higher education will not find this assumption to be unreasonable, to say the least. Further, the model assumes that faculty, for their part, maximize their own choice sets by calibrating the severity of their grading standards to achieve an optimal mix of their own goals (good student reviews, enrollment retention, personal popularity, and so on). Finally, administrators may be assumed to pursue their own, cognate, set of goals according to a similar calculus of interest.

While this note has considered just one factor from the demand side, the economic analogy points to any number of suggestive exploratory hypotheses. For example, are private institutions more, or less, resistant to the ravages of grade inflation than are public institutions? Does grade inflation vary according to the perceived prestige of the institution or university system? The structure of incentives within each institution may also yield useful variables. To what extent is a public institution's funding sensitive to changes in aggregate enrollment? How do the criteria and procedures for granting tenure influence the willingness of faculty to accommodate pressures for grade inflation? It is frequently noted (and deplored) that the consumerist mindset of today's college students

encourages them to view decent grades as a “product” that they have purchased with their tuition (Sacks 1996). Apart from actually surveying students, one might conjecture that the ratio of faculty to administrators (what the military calls the “tooth-to-tail” ratio) is a proxy for consumerism, since expanding administrations reflect, in good part, universities’ efforts to accommodate these non-academic functions.

At a policy level, grade inflation matters because states have reason to be concerned about the quality of their higher education system, and about how well prepared their graduates are to handle the challenges of a highly competitive global environment. Grade inflation is a problem ultimately because it perpetuates a fraud (like the economists’ “money illusion”) that can be dispelled only when matriculating students reveal the full gap between their formal credentials and their real skills and potential. It hardly needs to be remarked that Oklahoma has one of the higher mean GPAs (2.90) among the states studied. Alas, it may not be entirely coincidental that it also has one of the larger systems of higher education.

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