

*BETTER LEARNING FROM BETTER MANAGEMENT:
HOW TO IMPROVE THE PRINCIPLES OF ECONOMICS COURSE[†]*

Does Who Teaches Principles of Economics Matter?

By DAVID N. LABAND AND MICHAEL J. PIETTE*

In our experience and, anecdotally, in the experience of many academic colleagues, transfer students who take micro and macro Principles of Economics from community colleges perform worse in upper-division economics classes than students who take the Principles courses at the four-year institution. We can think of two, not mutually exclusive, reasons why this may be true. First, the average academic aptitude of students who matriculate in a community college prior to enrolling in a four-year school may be lower than that of students who spend their entire college career at a four-year institution. Second, the average quality of instruction (speaking broadly) of the micro and macro Principles courses may be lower in community colleges than in four-year institutions.

By state law many, if not most, of the four-year state colleges and universities in the United States are required to admit transfer students from community colleges in their state, without requiring that they take the Standard Achievement Test (SAT), which is a normal requirement of nontrans-

fer applicants. A minimum grade-point average in one or two semesters' worth of classes at the community-college level is the criterion used to determine whether a would-be transfer student will be admitted by the four-year institution. Thus, a student who performs too poorly on the SAT to warrant admission to a desired four-year college may nonetheless gain admission to that school by enrolling in a community college for a semester or two, earning acceptable grades in his or her course-work, and then transferring the credit for that course-work into the desired school. It is thus possible that relatively low-caliber students, as judged purely by SAT scores, can gain admittance into four-year colleges and universities that would not admit them by virtue of their SAT scores.

However, if the level of rigor and instruction of the Principles courses is identical between community colleges and four-year colleges, there would be no reason to observe differential performance in upper-division economics classes between transfer students and nontransfer students, controlling for how well the students performed in the Principles classes. Yet our casual empiricism suggests that there *is* differential performance, which is all-the-more surprising given the almost-certain self-selection of transfer students from among the nominally high achievers at community colleges. In this paper, we demonstrate that the academic performance of students in post-Principles economics classes is lower among students who took their micro and macro Economic Principles courses at community colleges than among nontransfer students. This may be taken as indirect evidence that

[†]*Discussants:* Ivy Broder, American University; Warren Whatley, University of Michigan.

* Department of Economics, Auburn University, Auburn, AL 36849, and Economic Research Services, 4901 Tower Court, Tallahassee, FL 32303. We are especially indebted to William E. Becker for suggesting this research topic to us, to Maxwell Carraway, Registrar of Florida State University for providing the data used in our analysis, and to John J. Siegfried for helpful comments. The usual caveat applies.

the caliber of instruction of the micro and macro Principles of Economics courses is significantly lower in community colleges than in four-year colleges and universities.

I. Data and Methodology

We analyzed detailed data on undergraduate students at Florida State University in Tallahassee, who matriculated during the period 1981–1993. Complete educational records were available for each student: we could identify those students who took their micro and macro Principles of Economics courses at Florida State University and those who took either or both courses at a community college. Information regarding date of birth, sex, race, and a complete listing of courses taken and grades received was available for all students. Verbal and math SAT scores were reported for all nontransfer students, as well as for a number of transfer students. Sample statistics are reported in Table 1.

Of the 2,003 students for whom we had complete information on all variables of interest, 238 (4.6 percent) were transfer students. Although grade-point averages (GPA's) in the Principles classes were virtually identical for transfer and "native" students, the former had a considerably lower mean GPA in their upper-level economics courses than did the latter. Similarly, native students had higher SAT-Math and SAT-Verbal scores than transfer students. The transfer students in our sample were slightly older, on balance, than nontransfer students upon graduation, more likely to be male, and more likely to be white.

We averaged each student's grades in the micro and macro Principles classes to generate a single measure of performance in those classes. Similarly, we averaged each student's grades in all upper-level economics classes to generate a single measure of performance in those classes. We specifically excluded those students who took fewer than three non-Principles economics classes, to reduce variability in each student's upper-division GPA. In addition, we included only those transfer students for whom we had SAT scores and who took

TABLE 1—SAMPLE STATISTICS

Variables	Mean (SD)	
	Transfer students	Nontransfer students
GPA, Principles of Economics	2.620 (0.684)	2.597 (0.764)
GPA, upper-level courses	2.272 (0.901)	2.566 (0.888)
SAT-Math	460.370 (78.403)	540.711 (82.552)
SAT-Verbal	421.852 (79.124)	481.907 (82.156)
Age at graduation	22.500 (1.657)	21.596 (1.517)
Male	0.778 (0.420)	0.740 (0.439)
White	0.907 (0.293)	0.887 (0.305)
<i>N</i> :	238	1,765

both principles courses at the community-college level. Our empirical model of the determinants of performance in upper-level economics classes was as follows:

$$\begin{aligned}
 (1) \quad & (\text{GPA-UL})_i \\
 & = a_0 + a_1(\text{TRANSFER})_i + a_2(\text{GPA-P})_i \\
 & \quad + a_3(\text{SAT-M})_i + a_4(\text{SAT-V})_i \\
 & \quad + a_5(\text{AGE})_i + a_6(\text{MALE})_i \\
 & \quad + a_7(\text{WHITE})_i + e_i
 \end{aligned}$$

where i indexes students and where

GPA-UL = grade point average in all upper-level economics classes taken, including courses in intermediate micro- and macroeconomics;

TRANSFER = 1 if student took both Principles of Economics courses at a community college, 0 if student took both Principles of Economics courses at Florida State University;

GPA-P = grade-point average in Principles courses (micro- and macroeconomics);

SAT-M = score on the math portion of the SAT;

SAT-V = score on the verbal portion of the SAT;

AGE = age at time of graduation (for those students who had not graduated, it is age at time of last economics course taken);

MALE = 1 if student was identified as a male, 0 if student was identified as a female;

WHITE = 1 if student *i* was identified as Caucasian, 0 otherwise;

e = the error term, assumed to be distributed normally.

Conditioned on the students' performance in the micro and macro Principles courses, there would be no compelling reason to believe that transfer students would perform either better or worse than non-transfer students in the upper-level economics courses, assuming that the caliber of instruction does not differ significantly between the two institutional settings. We define caliber of instruction in the broadest possible sense, to include breadth and depth of content coverage, performance expectations by instructors, rigor and consistency of evaluative instruments, etc. If, however, transfer students with nominally identical performance in the Principles courses to that of other four-year students, demonstrate significantly worse performance in the upper-level economics courses, one could not rule out the possibility that the caliber of instruction of the Principles courses differs across the two institutional settings.

We expected a student's performance in the two Principles of Economics courses to be a positive indicator of performance in upper-level economics courses.¹ That is, students with a demonstrated facility with economics, as revealed by outstanding performance in the Principles classes, should, by and large, be high performers in the upper-level economics courses. The oppo-

¹This is a specific application of the more general argument made by Archie G. Phlegar et al. (1981), Julie A. Hughes and Steven W. Graham, (1992), and Barbara K. Townsend et al. (1993).

TABLE 2—OLS REGRESSION COEFFICIENTS AND *t* VALUES, DEPENDENT VARIABLE = GPA IN UPPER-LEVEL ECONOMICS COURSES

Explanatory variable	Coefficient	<i>t</i> statistic
Intercept	0.8286	2.386*
TRANSFER	-0.1973	-1.917*
GPA-P	0.6048	20.723**
SAT-M	0.0001	0.511
SAT-V	0.0000	0.141
AGE	0.0013	0.096
MALE	-0.1213	-2.455**
WHITE	0.1513	2.215*
Adjusted <i>R</i> ² :	0.2888	
Regression <i>F</i> value:	75.5272**	
<i>N</i> :	1,286	

*Statistically significant at the 5-percent level.

**Statistically significant at the 1-percent level.

site should be true for students who fared poorly in the Principles classes. By the same reasoning, students with demonstrated general ability, as revealed by high marks on the SAT, should also do well in the upper-level economics classes; those with low marks on the SAT should perform poorly.

We expected older students to be more serious about their studies than younger students. Thus, we expected the former to outperform the latter, on the margin. We had no prior expectations about the nature of the relationships between gender and performance in upper-level economics courses or between race and performance in upper-level economics courses, *ceteris paribus*.

II. Results

Ordinary least squares (OLS) regression estimation of equation (1) yielded the results reported in Table 2. As expected, how well a student performs in micro and macro Principles courses exerts a large, positive, and statistically significant impact on performance in the upper-level economics courses. Counter to our expectations, a student's performance on the verbal and math SAT's does not demonstrate significant explanatory power vis-à-vis subsequent performance in the upper-level economics

courses.² Table 2 also shows that the age of the student at graduation did not influence performance in the upper-level economics courses. Male students performed worse than female students in the upper-level economics courses, and white students performed better than nonwhite students.

The coefficient estimate on the TRANSFER dummy variable is sizable, negative, and statistically significant at the 5-percent level. This evidence suggests that, in fact, there may be a difference between community colleges and four-year colleges and universities with respect to the caliber of instruction of micro and macro Principles of Economics courses.

III. Concluding Comments

If there is indeed a quality-of-instruction difference between community colleges and four-year colleges and universities, students would be well-advised to adjust accordingly in their decision to attend one type of educational institution or the other. In addition, the registrars of four-year colleges and

²However, in unreported regression analyses, we observed a significantly positive relationship between SAT-Math scores and performance in intermediate micro and macroeconomic theory courses, and a marginally significant, negative relationship between SAT-Verbal scores and performance in the intermediate theory courses.

universities might want to reconsider the policy of accepting transfer credit from community colleges. Obviously, these are significant implications that should not be acted upon unless and until our findings are substantiated by subsequent researchers. However, our findings suggest at least two courses of future research: (i) studies that attempt to verify our findings for economics courses, using data from different colleges and universities and (ii) studies that attempt to verify our findings for other academic subjects.

REFERENCES

- Hughes, Julie A. and Graham, Steven W. "Academic Performance and Background Characteristics Among Community College Transfer Students." *Community/Junior College Quarterly*, January-March 1992, 16(1), pp. 35-46.
- Phlegar, Archie G.; Andrew, Loyd D. and McLaughlin, Gerald W. "Explaining the Academic Performance of Community College Students Who Transfer to a Senior Institution." *Research in Higher Education*, 1981, 15(2), pp. 99-107.
- Townsend, Barbara K.; McNerny, Nancy and Arnold, Allen. "Will This Community College Transfer Student Succeed? Factors Affecting Transfer Student Performance." *Community College Journal of Research and Practice*, September/October 1993, 17(5), pp. 433-43.