THE SOCIAL ISSUES PEDAGOGY vs. THE TRADITIONAL PRINCIPLES OF ECONOMICS: AN EMPIRICAL EXAMINATION

"What is the best way to teach introductory economics?" Academic economists have debated this question for at least fifty years (American Economic Association, 1950). Invariably the discussion revolves around the traditional Principles of Economics course sequence taught to Freshman and Sophomores by a majority of American colleges and universities. More than one million students enroll in the Principles of Economics every year (Siegfried, et. al., 1991) and several Principles of Economics textbooks have sold millions of copies through numerous editions published over several decades. Given their large audience and their long-term publishing success, it would seem reasonable to assume that academic economists must know what to teach and how to effectively deliver their ideas. However, even after years of professional discourse, the Principles of Economics debate continues (see the Spring 1988 edition of the Journal of Economic Education).

Today, much of the debate involves questions of course content (e.g., AD/AS vs. the Keynesian Cross, the validity of the "kinked"demand curve, etc.) and instructional technique (e.g. experiments, computer assisted instruction, etc.). Unfortunately, the issue of course structure has been relegated to the minor controversy of how to sequence the traditional Principles material. "Which should be taught first, the Principles of Macroeconomics or the Principles of Microeconomics?" Even though a consensus has not yet formed on the answer to this question, the basic course structure is firmly established as more than three quarters of all introductory economics students experience the traditional two course Principles of Economics sequence (Siegfried and Bidani, 1992). However, other successful models of introductory instruction in economics do exist which warrant the attention of economic educators.

This study examines the relative effectiveness of a variant to the traditional Principles of Economics sequence -- the Social Issues pedagogy. The roots of the Social Issues approach can be traced back to the work conducted by Richard Leftwich and Ansel Sharp during the early 1970's at Oklahoma State University. Many economic educators at the time were concerned that the traditional Principles courses over-emphasized abstract theory, thereby inhibiting economic understanding and discouraging students from studying economics. Leftwich and Sharp developed the Social Issues approach with the belief that "students learn more when the subject matter is interesting and relevant and when what they are supposed to learn is repeated by means of a learning process involving contemporary social issues" (Leftwich and Sharp, 1974b). They sought to encourage the pursuit of

economics by engaging students in issues relevant to their lives. Leftwich and Sharp described their pedagogy in the following manner:

> "In each issue certain elementary economic principles and concepts basic to the analysis of that issue are introduced, explained and applied. The issues themselves are organized so as to facilitate a systematic development of principles and concepts. Issues are selected which are thought to be interesting and stimulating, and to lend themselves to learning economics. Each issue is approached as follows: (1) the nature of the problem is presented generally from the viewpoint of the public; (2) the economic aspects of the problem are introduced, showing how economists conceive the problem; (3) basic economic concepts and principles are developed; (4) basic economic tools are applied to the issue and policy proposals suggested from the economic analysis are made." (Leftwich and Sharp, 1974b).

The Department of Economics at Oklahoma State built a new course around this framework that replaced their first course in the Principles sequence. It was followed by a second course, Introduction to Economic Analysis, which covered elementary economic theory (both macro and micro).

In 1974 Leftwich and Sharp introduced a textbook for use in teaching the Social Issues course (Leftwich and Sharp, 1974a). Several universities and colleges followed the Oklahoma State model and many others used the Leftwich and Sharp text under a variety of introductory course structures and formats. The textbook became an academic best seller and today its twelfth edition (Sharp, Register, and Grimes, 1996) is used in more than one hundred institutions of higher learning. A number of other texts have been written during the past twenty years to service the Social Issues market, but most can be viewed as direct descendants of the Leftwich and Sharp original (e.g. Edgmand, Moomaw and Olson, 1991).

Leftwich and Sharp evaluated the effectiveness of their original Social Issues course, as well as the Social Issues - Introduction to Economic Analysis sequence, by comparing their students' Test of Understanding College Economics (TUCE) scores to national norms obtained from traditional Principles of Economics students (Sharp, Leftwich, and Bumpass, 1975). Their results suggested there was a modest cost to substituting the Social Issues course for a one semester theory course in terms of student understanding. For students who only completed the Social Issues course, scores on the post-course TUCE averaged eleven percent

below the national norms. However, when comparing students who completed the Social Issues - Introduction to Economic Analysis sequence to the national norms, both the absolute and relative gain were higher for the Oklahoma State students.

Even though Leftwich and Sharp's empirical findings indicated that Social Issues was most effective when sequenced with an elementary theory course, today most adherents of the Social Issues approach use it in a one semester "stand alone" service course for non-majors. This paper will test the relative effectiveness of such an introductory course. Do students who only take an introduction to basic economics learn as much in a Social Issues course as they would in a traditional Principles course? No one has addressed this question since the original study by Leftwich and Sharp twenty years ago.

THE SETTING AND ANALYSIS DESIGN

This study was conducted at Northeast Louisiana University (NLU). NLU is a regional state institution primarily serving Louisiana residents. However, NLU has a significant out-of-state student population and enrolls international students from some 51 nations. Current total enrollment is approximately 11,500. Economics is taught in the College of Business Administration (CBA) which is fully accredited by the American Assembly of Collegiate Schools of Business (AACSB). The economics faculty at NLU offers a one-semester Freshmen-level Economics of Social Issues course as well as the traditional two-semester Principles of Economics course sequence at the Sophomore-level. At the time of this study, Economics of Social Issues was required for several CBA majors. Additionally, many non-business majors take it as an elective. The first Principles course (Principles of Macroeconomics) is required for all CBA majors as well as several majors outside the CBA. The second Principles course (Principles of Microeconomics) is also required of CBA majors as well as a small number of non-business majors.

A total of 7 regular class sections participated in this study -- two sections of the Economics of Social Issues, three sections of Principles of Macroeconomics, and two sections of Principles of Microeconomics. All sections of each course were taught by the same instructor but there were different instructors for each course. All courses were taught during the Spring 1995 academic semester. The assigned textbook for the Social Issues course was the 11th edition of Economics of Social Issues (Sharp, Register, and Leftwich, 1994). Students in the Principles courses were assigned standard encyclopedic texts (For macro, (McEachern, 1994) and for micro, (Hyman, 1994)).

At the beginning of the semester, instructors informed their class that they were participating in a study of student learning. Each student signed a release form and completed a demographic survey (see Appendix) and the Attitude Toward Economics instrument (Soper and Walstad, 1983). All students were also pre- and post-course tested with the Third Edition TUCE (Saunders, 1991). The Principles of Macroeconomics classes and one section of the Economics of Social Issues course were administered the "Macro" version of the TUCE. The Principles of Microeconomics classes and the remaining Social Issues section were administered the "Micro" version of the TUCE. Included in Table 1 is a list of the variables and their specifications as collected and recorded from the students in our sample. Table 2 provides the mean and standard deviation for each variable by course.

---------- Insert Tables 1 and 2 About Here ----------

The Social Issues course includes both macroeconomic and microeconomic topics. Given time constraints, it was not possible to pre- and post-test the Social Issues students with both forms of the TUCE. (Also, a macro-micro combined form of the Third Edition TUCE does not exist.) Thus, one section of the Social Issues course was compared to the Principles of Macroeconomics classes and one section was compared to the Principles of Microeconomics classes. This design allows for evaluation of the relative effectiveness of the Social Issues course concept across both courses in the normal Principles sequence.

EMPIRICAL MODEL AND RESULTS

The relative effectiveness of the Social Issues course on student understanding of introductory economics was tested using a variant of the standard educational production function (Becker and Walstad, 1987). The original sample contained 239 students spread across the seven course sections described above. Only 157 students completed the semester due to changes in student schedules, course drops, and university withdrawals. It has been shown that such attrition is a form of self-selection that can significantly bias an OLS estimation of an educational production function (Becker and Walstad, 1990). To control for this problem, the educational production function was estimated using the Heckman (1979) two-step procedure to correct for self-selection.

The Heckman procedure involves the creation of a "correction variable" (the inverse of Mill's Ratio) generated from a probit equation which estimates the probability of remaining in the

sample. In our case, we observed the students' binary-choice as they either remained in the sample through course completion or dropped out through course withdrawl. A set of independent variables hypothesized to influence the course withdrawl decision was chosen and the following probit equation was estimated separately for the macro and micro groups of students:

COMPLETION = a + k1GENDER + k2BLACK + k3AGE + k4NON-BUSINESS + k5HOURS + k6ACT + k7GPA + k8EXPECTED GRADE + k9SOCIAL GROUP + k10PRE ATE + k11ISSUES + n [1]

The results for equation [1] are reported in Table 3. The estimations generally conform to a priori expectations and the findings of previous researchers (Grimes and Niss, 1991). The results suggest that black students, non-business students, and students who belong to a social fraternity or sorority were less likely to complete their semester of introductory economics, as were those with less favorable attitudes toward the subject and those with relatively high grade expectations.

---------- Insert Table 3 About Here ----------

GPA and ISSUES were the two variables found to have the strongest effect on course completion. Students in both groups with higher cumulative GPA's and those enrolled in the Social Issues course were found to have a statistically significant greater probability of completing the semester. This latter finding is important given that one of Leftwich and Sharp's original primary goals for the Social Issues approach was to encourage the study of economics. Our results suggests that the Social Issues approach does keep more students in the classroom studying economics relative to a traditional principles course.

The estimated equations in Table 3 were used to calculate Heckman's self-selection correction variable, LAMBDA. LAMBDA was then included in the following educational production function to estimate the relative effect of the Social Issues course on student understanding of introductory economics:

POST TUCE = a + b1GENDER + b2BLACK + b3AGE + b4NON-BUSINESS + b5HOURS + b6HIGH SCHOOL + b7COMPUTER + b8ACT + b9GPA + b10ALCOHOL +
b11PRE TUCE + b12ISSUES + LAMBDA + n [2]

Equation [2] was estimated twice, once for the macro group and once for the micro group. As specified, the model controls for the

major and relevant demographic characteristics, prior experiences, and academic endowments and aptitudes of the students in the sample. The model's specification is firmly rooted in the tradition of the accepted empirical economic education literature (Becker and Walstad, 1987). Based on the literature, the expected sign for each independent control variable is noted in Table 4. The experimental variable, ISSUES, enters the model with a dichotomous specification equal to one if the student was enrolled in the Social Issues course.

---------- Insert Table 4 About Here ----------

Acceptable adjusted R2's were found for both estimates of equation [2] and for each estimate most of the control variable coefficients obtain their expected sign. The GENDER coefficient is negative and statistically significant for both the macro and micro groups of students but BLACK is found to be negative and significant for only the macro group. A student's age and college major were not found to be important determinants of post course economic understanding; however, students with more HOURS of college work were found to score higher on the macro POST TUCE. The results further reveal that student consumption of alcohol significantly decreased POST TUCE scores, ceteris paribus, for the micro group. Also, as expected, a positive relationship between a student's composite ACT score and performance on the POST TUCE was found for both the macro and micro groups. Finally, a significant coefficient was estimated for LAMBDA in the macro equation indicating that self-selection had occurred in the attrition of students over the semester.

Examination of the ISSUES coefficient reveals that it is negative for both the macro and micro groups. However, it is only statistically significant for the micro sample. Thus, our model indicates that students in the Social Issues course did not score significantly different on the macro POST TUCE relative to the students in the Principles of Macroeconomics course, ceteris paribus. For our sample, the Social Issues approach provided students with an understanding of introductory macroeconomics, as measured by the TUCE, equivalent to that obtained in a traditional Principles course. The same is not true for the micro group. The results indicate that Social Issues students scored significantly below the Principles students on the micro version of the TUCE, ceteris paribus. Apparently, the Social Issues course is not a perfect substitute for Principles of Microeconomics.

A quick review of the Economics of Social Issues text and the macro and micro versions of the TUCE suggests that such a result

is not surprising. The Social Issues approach does not include the extensive development of the microeconomic tools common to most Principles of Economics textbooks (e.g. cost curves). The Social Issues approach teaches only the essential economic concepts and tools necessary to adequately understand the issues studied. Further, the TUCE was designed for evaluation of traditional Principles courses and is thus by its very nature inherently biased to include those concepts more commonly taught in a Principles classroom. This is important to recall when evaluating our results for the macro group. Noting that the TUCE is designed for the traditional Principles course strengthens our finding that no difference in macro scores was found between the courses.

CONCLUSIONS

This paper has presented the first empirical study of the relative effectiveness of the Social Issues approach to teaching introductory economics in over twenty years. Standardized test scores for students enrolled in a Social Issues course were compared to those of students in traditional Principles of Economics courses within the framework of a standard educational production function. The production function was estimated using Heckman's two-step procedure to correct for self-selection due to student attrition over the course of study. After controlling for student demographics, prior experiences, and academic aptitude, no significant differences were found between students in the Social Issues course and those in the Principles of Macroeconomics. However, Social Issues students were found to score significantly below students in the Principles of Microeconomics, ceteris paribus.

Our results are encouraging for those instructors and institutions pursuing the Social Issues approach to introductory economics. The Social Issues course may be a close substitute in terms of student learning for the traditional Principles of Macroeconomics course. Programs that require introductory macroeconomics may wish to consider the Social Issues as a viable alternative to a theory oriented Principles course. Further, our findings also suggest that there is significantly less attrition in the Social Issues course than in the traditional Principles sequence. This is a very important conclusion in light of the pressures for credit hour generation and the problems of falling enrollments experienced by many programs today.

Additional work is needed to evaluate the most beneficial way to utilize the Social Issues approach. This study should be viewed

within the context of its experimental design and the institutional arrangements in which it was conducted. Replication in other contexts is needed to support the results presented here.

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Table 1

Definition of Variables

Variable	Specification
GENDER	Female student = 1; Male student = 0
BLACK	Student is black = 1; Otherwise = 0
AGE	Age of student in years
NON-BUSINESS	Student is not a business major = 1; Otherwise = 0
HOURS	Semester credit hours completed prior to course enrollment
HIGH SCHOOL	Student completed high school economics course = 1; Otherwise = 0
COMPUTER	Student completed computer course prior to enrollment = 1; Otherwise = 0
ACT	Student's composite score on the American College Test
GPA	Student's cumulative grade point average prior to course enrollment; standard 4-point

	scale running from A = 4.0 to F = 0.0
EXPECTED GRADE	Student's pre-course grade expectation; standard 4-point scale running from A = 4.0 to F = 0.0
SOCIAL GROUP	Student is a member of social fraternity or sorority = 1; Otherwise = 0
ALCOHOL	Average number of alcoholic drinks consumed by student each week
PRE ATE	Student's pre-course score on the Attitude Toward Economics survey instrument
PRE TUCE	Student's pre-course score on the Test of Understanding College Economics
POST TUCE	Student's post-course score on the Test of Understanding College Economics
ISSUES	Student enrolled in the Social Issues Course = 1; Otherwise = 0
COMPLETION	Student completed course and received a letter grade = 1; Otherwise = 0
LAMBDA	Heckman's self-selection correction term (Inverse of Mill's Ratio)

Table 2

Mean and Standard Deviation of Variables by Student Group

Variable	Micro Principles	Micro Issues	Macro Principles	Macro Issues
GENDER	0.364	0.538	0.455	0.667
	(0.485)	(0.505)	(0.500)	(0.479)
BLACK	0.145	0.359	0.143	0.303
	(0.356)	(0.486)	(0.352)	(0.467)
AGE	21.255	20.154	22.009	19.818
	(4.368)	(4.721)	(4.659)	(2.378)
NON-BUSINESS	0.218	0.154	0.643	0.182
	(0.417)	(0.366)	(0.481)	(0.392)
HOURS	54.891	17.231	45.25	31.970
	(27.451)	(11.579)	(24.82)	(31.434)
HIGH SCHOOL	0.418	0.538	0.393	0.485
	(0.498)	(0.505)	(0.491)	(0.508)
COMPUTER	0.891	0.769	0.839	0.848
	(0.315)	(0.427)	(0.369)	(0.364)

ACT	20.683	18.782	21.327	19.970
	(2.956)	(3.286)	(3.478)	(3.534)
GPA	2.698	2.449	2.715	2.579
	(0.609)	(0.552)	(0.562)	(0.618)
EXPECTED GRADE	3.327	3.231	3.348	3.364
	(0.610)	(0.742)	(0.611)	(0.653)
SOCIAL GROUP	0.164	0.051	0.188	0.061
	(0.373)	(0.223)	(0.392)	(0.242)
ALCOHOL	5.291	4.077	3.482	3.818
	(8.069)	(9.413)	(5.817)	(10.540)
PRE ATE	3.327	1.077	0.929	3.364
	(9.401)	(6.221)	(6.337)	(7.035)
PRE TUCE	9.055	7.308	9.393	8.424
	(2.483)	(2.687)	(2.997)	(2.773)
POST TUCE	12.243	8.849	11.967	10.478
	(4.245)	(2.895)	(4.525)	(4.033)
N	55	39	112	33

Table 3

Probability of Course Completion: Probit Results

Variable	Macro	Micro
CONSTANT	-0.504 (0.393)	-1.933 (0.935)
GENDER	0.240 (0.980)	0.400 (1.039)
BLACK	-0.232 (0.716)	-0.621* (1.280)
AGE	0.033 (0.989)	0.557 (1.048)
NON-BUSINESS	-0.292 (1.207)	-0.504* (1.280)
HOURS	-0.001 (0.185)	0.002 (0.028)
ACT	-0.004 (0.105)	-0.635 (0.015)
GPA	0.548*** (2.489)	0.575** (1.987)
EXPECTED GRADE	-0.404** (1.852)	0.003 (0.013)
SOCIAL GROUP	0.100 (0.318)	-0.723** (1.655)
PRE ATE	-0.037** (1.940)	-0.001 (0.067)
ISSUES	0.544** (1.741)	0.898** (1.972)

Pseudo R2	0.690	0.786
Chi-Square	19.054	18.307

Notes: Absolute Value of t-statistics in ( ).

*Statistically significant at the .10 Level, one-tail test.
**Statistically significant at the .05 level, one-tail test.
***Statistically significant at the .01 level, one-tail test.

Table 4

Determinants of Student Understanding: Regression Results

Variable	Macro	Micro
CONSTANT	0.893 (0.160)	12.816** (1.876)
GENDER [-]	-1.396* (1.450)	-2.405*** (2.393)
BLACK [-]	-1.855* (1.484)	0.325 (0.236)
AGE [+]	0.063 (0.603)	-0.032 (0.033)
NON-BUSINESS [-]	-0.881 (0.890)	-0.069 (0.045)
HOURS [+]	0.040*** (2.318)	0.001 (0.078)
HIGH SCHOOL [+]	-0.802 (1.164)	-0.994 (1.253)
COMPUTER [+]	-0.102 (0.109)	-1.679 (1.577)
ACT [+]	0.293** (2.151)	0.299** (2.079)
GPA [+]	0.796 (0.874)	-0.917 (0.864)
ALCOHOL [-]	0.083 (1.178)	-0.098** (1.941)

PRE TUCE [+]	0.410***	-0.026
	(3.420)	(0.180)
ISSUES [?]	-0.465	-3.082**
	(0.407)	(1.769)
LAMBDA	-3.577**	-0.214
	(1.389)	(0.057)
Adjusted R2	0.481	0.186
N	83	74

Notes: Expected Sign in [ ].
Absolute Value of t-statistics in ( ).

*Statistically significant at the .10 Level, one-tail test.
**Statistically significant at the .05 level, one-tail test.
***Statistically significant at the .01 level, one-tail test.