PRE THE PHILIPPINE REVIEW OF ECONOMICS
VOL. XLV NO. 1 JUNE 2008 P. 93-108

Grade inflation: fact or myth?*

Amelia L. Bello and Rodger M. Valientes
Department of Economics, College of Economics and Management (CEM),
University of the Philippines Los Baños.

Real grade inflation is the upward shift in grades without a similar rise in achievement (Kohn [2002]; Rosovsky and Hartley [2002]). It implies a decline in standards and obscures the role of grades as a signal of academic ability. Guskey [2003] believes that resolving the debate on grade inflation depends on clarifying the purpose/meaning of grades. Grades may be used either to discriminate among students or to reflect the degree to which students have learned. The research attempts to validate the presence of grade inflation in courses offered by the Department of Economics, University of the Philippines Los Baños. Using grades from 1986 to 2005, an upward trend is seen in 10 out of 18 courses. However, the source of this uptrend could not be exactly pinpointed. Further studies relating admission requirements, curricular changes, teaching evaluation/faculty complement, and mechanics of grading to the actual grades must be conducted.

JEL classification: A10, A22
Keywords: grade inflation, grade standards

1. Introduction

Grade inflation was a nationwide phenomenon in the United States in the last two decades (Kohn [2002]; Freeman [1999]; Scocca [1998]). Periodicals have reported that in a few Ivy League universities, the percentage of grades between A+ and B+ has increased and that grades of C have been long gone. The removal of a chemistry instructor in 1995 at the University of Montana because he was "too tough" and the removal of a chancellor of a city university

* The authors would like to thank Prof. Primo E. Rodriguez for his helpful comments.

for allegations of not controlling grade inflation are illustrations of the phenomenon [Cheong 2000].

What is grade inflation?

Real grade inflation is the upward shift in students' grades without a similar rise in achievement (Kohn [2002]; Rosovsky and Hartley [2002]). Therefore, real grade inflation means that the same work that was given a B (or 2.0) in the past is getting, for example, an A (or 1.5) today. Thus, the term also implies a decline in grade standards. To quote Cheong [2000] who studied grade inflation at the University of Hawaii-Manoa, "Grade inflation may not only adversely affect the academic accountability and comparability of grades within and across universities, but, perhaps more importantly, may obscure the role of grades as a signal for students' academic ability, thereby leading them to make biased selections in courses and majors."

Rosovsky and Hartley [2002] state that grades are meant to be an objective but not a perfect index of students' degree of mastery of a subject. Grades serve multiple purposes: they inform students about how well they understand the course content and their areas of talent, and provide external audiences (prospective employers, graduate schools) with important information.

In addition, prospective employers and graduate schools use grades as a basis for making decisions on who to employ and who to accept. Unlike price inflation, however, grades cannot rise above 1. Thus, we have grade compression in the upper boundary [Rosovsky and Hartley 2002].

2. Is there really grade inflation?

There are mixed views on the claim that grades have been rising. In the United States, Clifford Adelman [1995] of the US Department of Education reviewed transcripts from more than 3,000 institutions and reported that grades have actually declined slightly in the last two decades. A subsequent analysis by Adelman [2004] confirmed that there has been no significant increase in average grades. Even when grades may be higher now, it must be demonstrated that those higher grades are undeserved for the trend to be called grade inflation [Kohn 2002]. However, Kohn [2002] also mentioned that many reasons can be cited to explain the higher grades. Students may be smarter and working harder today, turning in better assignments; or the tools to assess student performance have changed, allowing students to better demonstrate what they know or have learned.

Studies by Juola [1980], Levine and Cureton [1998], and Kuh and Hu [1999], however, say the opposite thing. The grade point average (GPA) increased by half a grade point from 1960 to 1974, according to Juola [1980]. Grades of A or higher grew to 26 percent in Levine and Cureton's [1998] study, while college grades in every institutional type increased to 3.34, on average, according to Kuh and Hu [1999].

3. Explaining grade inflation

Among the reasons cited for grade inflation in the United States are resistance to the Vietnam War draft, the response to the initiative for student diversity, new curricular and grading policies, the widespread and growing use of student evaluations, the rise in consumerism (with the students as consumers), the watering down of course content, and the role of nontenured track professors [Rosovsky and Hartley 2002].

Teachers hesitated in giving low grades to male students in the 1960s because doing so would force them to drop out of school and subject them to wartime military service. On the other hand, universities were forced to become more lenient in giving grades in order to retain students from various socioeconomic groups. Curricular requirements were relaxed, giving students the opportunity to avoid difficult courses. Student evaluation played a role in promotion, tenure decisions, and merit pay increases while the rise of consumerism saw universities competing with one another for students so that as the course content became less demanding, it is but reasonable to see average grades go up. Finally, nontenured professors often hold part-time jobs and are likely to be more tolerant in grading due to the high workloads assigned to them.

4. An alternative view

In the debate on grade inflation, discussions on the purpose of grading and beliefs and values behind these purposes are glaringly absent. Guskey [2003] believes that resolving the problem depends on clarifying the purpose and meaning of grades. Two different views of grading are proposed, each one leading to different approaches to instruction and grading policies.

Grades may be used either to discriminate among students and identify differences in performance or to reflect the degree to which students have learned, accomplished, or achieved what they were taught. The first view leads to some arbitrary way to rank the students and assign grades according to each student's relative standing. In other words, "grading on the curve" is used.

The second view, however, argues that education is not a random process but rather a purposeful activity in which teachers exert their best to have students learn. In this case, teachers need to clarify the learning criteria, and the goal becomes to nurture talent and not to discriminate and sort. The problem, however, is in defining clearly the learning standards and deciding what evidence best reflects those standards.

5. The UPLB experience

This study of grade inflation at the University of the Philippines Los Baños (UPLB), specifically at the undergraduate Economics program, was motivated by the observation often heard during commencement exercises that economics must be an easy course because of the number of honor students. The University has produced 21 summa cum laudes, four from the BS Economics program. In addition, the program has graduated 21 magna cum laudes and 71 cum laudes.[2] It must be noted that the BS Economics program was instituted only in 1986 and produced its first batch of graduates three years later. The total number of graduates for the same period is 542, so roughly 18 percent have graduated with honors. Table 1 presents a summary of the graduates.

However, it must be stressed that the paper looks only into the presence of grade inflation in the courses offered by the Department of Economics. The BS Economics curriculum requires 144 credit units, 44-59 units of which are taken in the department; the remaining are taken in the university's other departments/colleges. Thus, the high number of honor students may be due to the relatively higher marks of BS Economics majors in other subjects besides economics courses.

No study whatsoever of grade inflation in the Philippines has been done. Raul Pangalangan of the UP College of Law, writing on bar exam reforms, however, says that there is grade inflation in law schools. He writes, "Still, the (Supreme) Court has no choice but to tighten the exams because of laxity and grade inflation in our schools. It performs the winnowing-out function that many law schools have abdicated in exchange for higher enrollment or—characteristically Pinoy—for the goodwill and misplaced thanks of undeserving students. They have merely shifted to the Court and its bar confidant the role of being a bad guy."

[2] UPLB has a numerical grading system. The highest possible grade that a student may get is 1.0, followed by 1.25, etc. A grade of 3.0 is a passing grade, 4.0 is conditional while 5.0 is a failing mark.

Table 1. Graduation and honor statistics, BS Economics, 1989-2005

School year	*Male graduate*	*Female graduate*	*Summa cum laude**	*Magna cum laude***	*Cum laude****
2004-2005	12	42	1	3	14
2003-2004	12	48	-	-	4
2002-2003	11	31	-	1	6
2001-2002	17	34	-	2	6
2000-2001	6	18	-	3	6
1999-2000	8	25	-	2	7
1998-1999	9	21	-	-	1
1997-1998	9	22	1	1	3
1996-1997	9	23	-	1	7
1995-1996	9	30	1	3	1
1994-1995	11	17	1	-	1
1993-1994	13	14	-	-	4
1992-1993	9	19	-	-	5
1991-1992	10	5	-	2	2
1990-1991	12	16	-	1	3
1989-1990	8	8	-	1	1
1988-1989	-	4	-	1	-

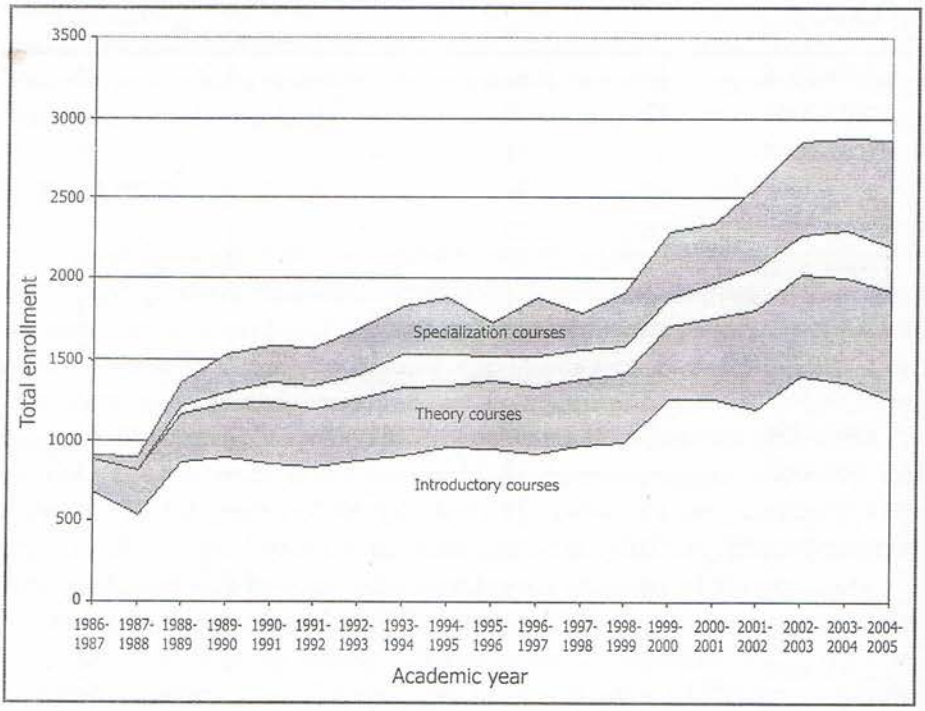
* Average grade of 1.20 and better
** Average grade of >1.20–1.45
*** Average grade of >1.45–1.75

5.1. Enrollment trends

When the BS Economics program was initially offered at UPLB, only 25-30 students were admitted annually into the program. Although still a quota course, the program now accepts some 70 students every first semester of the school year (SY). In addition to the BS Economics majors, students from other degree programs and other colleges take economic courses as electives.

The bulk of the enrollment comes from the General Economics classes, some four to five sections of which are offered every semester, with about 150 students per lecture section. This is followed by the theory courses in macroeconomics and microeconomics, which are required courses in other programs like engineering and agribusiness management. Figure 1 presents the enrollment picture.

Figure 1. The enrollment picture for Economics courses of the department, 1986-2005



From 905 enrollees and four courses (General Economics, Macroeconomics, Microeconomics, and Consumption Economics) in 1986-1987, the total number of enrollees has reached close to 3,000 and 18 courses in 2004-2005.

5.2. The data set and limitations

The data used for this study were obtained from the Office of the College Secretary and from the records of the Department of Economics from SY 1986-1987, the year when the BS Economics program was initially offered, to SY 2004-2005—a total of 19 school years or 38 semesters. There were 36,361 observations.

The numerical grade equivalents of students from 18 Economics courses were taken, alongside their sex, college (Arts and Sciences, Agriculture, et al.), year classification (freshman, sophomore, junior, or senior), and the semester and school year when the course was taken. The data were obtained from the copy of grades submitted by professors at the end of the semester. The Economics courses were further grouped into four broad categories: introductory, theory, methods, and specialization. Table 2 shows the grouping of the 18 courses.

Table 2. Economics courses offered by the department and their categories

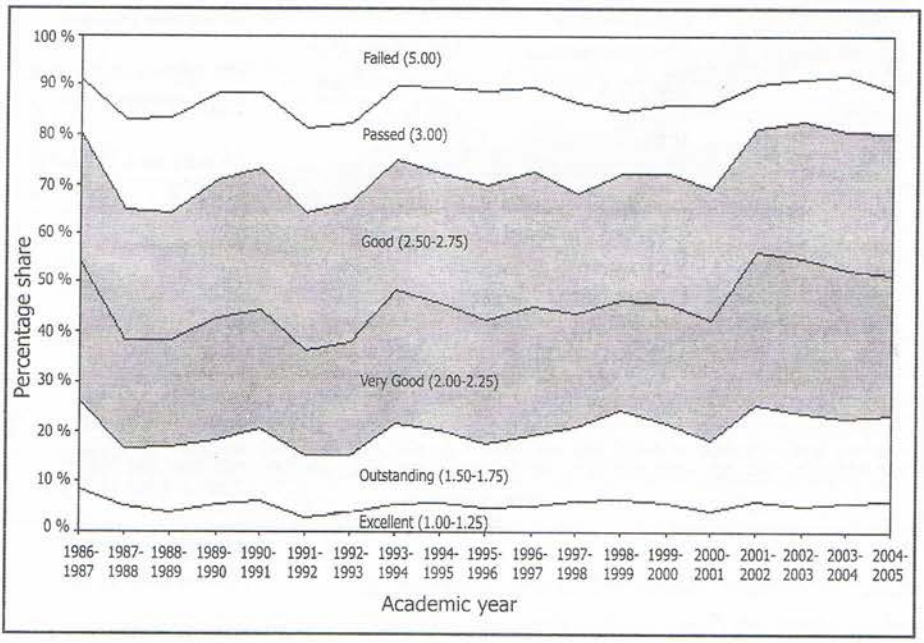
General economics courses	*Economic theory courses*	*Economic methods courses*	*Specialization courses*
Economics in Social Issues (10) 1, 2	Intermediate Macroeconomic Theory (101) 1, 2	Elements of Mathematical Economics (130) 1, 2	Consumption Economics (106) 1
General Economics (11) 1, 2	Intermediate Microeconomic Theory (102) 1, 2	Introduction to Econometrics (137) 1, 2	History of Economic Doctrines (110) 1
	Introduction to Factor Market Analysis, General Equilibrium and Welfare Economics (104) 1, 2	Benefit Cost Analysis (175) 1	Philippine Economic History (115) 1
			Money and Banking (121) 2
			International Economics (141) 2
			Government Finance (151) 2
			Introduction to Natural Resource Economics (171) 1
			Human Resource Economics (181) 2
			Development Economics (185) 2
			Special Topics in Economics (191) 1, 2

Note: Figures in parenthesis refer to the number tag of the course in the BS Economics curriculum; the succeeding numbers indicate the semester/s the course is being offered.5.3. A first look at the grade distribution

Grades under the 1.00-1.75 category made up, on average, 20.4 percent of the grade distribution (Figure 2). The first school year saw 26 percent of the grades in this category, with the share slipping drastically to 16.5 percent in the next school year. In the 1990s, there were four years when the share was less than one-fifth, but this trend was reversed in the last four school years, when grades in the category made up 23.7 percent of the total. On average, grades under the 2.0-2.75 category accounted for 54.9 percent of the distribution.

The distribution shares fluctuated from 45 percent to 59 percent over the 19-year period. Failure marks made up 13.6 percent of the grade distribution, on average, with the highest share recorded at close to 20 percent in SY 1991-1992 and the smallest share in 2003-2004 at 8.1 percent.

Figure 2. Percentage distribution of grades obtained from Economics courses, 1986-2005



Looking at the grade distribution per course category, grade averages were consistently higher in the specialization courses irrespective of the semester and lowest for the introductory economics courses (Figure 3). Except for one instance (school year 1987-1988, economic methods) when the mean grade was higher than 2.0, all the average grades for all semesters and for all categories were lower than 2.0. The gender picture tells us that female students always did better than male students over the 19-year period regardless of the course category (Figure 4).

5.3. Grade inflation: Digging some evidence

Strictly speaking, real grade inflation implies higher grades without a similar rise in achievement. However, the nature of the data obtained limited the analysis to just showing the presence or absence of a trend of higher grades and the probable sources of the higher or lower grade. Grade inflation attributable to

Figure 3. Mean grades and trend lines by course category, 1986-2005

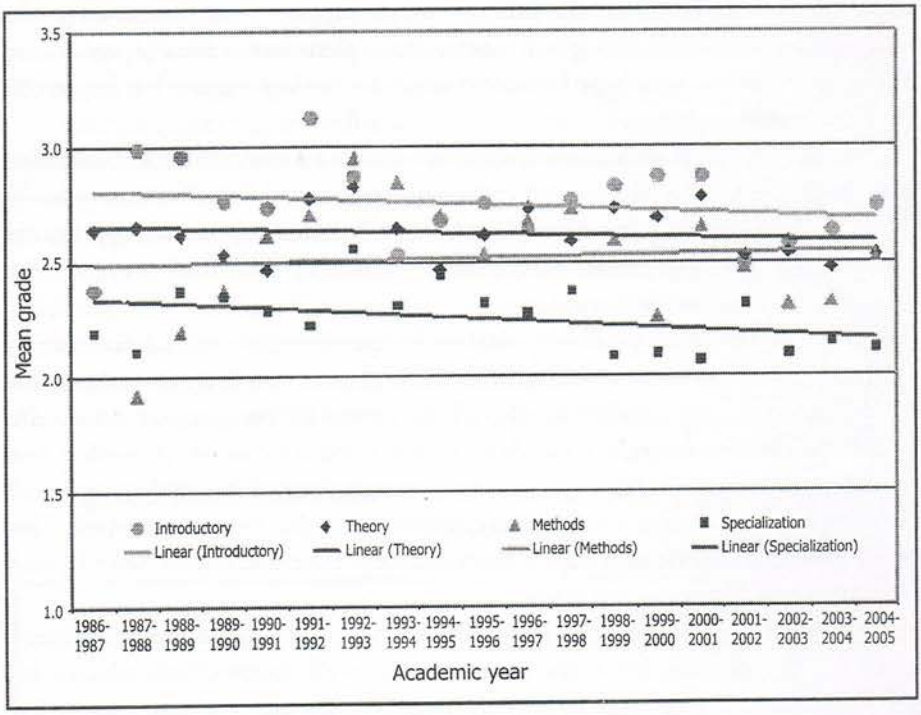
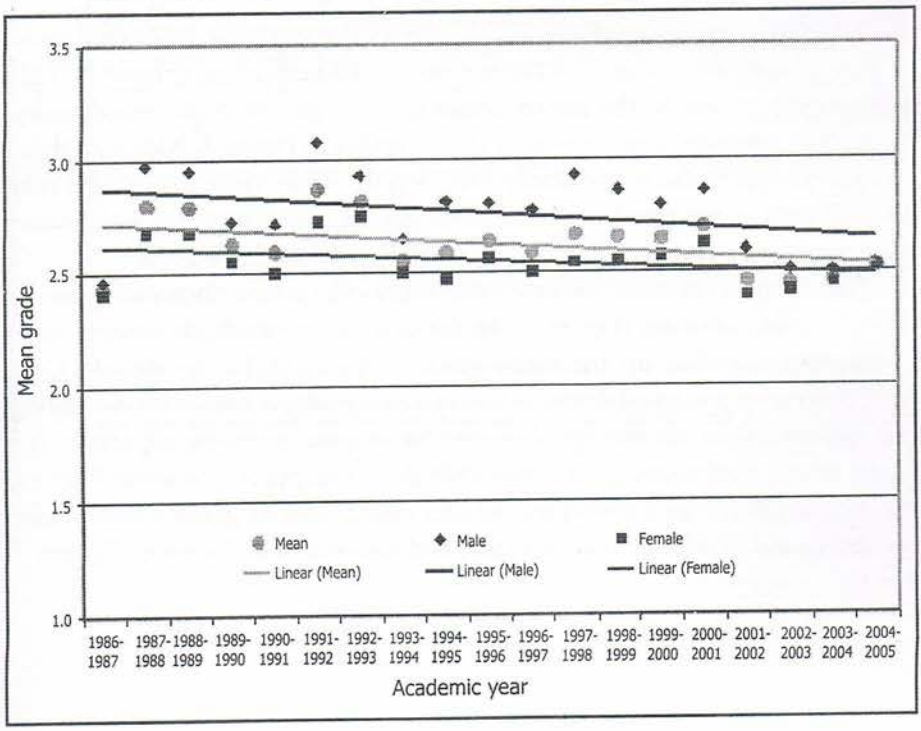


Figure 4. Mean grades and trend lines from all courses, 1986-2005



improvement or deterioration of methods of instructions cannot be deduced from the data set. Likewise, the data set cannot support a conclusion of grade inflation resulting from changes in teaching complements or faculty profiles, or a conclusion that the quality of students accepted to the program has improved or deteriorated over time.

As an initial step, we compare the grade means of the different economics courses through time. The ANOVA technique was utilized to test simultaneously whether the population means are equal or not. Specifically, the null hypothesis is $\mu 1 = \mu 2 = \ldots = \mu n$. The alternative hypothesis is $\mu 1 \neq \mu 2 = \ldots = \mu n$; at least two of the means are not equal.

The test of mean grades by academic year (inclusive of all economics courses) tells us that the mean grades are different. Similarly, a comparison of the mean grades throughout the whole period by category of economic course (i.e., introductory, etc.) leads us to the same conclusion. A further test of the mean grades for each of the four categories and by academic period also instructs us to reject the null hypothesis that the means are equal. The mean grades by sex are also significantly different from each other, with female students outperforming the males.

The next step was to do a trend line analysis. This was done at different levels of aggregation. First, the mean grades in all courses were plotted by academic year. The courses were then broken down into the four categories. Finally, plots of individual courses were done to have a closer look and a better picture of the trend.

The plot of the mean grades for all courses shows a clear downward trend (i.e., an improvement in grades) throughout the 19-year period (Figure 4). This pattern is borne out by the improvement in mean grades in the introductory, theory, and specialization courses as shown earlier in Figure 3. Although there are two courses in the introductory category, the improvement in grades may be attributed to the trend in the General Economics course, since the other course was just instituted in the second semester of SY 2004-2005.

For the theory courses, only the microeconomics course shows an apparent trace of grade inflation (Figure 5). In the case of the methods courses, only Econometrics pulled up the mean grades (Figure 6). In the Benefit Cost Analysis course, a marked deterioration in mean grades is very evident. Among the specialization courses, grade inflation is quite obvious, especially for Consumption Economics, Economic Doctrines, Philippine Economic History, and Human Resource Economics. Smaller magnitudes of grade inflation may also be found in Money and Banking, and Government Finance (Figures 7 and 8).

A very simple ordinary least square (OLS) estimation was used to test for the presence of grade inflation. With 36,361 individual grades as the dependent variable, OLS estimations were run to capture the grade inflation effects of TIME. This was done once again on different levels of aggregation.

The presence of grade inflation is confirmed in the simple regression for the whole set of 18 economics courses and all of the four categories (introductory, theory, methods, and specialization courses). Taken individually, time was found to be significant for General Economics, Microeconomics, Consumption Economics, Economic Doctrines, Philippine Economic History, Money and Banking, Mathematical Economics, Econometrics, Government Finance, and Human Resource. Although significant, the effect of time has been to lower the grades, the coefficient being positive in the following courses: Benefit Cost, Natural Resource, and Development Economics (Table 3).

Figure 5. Mean grades and trend lines from economic theory courses, 1986-2005

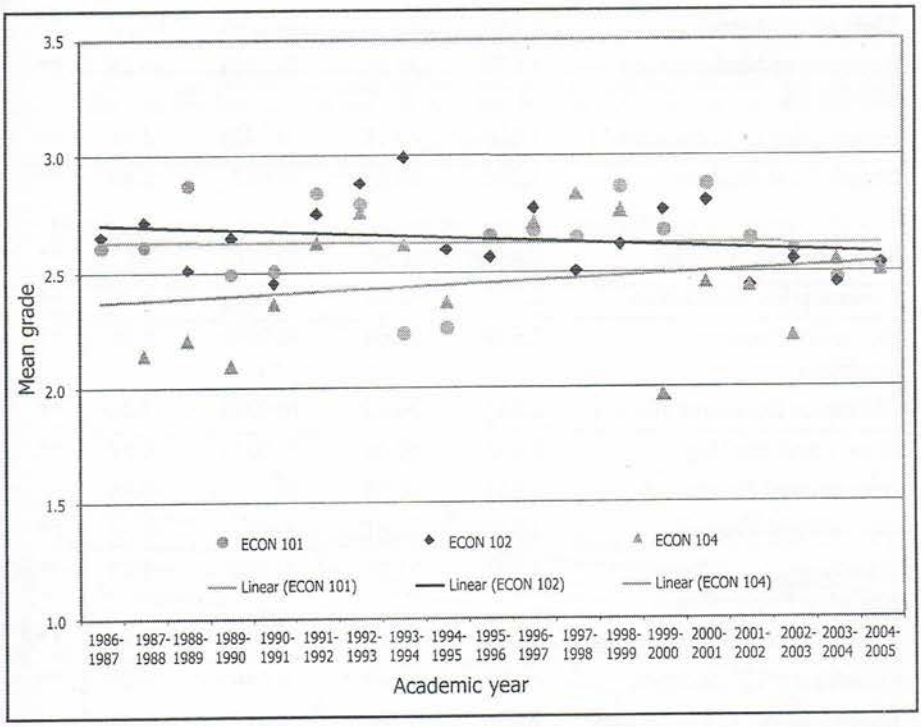


Table 3. OLS estimates of grades and time trend by course

Courses	*Regression coefficients*				
	Constant	*t-value*	*Time coefficient*	*t-value*	
All courses	2.759	215.27	(0.013)	-12.80	**
Introductory courses	2.827	162.81	(0.008)	-5.52	**
Theory courses	2.675	99.27	(0.006)	-2.64	**
Intermediate Macroeconomic Theory	2.645	61.76	(0.002)	-0.65	
Intermediate Microeconomic Theory	2.739	71.20	(0.010)	-3.12	**
Introduction to Factor Market Analysis	2.502	31.21	(0.000)	-0.04	
Method courses	2.816	53.10	(0.021)	-5.20	**
Elements of Mathematical Economics	3.072	39.62	(0.030)	-5.15	**
Introduction to Econometrics	2.866	29.15	(0.030)	-4.06	**
Benefit Cost Analysis	2.006	24.48	0.017	2.86	**
Specialization courses	2.438	88.60	(0.016)	-8.07	**
Consumption Economics	2.705	35.79	(0.026)	-4.26	**
History of Economic Doctrines	2.609	33.64	(0.034)	-6.01	**
Philippine Economic History	2.267	36.85	(0.032)	-7.24	**
Money and Banking	2.643	40.19	(0.031)	-6.32	**
International Economics	2.431	27.28	(0.003)	-0.46	
Government Finance	2.555	32.61	(0.015)	-2.59	**
Introduction to Natural Resource Economics	1.892	21.59	0.034	5.02	**
Human Resource Economics	2.337	22.59	(0.022)	-3.18	**
Development Economics	1.729	20.43	0.040	6.25	**
Special Topics in Economics	1.655	2.94	0.019	0.58	

Dependent variable: Grade
** Significant at 0.5 percent.

Figure 6. Mean grades and trend lines from economic methods courses, 1986-2005

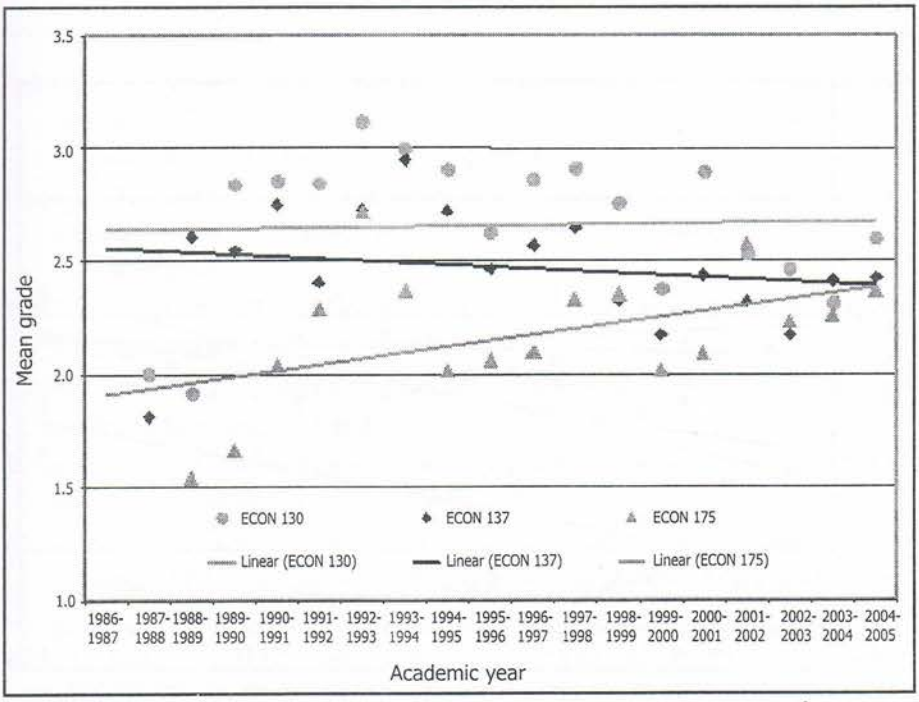


Figure 7. Mean grades and trend lines from specialization courses (a), 1986-2005

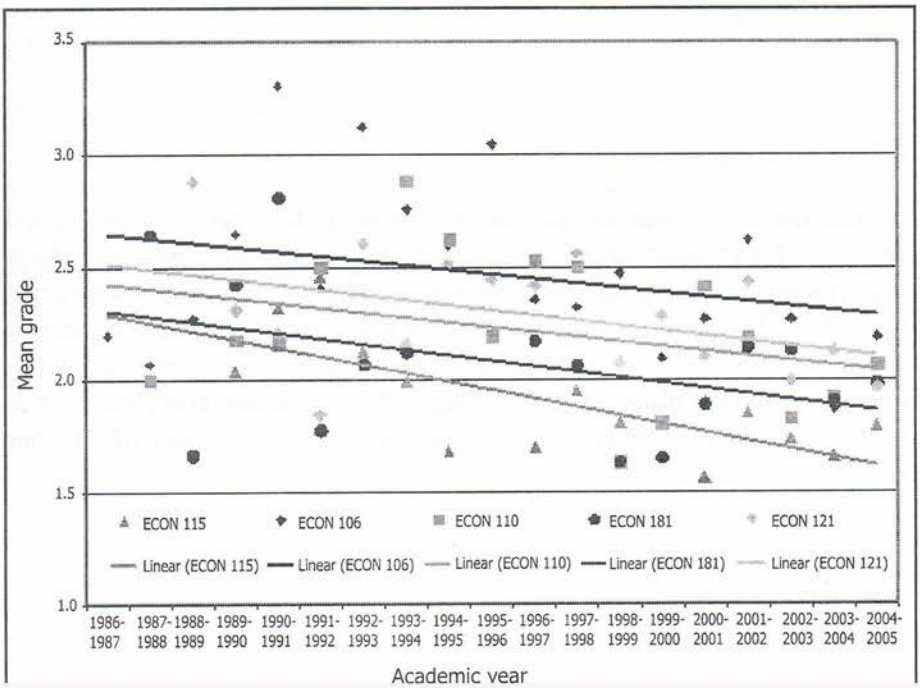
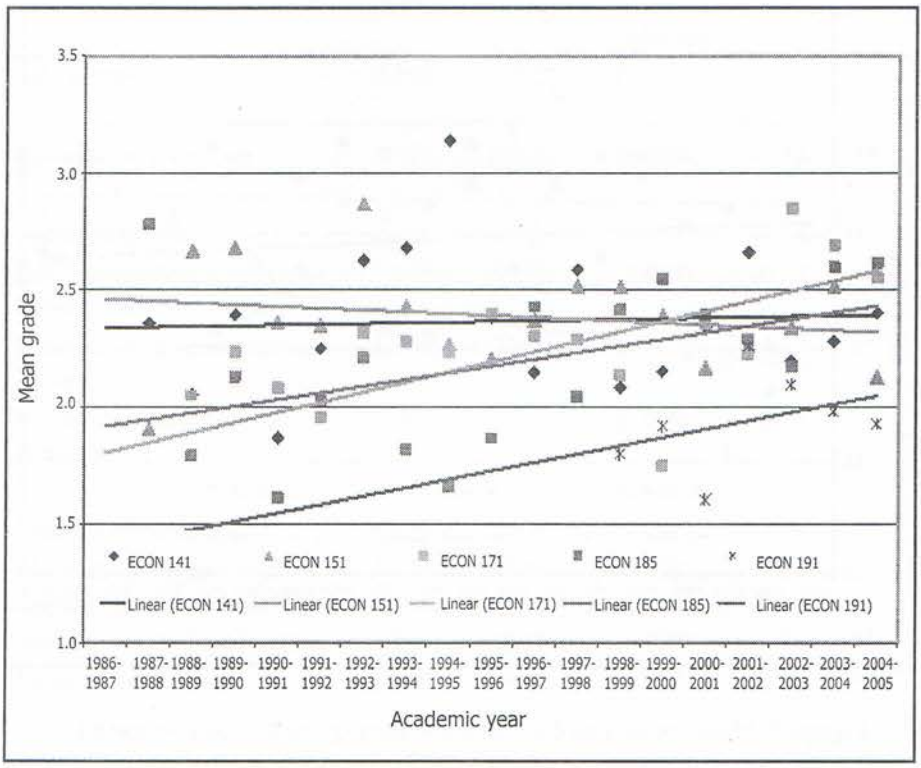


Figure 8. Mean grades and trend lines from specialization courses (b), 1986-2005



6. Conclusions

Ten out of 18 courses at the Department of Economics, UPLB, tested significant for grade inflation. This implies that through time, grades in these courses have been going up. However, the source of this trend is still unknown. To really find out if there has been a rise in grade without changes in student achievement, more data must be gathered on several items like admission requirements, curricular changes, teaching evaluation/faculty complement, and mechanics of grading. Only then can a more definitive conclusion of whether real grade inflation exists or not can be made.

References

Adelman, C. [1995] "A's aren't that easy", *New York Times*, May 17, A19. Cited in Kohn 2002.

Adelman, C. [2004] *Principal indicators of student academic histories in postsecondary education, 1972-2000.* Washington, D.C.: US Department of Education, Institute of Education Sciences. Cited in Kohn 2002.

Cheong, K. [2000] "Grade inflation at the University of Hawaii-Manoa", Department of Economics Working Paper No. 00-2 (January), University of Hawaii-Manoa.

Freeman, D. [1999] "Grade divergence as a market outcome", *Journal of Economic Education* **30** (Fall): 344-351.

Guskey, T. [2003] "An alternative view of grade inflation", *Journal of Excellence in College Teaching and Learning* **1**(1): 89-97.

Juola, A. [1980] "Grade inflation in higher education 1979: is it over?" ED189129. March. Cited in Rosovsky and Hartley 2002.

Kohn, A. [2002] "The dangerous myth of grade inflation", *The Chronicle of Higher Education* **49**(11). http://alfiekohn.org/teaching/gi.htm. Accessed February 2006.

Kuh, G. and S. Hu [1999] Unraveling the complexity of the increase in college grades from the mid-1980s to the mid-1990s. *Educational Evaluation and Policy Analysis* **21** (Fall): 297-320. Cited in Rosovsky and Hartley 2002.

Levine, A. and J. Cureton [1998] *When hope and fear collide: a portrait of today's college student.* San Francisco: Jossey-Bass. Cited in Rosovsky and Hartley 2002.

Pangalangan, Raul C. [2005] "Bar exam reforms: finding meaning in ritual", *Philippine Daily Inquirer*, September 2, A14.

Rosovsky, H. and M. Hartley [2002] *Evaluation and the academy: are we doing the right thing? Grade inflation and letters of recommendation.* Cambridge, MA: The American Academy of Arts and Sciences. http://www.amacad.org/publications/momographs/Evaluation_and_the_Academy.pdf. Accessed February 2006.

Scocca, T. [1998] "The great grade-inflation lie", *The Boston Phoenix*, April 23-30. http://www.bostonphoenix.com/archive/features/98/04/23. Accessed February 2006.