

**Attracting “Otherwise Bright” Women to Economics:
An Administrative Strategy for Small to Medium Size Economics Departments**

by

Norman R. Cloutier
Professor of Economics
University of Wisconsin-Parkside
Kenosha, WI
Tel.: 262-595-2572
Fax 262-595-2120
E-mail cloutier@uwp.edu

Dennis A. Kaufman
Associate Professor of Economics
University of Wisconsin-Parkside
Kenosha, WI
Tel.: 262-595-2192
Fax: 262-595-2120
E-mail kaufman@uwp.edu

The authors gratefully acknowledge comments on earlier drafts by Farida Khan and Marcelo Milan, and the assistance of William Blanchard, Director of Institutional Research, University of Wisconsin-Parkside.

Abstract

Attracting “Otherwise Bright” Women to Economics: An Administrative Strategy for Small to Medium Size Economics Departments

This paper reports on the impact of a departmental policy that allows high achieving students in the introductory economics survey course for non-majors to waive the macroeconomic principles requirement for an economics degree. A detailed analysis of 602 student transcripts over a period of 33 years suggests that the waiver policy has not disadvantaged students in subsequent upper-level economics courses. The policy has benefited the department by attracting high achieving students, particularly women, who otherwise may not have been attracted to the discipline. This purely administrative approach to attract more students to the discipline is relatively low cost and has the added benefit of addressing the unfortunate trend of economics graduates to under-represent the share of women among all students receiving bachelor's degrees.

Attracting “Otherwise Bright” Women to Economics

In her presentation to the American Economic Association, Bartlett (1995) offered suggestions to attract “otherwise bright students” to introductory economics courses. She addressed both a concern over the decline in undergraduate economics majors at the time (Siegfried and Scott, 1994) and a more general perception that the content and climate of introductory level economics courses may discourage bright undeclared students, particularly women, from taking their first economics course. More recently, Siegfried (2007) reported that the number of economics degrees, though declining slightly in 2006, increased steadily from 1997 through 2005. The statistics for economics degrees offered to women, however, were not as encouraging. The number of undergraduate economics degrees awarded to women declined steadily between 2001 and 2006. Over the longer period 1991-2006, the share of economics degrees awarded to women increased but at approximately half the rate as the share of women among all college graduates. Thus, economics has been falling behind other disciplines in attracting women to the discipline.

Building on the work of earlier critiques of introductory economics (e.g. Saunders and Walstad, 1990), Bartlett (1995) primarily focused on attracting more students to introductory economics by changing the content and climate of the course itself. More recently, Becker, Becker, and Watts (2006), and Hansen, Salemi, and Siegfried (2002) have offered excellent pedagogical recommendations for the economics classroom. Improving economics pedagogy is unquestionably a desirable goal, yet in addition there is the potential for economics departments to adopt administrative strategies that can increase enrollments in principles courses and thereby supplement classroom efforts to cultivate interest in economics. This paper reports on a

departmental policy designed to attract more students to the economics program by targeting “otherwise bright students” enrolled in an introductory economics survey course, which is intended for students *not* majoring in economics or business. Rather than making wholesale changes to the introductory course itself, the department has adopted a subtle but significant change in how the course counts toward a student’s degree if that student subsequently decides to major or minor in economics. In short, the policy allows high-performing students in the introductory survey course for non-majors to substitute that course for the macroeconomic principles requirement in the economics degree. By doing so, the department has been able to target a segment of the university student body that originally was not inclined to seek an economics degree and identify the students with apparent aptitude for economics. By offering high-performing survey students a waiver of the macro principles requirement, the department has lowered the marginal cost of pursuing an economics degree for those students and consequently attracted more “otherwise bright students” to the discipline. The analysis of institutional data over a 33-year-period suggests that not only has the policy attracted high-performing students, but it has also substantially increased the number of women in the economics program. In fact, the department’s recent improvement in gender balance can largely be attributed to women entering the economics discipline through the survey course for non-majors. Furthermore, a detailed examination of student transcripts strongly suggests that students who have taken advantage of the waiver policy have not been disadvantaged in subsequent upper-level economics courses. On the contrary, the performance of waived students closely matches that of students who have taken the traditional micro-macro principles sequence. This policy has provided the department with a low cost mechanism to attract into the

economics program students, particularly women, who are intelligent and possess a more diverse or liberal arts perspective.

Institutional Background

Founded in 1968, the University of Wisconsin-Parkside is one of thirteen comprehensive universities within the University of Wisconsin System and is located in southeast Wisconsin. The total enrollment of UW-Parkside is approximately 5,000 and the student body is the most racially and economically diverse in the UW-System, with the majority of incoming freshmen being first-generation college students. The Department of Economics is comprised of four tenure track faculty, one full-time lecturer, and one associate lecturer (adjunct instructor) and is located within the College of Arts and Sciences. The department has a large service responsibility to the School of Business and Technology, primarily through its principles of microeconomics and principles of macroeconomics courses. The yearly number of economics degrees varies considerably, but over the past 10 years the department has averaged approximately nine degrees (majors and minors) per year.¹

Attracting High-Performing Non-Economics/Business Students

Like most economics departments across the country, UW-Parkside offers three introductory level economics courses: a microeconomics – macroeconomics sequence, which is required in the economics and business programs; and a survey course designed for students *not* majoring in economics or business. The survey course is required for students seeking teacher education

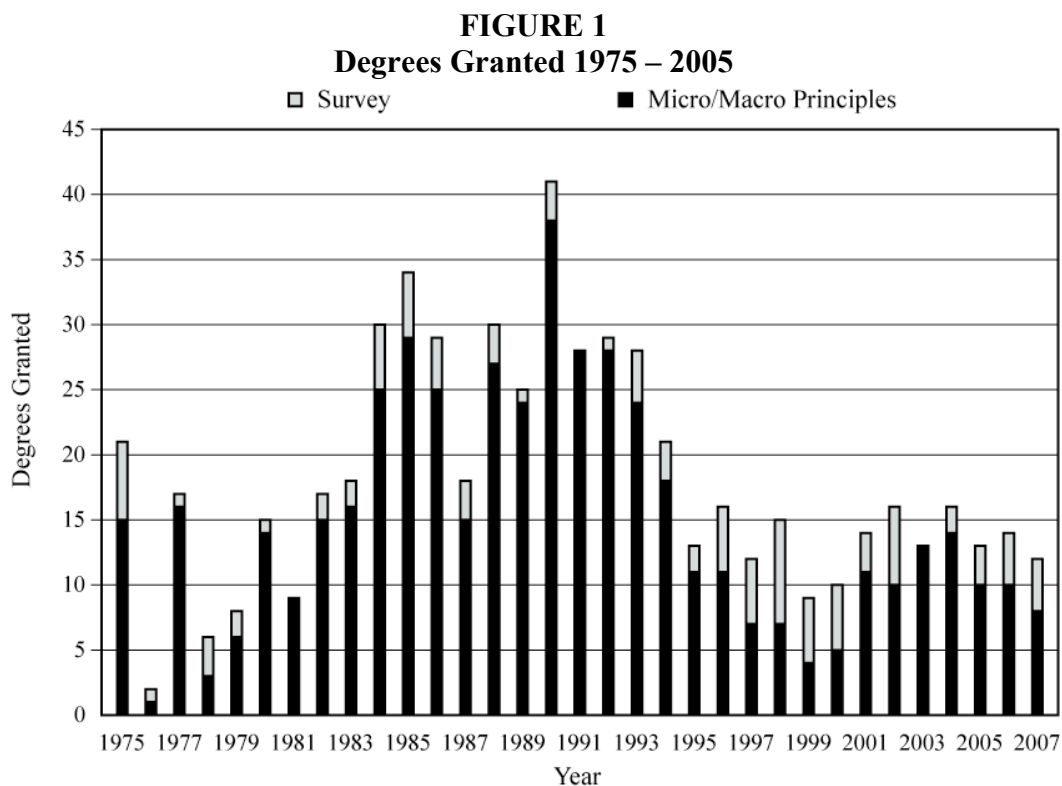
certification and it can be taken as partial fulfillment of general education requirements. In a typical semester, the department offers three sections of the survey course with total enrollment of approximately 100 students. Given the exclusivity of the survey course, virtually all students enroll in the course with no intention of taking another economics course. From its inception, the department made an administrative decision to waive the macroeconomic principles requirement for students who had performed well in the survey course but then subsequently decided to major or minor in economics. At the same time, the department directed instructors of the survey course to place particular emphasis on macroeconomic topics.

Until 1991, the department did not publicize the waiver policy and invoked it only when high-performing survey students initiated conversations with instructors about majoring or minoring in economics². In 1991, recognizing that students in the survey course represented a largely underutilized source of potential economics students, the department launched an aggressive marketing effort in the survey course. This involves a formal announcement at the beginning and end of the course that survey students achieving a grade of B or higher could petition the department to have the macroeconomic principles requirement waived should they decide to major or minor in economics. At the end of the semester, a formal letter is sent from the department Chair to high-performing survey students congratulating them on their performance, highlighting the practical advantages of the economics discipline, reminding them that the marginal cost of pursuing an economics degree would be lowered for them, and encouraging them to consider an economics degree.³ Since the beginning of this effort, an average of 30 letters have been sent out at the end of each semester to targeted students.

The Trend in Economics Degrees

One of the difficulties in conducting empirical institutional research in a small university is sample size. The analysis in this paper, while not unaffected by sample size issues, has the advantage of examining a departmental policy that has been in place for more than 30 years. Over that span, sufficient information has been collected from student transcripts to determine the efficacy of the departmental policy and to offer suggestions to other small economics departments that are contending with enrollment and student diversity issues.

Figure 1 shows the number of economics degrees conferred by UW-Parkside between 1975 and 2007, delineated by the number of students who initiated their economics studies with the introductory survey course.



Over the 33-year period, a total of 602 economics degrees were conferred. The trend in UW-Parkside economics degrees generally conforms to the national trend, that is, an increasing number of degrees through the 1980s, peaking in the early-1990s, and then declining throughout most of the 1990s, with a slight but noticeable improvement in the 2000s (Siegfried and Scott, 1994; Siegfried, 2007). Available evidence suggests that the department's more aggressive marketing of the waiver may have had a positive impact on the number of survey students choosing the economics degree. In the twenty-year period between 1975 and 1994, 53 students came to the economics program through the survey course, or 12.4% of all economics degrees conferred during that period. In the thirteen year period beginning in 1995, or four years after the department began its aggressive marketing, 52 students, or 30.1% of all economics degrees were awarded to students who initiated their economics studies with the survey course. While the evidence for the success of the waiver policy as an enrollment strategy is compelling, the question that arises is whether the students obtaining the waiver and bypassing the principles of macroeconomics course were adequately prepared for upper level macroeconomic courses.

The Performance of Waived Students

In this section we utilize detailed information obtained from the transcripts of all 602 students awarded an economics degree during the 1975-2007 period. Students were segmented into three groups: Group 1 is comprised of students who completed the traditional micro-macro principles sequence; Group 2 contains students who first completed the survey course and then were granted a waiver for the macro principles course; and Group 3 is comprised of students who completed the survey course, did not petition the department for a waiver, but instead went on to

take the macro principles course. Of the 105 students who came to the economics program through the survey course, 51 availed themselves of the waiver opportunity. The remaining 54 survey students were either not high-performing, and therefore were not eligible for a waiver, or they voluntarily enrolled in macro principles. Of particular interest is whether the academic performance of the waiver students in subsequent economics courses was adversely impacted by the lack of higher-level foundations that would have been learned in macro principles.

Table 1 (next page) contains a comparison of the three groups, by gender, across the following variables: mean grade earned in macro and micro principles, intermediate macro theory, money and banking, the mean GPA in all economics courses, and overall GPA.⁴ Two levels of comparison were made. First, comparisons within gender were made for students entering the economics discipline through the survey course (Groups 2 and 3) against mean values for students taking the traditional micro-macro sequence (Group 1). For example, the mean intermediate macro theory grade for women who received the macro waiver (Group 2) was compared against the mean intermediate macro theory grade for women in the traditional micro-macro sequence (Group 1.) Second, gender comparisons were made within groups. For example, within Group 2, the mean intermediate macro theory grade for men and women were compared. For simplicity of notation, only a one-tail $\alpha = 0.10$ level of significance was used for comparisons across groups (a) and within groups (b).

A few gender differences are evident in Table 1. In Group 3, women entering the economics program through the survey course—but *not* receiving the macro principles waiver—had a

significantly higher mean grade than men in the survey course. For students in Group 3, a relatively low survey grade is to be expected because the waiver policy is made available only to

TABLE 1
Economics Student Performance: Mean GPAs, 1975-2007*

	Group 1 Traditional Micro-Macro		Group 2 Survey, Macro Waiver		Group 3 Survey, No Macro Waiver	
	M	W	M	W	M	W
<i>Survey</i>			3.39 0.68 n=31	3.53 0.66 n=20	2.82 0.68 n=40	3.43 ^b 0.74 n=14
<i>Macro Principles</i>	3.19 0.72 n=283	3.23 0.75 n=126			3.25 0.63 n=36	3.38 0.68 n=14
<i>Micro Principles</i>	3.07 0.75 n=288	3.12 0.81 n=124	3.06 0.79 n=31	3.25 0.71 n=20	3.14 0.73 n=38	3.21 0.62 n=14
<i>Intermediate Macro</i>	2.97 0.87 n=289	2.94 0.97 n=116	2.76 0.81 n=29	2.98 0.84 n=17	3.00 0.82 n=34	3.05 0.80 n=13
<i>Money & Banking</i>	2.89 0.91 n=239	2.96 0.87 n=109	2.85 0.91 n=20	3.00 0.84 n=13	2.95 0.78 n=28	2.78 1.16 n=12
<i>Econ GPA</i>	2.70 0.57 n=348	2.77 0.67 n=149	2.61 0.58 n=31	2.69 0.46 n=20	2.78 0.55 n=40	2.70 0.49 n=14
<i>Overall GPA</i>	2.98 0.47 n=348	3.13 ^b 0.50 n=149	2.86 ^a 0.50 n=31	3.25 ^b 0.51 n=20	2.87 ^a 0.35 n=40	3.21 ^b 0.46 n=14
<i>Group N</i>	n=497		n=51		n=54	
<i>% Women</i>	30.1 %		39.2 %		25.9 %	

*Standard deviations beneath means. ^{a, b} refer to one-tail statistical significance $\alpha = 0.10$, across groups and within groups, respectively.

high-performing students. Somewhat surprising, however, is that the mean survey grade for women in Group 3 was nearly as high as the mean survey grade for women in Group 2, the waiver students. The reason why some women in Group 3 did not avail themselves of the waiver is difficult to ascertain. Women registered statistically significant higher overall GPAs than men in all three groups.

Across groups, only the overall GPA for men registered any statistically significant differences, with men in Group 2 and 3 achieving lower scores than their counterparts in Group 1. For macro principles, both men and women in Group 3, having already been exposed to macroeconomic topics in the survey course, did marginally better than their counterparts in Group 1, though the difference was not statistically significant. The striking feature about the group comparisons in Table 1, with the exception of overall GPA, is that none of the mean values in Groups 2 and 3 are statistically different from the corresponding values in Group 1. Macro waiver students in Group 2 virtually matched the performance of Group 1 students in micro principles, intermediate macro theory, money and banking, and all other economics courses. Finally, the percent of women in Groups 2 and 3 is approximately the same as Group 1 (32.4% vs. 30.1%), and is close to the most recent national average, 31.0%, reported by Siegfried (2007).

Performance in Upper-Level Macro Courses

Of particular interest is whether waiver students are adequately prepared for intermediate macro theory and other macro-related upper-level courses. An OLS model explaining student performance in intermediate macro theory and money and banking performance was estimated in

order to incorporate some additional control variables. Students' grades in these two upper-level macro courses were estimated as a function of overall cumulative GPA (*overall gpa*), which could be viewed as a rough measure of overall student ability; grade in macro principles (*macro prin grade*); and dummy variables identifying female students (*female*), and students who received the macro principles waiver (*waiver*). If students received a waiver, then their survey grade was substituted for their missing macro principles grade. Table 2 contains the OLS results. After controlling for student ability (*overall gpa*), which understandably had the strongest effect on upper-level macro performance, students who received a waiver performed as well as students

TABLE 2
Determinants of Performance in
Upper-Level Macro Courses

Variable	<u>Intermediate</u> <u>Macro Theory</u>	<u>Money and</u> <u>Banking</u>
<i>Constant</i>	-0.667 (0.205) ^a	-0.902 (0.218) ^a
<i>overall gpa</i>	1.124 (0.094) ^a	1.239 (0.094) ^a
<i>macro prin grade</i>	0.096 (0.070) ^c	0.040 (0.069)
<i>waiver</i>	-0.039 (0.078)	0.039 (0.086)
<i>female</i>	-0.171 (0.074) ^b	-0.158 (0.077) ^b
<i>Adjusted R²</i>	0.41	0.45
<i>N</i>	436	356

^{a, b, c} statistically significant at $\alpha = .01, .05, .10$, respectively, one-tail test.
 White heteroskedasticity-consistent standard errors in parentheses.

who took the macro principles course. The coefficients on *waiver* in both equations are small and statistically insignificant. The sign on macro principles grade is positive in both equations, but statistically significant (marginally) only in the intermediate macro theory equation. The impact of gender in both equations is negative, and while it is statistically significant, the magnitude is relatively small, less than 18% of a grade point. Considering the OLS results in Table 2 and the means reported in Table 1, the evidence reveals that the macro principles waiver does *not* hindered student performance in economics.

Marketing to Survey Students 1995-2007

The trend in UW-Parkside economics degrees shown in Figure 1 suggests that the department's more overt and deliberate effort to attract survey students to the economics program may have been successful. Approximately four years after the campaign was put into effect the number and the percentage of degrees conferred to students taking the survey course increased. This section takes a closer look at the relative performance of students receiving degrees in the last thirteen years.

Table 3 (next page) contains the same categories of information as Table 1, but isolates the period 1995-2007. Generally, the conclusions reached in the previous section regarding the relative performance of students obtaining the macro waiver apply to students receiving their degrees in the most recent thirteen year period, with some notable exceptions. First, women in Group 2 were not disadvantaged by the macro principles waiver. On the contrary, though statistically significant only for money and banking, and overall GPA, Group 2 women

outperformed Group 1 women in every category. The same superior performance is true for women in Group 3, who did not receive the waiver but have a similar academic profile as women in Group 2. Second, not only did women in Groups 2 and 3 achieve higher grades than

TABLE 3
Economics Student Performance: Mean GPAs, 1995-2007*

	Group 1		Group 2		Group 3	
	<u>Traditional Micro-Macro</u>		<u>Survey, Macro Waiver</u>		<u>Survey, No Macro Waiver</u>	
	M	W	M	W	M	W
<i>Survey</i>			3.52 0.52 n=14	3.70 ^b 0.43 n=18	2.70 0.92 n=10	3.63 ^b 0.58 n=10
<i>Macro Principles</i>	3.22 0.77 n=62	3.20 0.84 n=28			3.29 0.41 n=8	3.40 0.73 n=10
<i>Micro Principles</i>	3.22 0.77 n=62	3.20 0.84 n=28	3.12 0.76 n=14	3.35 0.66 n=18	2.89 0.76 n=9	3.27 0.54 n=10
<i>Intermediate Macro</i>	3.06 0.82 n=72	2.87 0.96 n=32	2.81 0.77 n=14	3.11 0.71 n=15	2.96 0.57 n=8	3.11 0.87 n=9
<i>Money & Banking</i>	3.04 0.93 n=60	2.78 0.84 n=29	2.77 0.90 n=10	3.18 ^a 0.78 n=11	2.62 0.97 n=7	3.04 1.05 n=8
<i>Econ GPA</i>	2.62 0.54 n=79	2.58 0.68 n=42	2.50 0.57 n=14	2.75 ^b 0.43 n=18	2.46 0.49 n=10	2.71 0.53 n=10
<i>Overall GPA</i>	3.16 0.48 n=79	3.17 0.46 n=42	2.90 ^a 0.45 n=14	3.35 ^{a, b} 0.41 n=18	2.82 ^a 0.32 n=10	3.29 ^b 0.44 n=10
<i>Group N</i>	n=121		n=32		n=20	
<i>% Women</i>	34.7 %		56.2 %		50.0 %	

*Standard deviations beneath means. ^{a, b} refer to one-tail statistical significance $\alpha = .10$, across groups and within groups, respectively.

Group 1 women, they equaled or outperformed men in Group 1 as well, though mean differences were not statistically significant. Thus, over the thirteen year period, women who initiated their economics degree through the survey course were responsible for increasing the overall GPA of students in the economics program. This result is particularly noteworthy because, within Group 1, men outperformed women in every category except overall GPA. Third, in contrast to the performance of women in Groups 2 and 3, men entering the economics program through the survey course had *lower* mean grades in every category relative to their counterparts in Group 1. Though statistically significant only for overall GPA, this nevertheless suggests that the survey course path to the economics degree, whether receiving a waiver or not, attracts a different quality of student by gender.

In his most recent accounting of economics degrees conferred nationally, Siegfried (2007) reports that the percentage of degrees awarded to women has declined slightly, from 34.4% in 2000 to 31.0% in 2006. The decline is particularly troubling considering that the percentage of all bachelor's degrees conferred to women rose during this same period, 57.2% to 59.0%.

Nationally, economics is not attracting its share of the larger pool of women undergraduates.

The UW-Parkside economics department is doing somewhat better in attracting women to the discipline. In Table 3, of the 173 economics degrees conferred 1995-2007, 70 were received by women, or 40.5%. The relatively good performance of the UW-Parkside economics program in attracting women is due almost entirely to drawing female students into the program through the survey course. In the most recent 13 year period, 53.8% of economics students who started their degree with the survey course were women. Thus, the waiver policy, and more generally the survey course itself, have helped the department garner its share of women undergraduates.

Data from 1995-2007 suggest that the survey path to an economics degree has improved the gender mix of the program and has not adversely impacted the overall academic achievement of students in the economics program.⁵ Another contribution the survey students have made to the program is a more diverse and broader liberal arts academic background – perhaps this enhancement is more difficult to quantify but it is nonetheless important. Of the 121 students in Group 1, 32.2% were economics minors, and 74.3% of those minors had a business major. As might be expected given the complementarity of the subject matter and the overlap in degree requirements, there is a strong relationship between the economics and business programs among students who began their economics studies with the traditional micro-macro sequence. In contrast, of the 52 students in Groups 2 and 3, 23.7% were economics minors, and only 14.3% of those minors had a business major. Thus, among all students who chose economics as a minor, survey students were much less likely to have majored in business. While this too is to be expected given the exclusivity of the survey course, it nevertheless underscores an added dimension of what survey students contribute to the economics program. Whether survey students have majored, for example, in political science, international studies, or geosciences, they bring to the economics classroom a perspective that can only enrich discussion.⁶

Conclusion

This paper has reported on the effectiveness of a departmental administrative policy targeted at high-performing students who might not otherwise have considered economics as a course of study. An analysis of student transcript data spanning 33 years suggests that the department

policy of granting waivers to high-performing students in the one-semester introductory economics survey course, along with an aggressive marketing effort, likely increased the number of students seeking an economics degree. Of course, it would be difficult to determine whether the aggressive marketing effort and waiver policy were entirely responsible for the increased number of survey students seeking an economics degree over what would have occurred without these efforts. Yet, in small economics departments just a few more students matter. There are more than 2,000 four-year colleges and universities in the U.S. with total enrollment of less than 5,000. The vast majority of these relatively small institutions have an economics department. In small departments like UW-Parkside which confer a few degrees per year, even one or two additional graduates is nontrivial. Most important, our analysis of the transcript over 33 years strongly suggests that students who have entered the economics program through the survey course have improved the average academic performance of economics students and have significantly improved the department's gender balance. We are confident that whether a waiver policy is adopted or not, if departments are interested in improving the gender balance among students seeking an economics degree, a focus on the survey course for non-majors is warranted. Like Willie Sutton, who robbed banks because "...that's where the money is," economics departments interested in improving gender balance should consider focusing on their survey course because *that's where the "otherwise bright" women are.*

References

- Bartlett, R.L. 1995. Attracting “Otherwise Bright Students” to Economics 101. *American Economic Review* 85(2) (May): 362-366.
- Becker, W.E., S.R. Becker, and M. Watts. 2006. *Teaching Economics: More Alternatives to Chalk and Talk*. Edward Elgar Publishing.
- Hansen, W.L., M.K. Salemi, and J.J. Siegfried. 2002. Use it or Lose It: Teaching Literacy in the Principles of Economics Course. *American Economic Review* 92(2) (May): 463-472.
- Margo, R.A. and J.J. Siegfried. 1994. Long-Run Trends in Economics Bachelor’s Degrees. *Journal of Economic Education* (Fall): 326-336.
- Salemi, M.K. and C. Eubanks. 1996. Accounting for the Rise and Fall in the Number of Economic majors with the Discouraged-Business-Major Hypothesis. *Journal of Economic Education* (Fall): 350-361.
- Saunders, P. and W.B. Walstad. 1990. *The Principles of Economics Course: A handbook for instructors*. New York, NY: McGraw-Hill.
- Siegfried, J.J. 2007. Trends in Undergraduate Economics Degrees, 1991-2006. *Journal of Economic Education* (Summer): 360-364.
- Siegfried, J.J. and C.E. Scott. 1994. Recent Trends in Undergraduate Economics Majors. *Journal of Economic Education* 25(2) (Summer): 281-286.

Notes

¹ Unless otherwise noted, UW-Parkside economics “degrees” refers to majors and minors.

² Until 1991, the Department of Economics did not formally define “high-performance,” rather it was left up to the discretion of the instructor receiving the waiver petition. In practice, between 1975-2007, 84% of waivers were given to students with survey grades of B or better. All of the students in the remaining 16% had survey grades of C or better. Since 1991, only two students were given waivers with survey grades lower than B, and both of those students received a grade of B-.

³ The general economics major is 33 credits and the economics minor is 18 credits. Thus, as measured by credits, the waiver policy lowered the cost of pursuing an economics major or minor, by 9% and 17%, respectively.

⁴ Course grades and GPA are based on a standard 4-point scale, A=4, A-=3.67, B+=3.33, etc. Only grades for courses actually taken at UW-Parkside are recorded. Each cell indicates the number of students in that category. The number of students can vary within a column because: (1) some courses may have been transferred in from other institutions; (2) the money and banking course is an elective; or (3) students minoring in economics are required to take only one intermediate theory class. Student transcripts were carefully examined for the macro waiver group (Group 2). A small number of students (4) were found to have transferred in macro principles and were reclassified into Group 3.

⁵ When the scores of men and women in each of the three groups were combined, the mean grades for the three groups were statistically indistinguishable from each other. Thus, the relatively poor performance of men in Groups 2 and 3 was countered by the superior performance of women.

⁶ Of students who majored in economics, the percentage who earned a minor or second major in business was similar for the two groups, 19.5% for Group 1, and 23.7% for survey students (Groups 2 and 3.) Parenthetically, in 2006 one of the economics department’s women majors was recognized as an outstanding graduate in the university.

She began her economics studies in the survey course, and along with her economics major, she earned minors in philosophy and international studies.