

**WHY AREN'T THEY TAKING
ECONOMICS? ATTITUDES OF FIRST
YEAR STUDENTS — UNIVERSITY OF
WOLLONGONG**

CASE STUDY

Ann Hodgkinson

Nelson Perera

*Department of Economics
University of Wollongong*

Coordinated by Associate Professors C. Harvie & M.M. Metwally
Working Paper Production & Administration: Robert Hood
Department of Economics, University of Wollongong
Northfields Avenue, Wollongong NSW 2522 Australia

**Department of Economics
University of Wollongong
Working Paper Series WP 96-13**

**ISSN 1321-9774
ISBN 0 86418 444 1**

ABSTRACT

This paper presents the results of a survey of first year economics students at the University of Wollongong undertaken in 1995. The survey aimed to gauge student attitudes towards economics as a discipline relative to other subjects taken within the Commerce degree. It was conducted in an attempt to identify causes for declining enrolments in economics in the 1990s, a phenomenon which has been identified recently in Australian Universities as well as in the USA in the 1980s.

A number of explanations of declining enrolments were tested with the survey results. Of these, general competition from 'business' subjects i.e. management, marketing, accounting, appears the most obvious cause. Other results relating to the subject matter, difficulty, relevance and level of interest in economics did not suggest there were major problems with economics as a discipline.

A number of areas where first year economics could be improved were identified. The Department of Economics is developing strategies to implement these changes in order to improve the attractiveness of its offerings. These mainly involve reduced class sizes, introduction of new subjects, more innovative assessment procedures, careers information, etc. Further surveying will be undertaken into aspects of the subject matter which may be influencing students' subject choices regarding economics.

INTRODUCTION

Economics was founded on the works of Adam Smith, particularly his *Wealth of Nations*, 1776. Since then, it has been one of the accepted disciplines traditionally found in a University curriculum and is the intellectual foundation of the modern Commerce degree. Its position, however, has been shaken in recent years by a disturbing decline in the numbers of students, both relatively and absolutely, who are opting for economics subjects. This has provoked a recent spurt of interest within academic practitioners of analyses as to why this is happening.

One suggestion which is frequently raised within these discussions is that the subject matter traditionally taught to students, particularly at first year level, is becoming increasingly irrelevant as University studies become more vocationally orientated. Another suggestion has been that economics subject matter is too theoretical and rigid for first year students, many of whom will not study the subject in their latter years.

This declining interest in economics was observed in the USA from the mid-1980s. It has also been felt in most Australian Universities in recent years. In this paper, a number of possible causes of declining enrolments are tested using a survey of attitudes of students in first year economics courses at the University of Wollongong. The explanations as to possible causes of declining enrolments were extracted from the earlier USA literature on this subject. The survey results are being used to develop strategies within the teaching of first year economics to encourage more students to continue their studies of this subject. While it is too early to assess the success of these strategies, there has been some increase in student numbers in economics at this University in 1995 and 1996.

The number of students enrolling in economics subjects at the

University of Wollongong began to decline after 1992 despite a continuing strong demand for the Bachelor of Commerce degree. The Commerce Faculty consists of the Departments of Accounting and Finance, Business Systems, Economics (including Industrial Relations), and Management (including Marketing which was established as a separate department in 1997). Bachelor of Commerce students take a common first year involving subjects from all four Departments. After this, they specialise with majors from one or two of these seven areas. Recent enrolment trends in subjects offered by each of these departments is shown in Figure 1. This indicates that there has been a relative decline in economics enrolments at least since the mid-1980s although the trend has reversed to some extent in 1995 and 1996.

Two studies were undertaken in 1994 and 1995 to identify the causes of the declining enrolments at the University of Wollongong, and if possible, to suggest remedies. These studies focused on the nature of economics course content rather than issues related to teaching methods which are evaluated on a regular basis as a separate process with the University. The 1994 study consisted of a preliminary survey of students, mid first semester. It was primarily aimed at identifying student intentions regarding further studies in economics but also covered their general attitudes towards economics. The results from the study are provided in Appendix 1. The 1995 survey was conducted mid way through their second semester economics course. It was more specifically aimed at elaborating on what aspects of their University economics courses they found interesting or useful, and to also identify the less attractive aspects of the subject matter.

The findings from the 1995 survey are presented in this report. Generally, they do not suggest that there are aspects intrinsic to the nature of economics subject matter which are discouraging students. They tend to support the findings of the USA literature that it is factors such as the introduction of business degrees and

'fads' towards other subjects — Accounting in the 1980s, Management and Marketing in the 1990s — which predominantly affect enrolment decisions. While these results only reflect student attitudes from one case study, they provide a basis on which further analyses can be undertaken. The Economics Department is undertaking regular surveying of its first year students to refine the methodology used and to develop a time series of results.

ENROLMENT TRENDS

The data in Table 1 indicates that while actual numbers enrolled did not begin to decline until around 1992, the proportion of total commerce students taking economics declined throughout the study period. This relative decline was much sharper in the total students load (which includes post-graduate students) than in the undergraduate student load. Undergraduate student load figures have been supported by the requirement that all commencing B.Com students do a common first year which includes two units of economics. In addition, many students undertake joint majors or double degrees which include economics.

It was difficult to extract information on majors from the University of Wollongong's information systems. In 1995, 193 students, or 19.75% of students with an identified specialisation (977) enrolled in the Bachelor of Commerce, had a specialisation in economics or industrial relations. However, only 48 of these had single majors in economics or industrial relations. One sixth (14.9%) of students (171) had not specified their specialisation, a similar proportion of whom may also be undertaking economics majors.

In addition to students enrolled in the Bachelor of Commerce degree, a number of students from other Faculties undertake studies in commerce subjects. In 1995, 157 students were taking

combined Commerce and Arts, Law or Mathematics degrees. These require them to undertake a full set of Commerce subjects and hence some would take economics majors. Students enrolled in Arts and Informatics degrees may also undertake economics majors.

Table 1
Attitudes to Subject Content by Gender %

	Total Student Load				Undergraduate Load			
	% Commencing EFTSU		Total EFTSU		% Commencing EFTSU		Total EFTSU	
	No	%	No	%	No	%	No	%
1987			420.4	32.2				
1988			405.7	28.8				
1989			447.7	29.7				
1990	294.1	34.4	570.9	30.3	278.6	40.9	545.8	33.7
1991	295.3	31.2	604.8	27.8	275.1	36.2	569.2	30.7
1992	273.8	29.2	628.7	25.9	240.6	33.5	582.6	28.4
1993	230.3	27.6	564.4	24.5	193.8	34.2	505.3	26.9
1994	245.2	26.0	528.2	23.3	204.6	33.5	458.9	26.3
1995	274.7	26.3	546.6	24.2	235.9	33.7	478.1	27.6
1996	289.7	25.6	585.4	24.0	242.6	31.9	511.7	27.3

Source: University of Wollongong, Enrolment data, audited figures.

From the 1995 Survey results, 85% of these first year students studying economics were undertaking a Commerce degree, 5.5% an Arts degree, 3.6% a Mathematics (Informatics) degree and 5.9% other degrees. Of these students, 20.6% indicated that they intended to take a major or joint major in economics. This result is generally consistent with past enrolment trends.

CAUSES OF DECLINING ENROLMENTS

Explanation 1: Competition from Undergraduate Business Degrees

Increased concern about the deterioration in the number of economics majors emerged in the USA, following a sharp decline in enrolments after 1992-93 (Siegfreid and Scott, 1994, pp. 283-4). Research into this question in 1980 suggested that the only significant explanation was that undergraduate business degrees were a strong substitute for economics, with students switching their course of study when one was on offer. Business degrees tended to be introduced during the 1980s in many institutions. However, as these authors suggest, few new undergraduate business programs opened in the early 1990s (ibid).

The trends in the data from the University of Wollongong presented in Figure 1 and Table 1 are very similar to that found in the USA study. Economics faced competition from the accounting major in the 1980s until 1992, reflecting the prominence of accounting skills in the "greedy eighties" particularly related to taxation accounting and finance. However, the accounting enrolments have suffered a parallel decline to economics since 1992 as shown in Figure 1, although the recent introduction of a finance specialisation improved enrolments in that Department in 1996. This should not disadvantage economics as students often

select for a joint finance/economics major.

The University of Wollongong introduced a Management Department in 1980. As can be seen, enrolments in management have risen steadily since then, and unlike the other Departments, did not decline after 1992, although the rate of increase has steadied. There was, however, a relative decline in management/marketing enrolments in 1996 reflecting a small switch in preferences towards accounting and finance and economics. The decline in the proportion of students undertaking economics majors may thus simply reflect a switch towards management.

Explanation 2: Women Students are Turned off Economics

The USA study found that the proportion of economic graduates who were women declined by about 2 percentage points from 1987-88 to 1992-93 but stabilised in the early 1990s. The decline in the proportion of economics degrees awarded to women accounted for more than a quarter of the observed decline in economics majors. The explanation for this decline was not obvious (Siegfried and Scott, 1994, pp. 285-6).¹

In the 1995 survey of first year students at the University of Wollongong, 52.4% of the respondents were female. 54% of the students who expressed an interest in undertaking an economics specialisation were female. This is slightly above the total number of female students who responded to the survey and suggests that there is no gender influence within the decision to take an economics major.

¹ In 1991, 32.8% of Australian pass economics degree and 38% of Australian honours economic degree students were female (Siegfried and Round, 1994, p. 194).

Table 2
Attitudes to Subject Content by Gender %

	Male	Female	All
Economics helped me understand Federal Government policies for managing the economy.			
Strongly Disagree	12.0	11.3	11.8
Disagree	17.9	16.9	17.4
Neutral	33.8	35.6	34.8
Agree	24.1	26.3	25.2
Strongly Agree	11.7	10.0	10.8
Chi-Square = 0.553 / With D.F. = 4 / Average response 3.056			
Economics Helped me understand the causes of inflation and unemployment			
Strongly Disagree	7.5	4.5	5.9
Disagree	15.1	14.0	14.5
Neutral	26.7	24.8	25.7
Agree	34.9	36.9	36.0
Strongly Agree	15.8	19.7	17.8
Chi-Square = 2.127 / With D.F. = 4 / Average response 3.449			
Economics helped me understand how firms behave in a market economy			
Strongly Disagree	4.2	0.0	2.0
Disagree	2.1	5.0	3.6
Neutral	22.9	20.6	21.7
Agree	53.5	47.5	50.3
Strongly Agree	17.4	26.9	22.4
Chi-Square = 12.236 / With D.F. = 4 / Average response 3.875			
Economics helped me understand how people behave as consumers			
Strongly Disagree	3.5	0.0	1.7
Disagree	6.3	5.6	5.9
Neutral	28.7	26.3	27.4
Agree	46.1	41.9	43.9
Strongly Agree	15.4	26.3	21.1
Chi-Square = 10.348 / With D.F. = 4 / Average response 3.770			

Table 3
Attitudes to Economics Compared with Other First Year
Subjects by Gender %

	Male	Female	All
Much Easier	5.67	6.00	11.67
Easier	8.00	12.33	20.33
Same	22.33	25.67	48.00
Difficult	9.00	7.33	16.33
More Difficult	2.67	1.00	3.67
Chi-Square = 5.64 / With D.F. = 4 / Average Response = 3.199			
Much Easier	3.31	0.66	3.97
Easier	3.97	2.32	6.29
Same	20.53	24.50	45.03
Difficult	16.56	21.52	38.08
More Difficult	3.31	3.31	6.62
Chi-Square = 9.04 / With D.F. = 4 / Average Response = 3.373			
Less Interesting	4.28	3.29	7.57
Somewhat Less Interest.	2.30	3.29	5.59
Same	18.42	23.36	41.78
Somewhat More Interest.	17.11	16.45	33.55
More Interesting	5.26	6.25	11.51
Chi-Square = 2.15 / With D.F. = 4 / Average Response = 3.357			

In order to assess whether female students had different interests and requirements in the study of economics, a gender analysis of survey responses was conducted. There was no significant differences in the responses by gender to questions regarding the type of material which should be covered in first year economics courses at the 95% confidence level. Nor were there any significant differences in the responses regarding the level of data analysis, mathematics or theory in the courses, nor in the acquisition of analytical, research or library skills. Overall, students indicated that they found economics more useful in

helping them understand microeconomic to macroeconomic issues. Gender differences occurred in the responses to the questions relating to whether economics helped the student understand how firms behave in a market economy and how people behave as consumers, the two fundamental aspects of the microeconomic analysis of demand and supply. Female students were much more likely to strongly agree with statements that economics helped them understand these behaviours. There was no significant difference in the responses by gender relating to the questions affecting macro-economic analysis.

Phipps and Clark (1993) concluded that female students did not appear to enjoy economics as much as male students (p. 210). However, this was not substantiated by the University of Wollongong results as shown in Table 3.

Explanation 3: Study Areas Determined by Employment Prospects

The most obvious explanation for the observed shifts in enrolments in Figure 1 is that changes in the proportions of students studying different discipline areas reflects perceptions regarding future employment prospects. Employment issues almost certainly lie behind the marked preference which students have displayed towards Commerce degrees over the past decade. The choice between discipline specialisation within Commerce may reflect differential beliefs that training in one area will result in improved employment prospects relative to others within Commerce occupations. Accountancy is the only Commerce career which requires professionally recognised qualifications obtained at University. Business systems subjects provide more technical skills suitable for computer information system areas. Economics and management subjects provide students with generalised training enabling entry to both public and private sector employment. Economics graduates are more likely to be

employed in public sector jobs and/or initially in research areas. Management graduates appear to be more focussed towards the private sector and marketing/sales activities. Joint majors clearly broaden students' employment options.

In the 1994 survey, students were asked why they were interested in studying an economics major. The following reasons were advanced:

General interest in subject	64%
Good employment prospects	46%
Did well in high school	28%
Other	21%

Students who indicated an intention to undertake an economics major and had studied economics for HSC ranked good employment prospects and general interest in the topic more highly than average.

These responses are comparable with results obtained in previous studies in the USA and Australia.

In the 1995 survey, students were asked if they were in full-time employment (21.8%) or not. An analysis of these results may indicate whether attitudes towards the content of first year economics courses is affected by employment experience. No significant differences were found in the responses of students in full-time employment to questions asking if economics provided useful analytical, research, library or computer skills. Average responses to these questions are shown in Table 6.

There were no significant differences in the responses of students in full-time employment to questions asking if they found economics more difficult/much easier and more or less relevant than other first year subjects. However, a significant difference was found to the question as to whether they found economics more or less interesting than other first year subjects.

Students in full-time employment clearly found economics more interesting than other first year subjects.

Table 4
Importance of Reasons for Majoring in Economics

	1984 - USA % students responding 'very important'	1994 - Australian (pass students) % of students indicating it as important factor
Interest in subject	72.1	83.7
Better prospects in employment	45.2	58.9
Better performance in economics	11.7	49.6
Practical knowledge for decisions	35.2	47.3
Program flexibility	15.1	34.1
Challenged by analytical method	30.6	20.2
Teaching reputation of Department	20.3	17.8
Preparation for Graduate School	33.2	14.0

Source: Bach and Kelley, 1984, p.21; Seigfried and Round, 1994, p. 194.

Table 5
Attitudes to Economics compared with other First Year Subjects by
Employment Status %

	Not Employed	Employed	All
Less Interesting	8.02	5.97	7.57
Somewhat Less Interesting	6.33	2.99	5.59
Same	44.73	31.34	41.78
Somewhat More Interesting	32.91	35.82	33.55
More Interesting	8.02	23.88	11.51
Chi-Square = 15.122 / With D.F. = 4 / Average Response = 3.357			
Much Easier	11.2	13.4	11.7
Easier	21.0	17.9	20.3
Neutral	47.6	49.3	48.0
Difficult	16.3	16.4	16.3
More Difficult	3.8	3.0	3.7
Chi-Square = 0.618 / With D.F. = 4 / Average Response = 3.199			
Much Less Relevant	3.8	4.5	4.0
Somewhat Less Relevant	7.6	1.5	6.3
Neutral	46.2	40.9	45.0
Somewhat More Relevant	36.4	43.9	38.1
Much More Relevant	5.9	9.1	6.6
Chi-Square = 4.990 / With D.F. = 4 / Average Response = 3.373			

Students in full-time employment did not indicate any significant differences in preferences for course content, although they showed a slightly higher, but not significant, preference for more discussion of issues relating to business profits and investment and the world economy.

Students in full-time employment showed no significant difference in their responses as to whether economics helped them better understand microeconomic issues such as firm's behaviour in a market economy (Chi-square = 1.645) or people's behaviour

as consumers (Chi-square = 3.475). However, they agreed more strongly that economics helped them understand the macroeconomic issues of inflation and unemployment (significant Chi-square 12.768) and to lesser extent, the Federal Government's policies for managing the economy (insignificant Chi-square 8.283).

Explanation 4: Economic Isn't Interesting

In the 1994 survey, students were asked their reasons for not undertaking further study in economics. 78.2% said they did not like economics. The most common reason given was that it was too boring (31.2%). 30.9% indicated that they found other areas more interesting. As students indicated this response after only limited exposure to economics at a tertiary level, (i.e. mid first semester) it appeared to be a preconceived notion, either obtained at secondary school or from general exposure to economics in the press or on television.

Students were asked in the preliminary 1994 survey whether they had studied economics at HSC (high school matriculation) level. 58.6% of the respondents had studied economics for HSC. In 1995, a broader question was asked as to whether students had studied economics prior to enrolling in their current degree to allow for students gaining entry through non-traditional means such as a TAFE course and foreign students. 63% of respondents indicated they had some prior studies of economics. Of the students who had prior studies in economics, 22.4% intended to take an economics major (25.6% in 1994). There was no significant statistical difference between prior studies of economics and the decision to take an economics major.

The argument that attitudes towards a subject are significant in determining future areas of study is based on the notion "that students who have favourable attitudes to economics and/or

believe there is value in economic reasoning are likely to major in economics and also [are] more likely to capitalize in their economic reasoning skills in later life", (Siegfried and Fels, 1979, p.935). The second 1995 survey was particularly aimed at identifying what students meant by finding economics 'interesting' or 'boring'. Based on several focus group discussions with a small group of students a number of potential attitudes were identified and included in the survey. Students were asked to respond on a five point "strongly agree" "strongly disagree" scale, (or different but equivalent wording where appropriate). The general results from this survey did not indicate any strong problems with the content of the current first year economics courses as shown in Table 6.

The results from Table 6 part (a) indicate that students had a slight preference for the study of macroeconomic issues over microeconomic issues and of business issues over social issues. (There was a slight but not statistically significant, except at the 90% confidence level, discrepancy over this latter point on the basis of gender.) However, the results in part (d) suggest they obtained a better understanding of microeconomic than macroeconomic issues through their course material.

Table 6
Attitudes to Economics Course Content

(a) Desirable Content		
Question: <i>First year Economics lecture material should discuss...</i>		Average
(i)	issues important to current economic management	3.680
(ii)	major issues in the world economy	3.634
(iii)	major issues affecting employment and wages	3.503
(iv)	major issues affecting business profit and investment	3.425
(v)	social issues affecting the population	3.115
(b) Uninteresting or Different Aspects of Current Content		
Question: <i>Economics contains too much.....</i>		
(i)	data analysis	2.869
(ii)	mathematics	2.566
(iii)	theory	3.170
(c) Use of Examples in Lectures (measured Excessive (=5) to Insufficient (=1))		
Question: <i>The number of examples included in the lecture material was</i>		
(i)	current examples	3.862
(ii)	Australian examples	3.605
(iii)	Asia-Pacific examples	3.461
(d) Interesting or Useful Aspects of Current Content		
Question: <i>Economics has helped me understand the</i>		
(i)	the Federal Governments' policies for managing the economy	3.056
(ii)	causes of inflation and unemployment	3.449
(iii)	how firms behave in a market economy	3.875
(iv)	how people behave as consumers	3.770
Question: <i>Economics has provided me with useful....</i>		
(i)	analytical skills	3.348
(ii)	research skills	2.811
(iii)	library skills	2.103
(iv)	computer skills	1.891
(e) Comparison of First Year Economics with Other First Year Subjects		
Question: <i>Compared with other first year subjects, the lecture materials in Economics is</i>		
(i)	more difficult (5) much easier (1)	3.199
(ii)	more relevant (5) less relevant (1)	3.373
(iii)	More interesting (5) less interesting (1)	3.357

Note: On this scaling, a score of 3 denotes a neutral response.

The 1995 survey results did not really illuminate the attitudes in the 1994 response that economics was 'boring'. Students appeared generally satisfied with the level of data analysis and mathematics in the material and only slightly suggested there was "too much theory". They were also satisfied with the number of examples provided, if anything suggesting they were slightly excessive, particularly current examples. These results are shown in parts (b) and (c) of Table 6.

Both the earlier surveys indicated that the main reason students majored in economics was due to interest in the subject. As shown in part (e) when compared with other subjects economics received slightly favourable responses when compared with other first year subjects.

Economics was considered to be of average difficulty but was slightly above average in terms of relevance and interest. Students indicated that economics helped them understand major economic issues and was thus obtaining its pedagogical objectives. It fared less well in terms of its capacity to provide practical skills, only obtaining an above average score in terms of analytical skills. Wollongong students obtain computing skills in their other compulsory first year subjects and in their quantitative methods courses within the economics stream. Thus this result may not be of general concern. However, the below average score on research and library skills is of concern as this relates to one of the major employment strengths of an economics graduate. While these skills will be learnt in later economics subjects, the failure to provide a basis for research skills in first year needs to be considered, as it does not demonstrate to students the employment value of economics training.

Further analysis of this data was conducted to discriminate whether factors such as the type of degree being undertaken, prior studies of economics, or intending to take a major in economics affected students attitudes to economic course content. The

results are discussed below.

(a) *Impact of degree being undertaken*

Of the students responding to the survey, 85% were taking a Commerce degree, 5.5% an Arts degree, 3.6% an Informatics degree and 5.9% other degrees.

Significant differences were recorded in the response of students by the degree in which they were enrolled as to whether there was too much data analysis and mathematics in first year Economics subjects. There was no difference in the response to the question regarding too much theory. These results are shown in Table 7.

There were no significant differences in the responses in terms of the degree in which they were enrolled as to whether students found economics more difficult, more relevant or more interesting than other first year subjects. Overall students were relatively satisfied or neutral towards the amount of data analysis, mathematics and theory in first year economics as shown on Table 6. Students enrolled in a Mathematics degree were much more comfortable with the amount of data analysis and mathematics than the average. Students enrolled in the Arts degree agreed that there was too much mathematics more strongly than average.

(b) *Impact of prior studies of economics*

Having studied economics prior to commencing their degree had no significant impact on students attitudes to whether economics contained too much data analysis, mathematics or theory. Prior study of economics had no significant impact on whether students found the lecture

material in economics more or less relevant or interesting (compared with other first year subjects) than those who had no prior study. However a significant difference was found in terms of whether the material was more difficult

Table 7
Attitudes to Economics Course Content by Degree in which
Students wre Enrolled (%)

	Commerce	Arts	Mathematics	Other
Q.11 Economics contains too much data analysis				
Agree	22.7	29.4	0.0	27.7
Neutral	43.8	41.1	36.4	38.8
Disagree	33.5	29.4	63.6	33.3
Chi-Square = 22.336 With D.F. = 12 (21.0 at 95% indicates a significant difference between responses)				
Q.12 Economics contains too much mathematics				
Agree	17.8	23.5	0.0	11.1
Neutral	32.9	29.4	27.3	33.3
Disagree	49.2	47.0	72.7	55.6
Chi-Square = 28.026 With D.F. = 12 (21.0 at 95% indicates a significant difference between responses)				
Q.13 Economics contains too much theory				
Agree	36.3	47.1	36.4	50.0
Neutral	36.3	23.5	18.2	16.7
Disagree	27.4	29.4	45.5	33.3
Chi-Square = 12.244 With D.F. = 12 (21.0 at 95% indicates a significant difference between responses)				

or easier than other first year subjects (Chi-square = 12.360 with D.F. = 4). A higher proportion of students with prior studies of economics (36.8%) tended to rate the lecture material in first year economics easier than other first year subjects compared with 22.9% of those with no prior study.

(c) Attitudes of students intending to major in economics

No significant differences were found in the attitudes of students intending to take an economics major compared with those not intending to pursue additional economics.

CONCLUSION

The analysis of the 1995 Survey of Student Attitudes towards economics presented above do not suggest there are any fundamental problems with the subject matter in first year economics as taught at the University of Wollongong. The general arguments that it is irrelevant or uninteresting or too theoretical are not supported, although a number of areas were identified where some improvements could be made.

Almost by elimination, it would appear the declining numbers reflect a general swing towards more vocational business courses and away from traditional foundation disciplines in the Commerce degree. Such swings are apt to readjust themselves over time. In the meantime, a number of strategies have been adapted to encourage the study of economics. These include the offering of first year subjects each semester to reduce large class numbers, the introduction of new subjects on global and East Asian economic development which might appeal to a broader range of students including those from outside the Commerce degree and non-economics majors, and placing more stress on the 'employability' of economics graduates at first year level.

While it is too early to assess the success of these strategies, there are some early indications of improvements in enrolments in the last few years. Further work is recommended to refine the survey methodology and retention strategies. To this end, another survey of students is to be conducted at the end of 1996 on a similar basis to the one reported on in this paper.

BIBLIOGRAPHY

- Abelson, P.W. and T.J. Valentine (1985), 'The Market for Economists in Australia', *Economic Papers*, Vol. 4, No. 4, pp. 1-16.
- Bach, L.L. and Allen C. Kelley (1984), 'Improving the Teaching of Economics: Achievements and Aspirations', *The American Economic Review*, Vol. 74, No.2, pp. 12-25.
- Hartman, D.G. (1978), 'What do Economics Majors Learn?', *Journal of Economic Education*, Vol. 9, No. 2, pp. 87-91.
- Peart, S.J. (1994), 'The Education of Economists: Teaching what Economists Do', *Journal of Economic Education*, Vol. 25, No. 1, pp. 81-87.
- Phipps, B.J. and J.E. Clarke (1993), 'Attitudes Towards Economics: Uni - or Multidimensional?', *Journal of Economic Education*, Vol. 24, No. 3, Summer, pp. 195-211.
- Seigfried, J.J. and C.E. Scott (1994), 'Recent Trends in Undergraduate Economics Degrees', *Journal of Economic Education*, Vol. 25, No. 8, Summer, pp. 281-86.
- Siegfried, J.J. and D.K. Round (1994), 'The Australian Undergraduate Economics Degree: Results from a Survey of Students', *The Economic Record*, Vol. 70, No. 209, pp. 192-203.

Siegfried, J.J. and R. Fels (1979), 'Research on Teaching College Economics: A Survey', *Journal of Economic Literature*, Vol. XVII, pp. 923-969.

APPENDIX

SURVEY OF STUDENT INTENTIONS —1994

A preliminary study of students interest in further studies in economics was conducted on 17th May. At this stage students were in week 11 of their first economics subject at the University of Wollongong. The survey was timed for their first session before they had had any significant exposure to economics at University level in order to ascertain their initial attitudes towards the subject.

The initial results are as follows:

1. **Profile of Students. N = 399, Populaton = 540**
 - 1.1 **Degree**
72.4% were undertaking a Commerce degree, 14.3% Informatics (Mathematics), 5.3% Arts, 3.81% Commerce-Law.
 - 1.2 **Study at HSC**
58.6% studied economics for HSC
 - 1.3 **Economics Major**
20.6% intended to undertake an economics major. Past results have been

	Macroeconomics		Microeconomics	
1992	ECON101	661	ECON111	798
1993	ECON205	<u>131</u>	ECON215	<u>156</u>
% retention		19.8%		19.5%

1.4 **Relationship Between Study and HSC and Intention to Undertake Major**

Of those who studied economics at HSC, 25.6% intended to undertake an economics major.

1.5 **Joint Majors**

83% of the students intending to undertake an economics major intended to undertake a joint major with another discipline. Planned joint majors were widely distributed over a number of areas. The most frequently mentioned were:

- Management 25%
- Accounting 14.7%
- Industrial Relations 13.2%
- Marketing 10.3%
- Law 7.4%

2. **Specialisation Within Economics: Economics Majors N = 82**

2.1 **Interest in Specialisation within Economics**

52% of students intending to undertake a major in economics indicated an interest in specialising within economics.

2.2 Areas of Specialisation

This question allowed for multiple responses. Areas of interest in specialisation were widely distributed. The responses in descending order were:

International Economics and Trade	49%
Labour Economics - Industrial Relations	37%
Financial and Monetary Economics	35%
Economic Policy	26%
Further Macroeconomic topics	26%
Industrial & Business Economics	21%
Economic Development	16%
Further Microeconomic Topics	14%
Environment & Natural Resource Economics	14%
Econometrics	12%
Mathematical Economics	7%
Economics of Social Issues	5%

These give some indications of students areas of interest. However, further work would be needed before planning specialist streams.

2.3 Economic Specialisation and Joint Major Complementarity

If a strong correlation between interest in an economics specialisation and a joint major discipline area could be identified, scope for streaming subjects in both areas may exist. Areas where some clustering of interests occurred were:

- International Economics - Management Major
- Marketing Major
- Labour Economics - Industrial Relations Major
- Financial Economics - Management Major
- Economic Policy - Industrial Relations Major
- Industrial Economics - Industrial Relations Major

3. **Formation of Intention to Study Economics : Economics Majors**

3.1 **Reasons for Studying Economics**

General interest in subject	65%
Good employment prospects	46%
Did well in it at High School	28%
Other	21%

3.2 **Relationship Between Reasons for Studying Economics and Study at HSC**

Those students who intended to undertake an economics major and had studied economics for HSC ranked good employment prospects and general interest in the topic as reasons for studying economics more highly than average. 'Other' reasons were stronger for those who did not study economics for HSC.

There was a very strong relationship between doing well at economics at High School and undertaking an economics major.

These results strongly suggest a need to nurture high school economics students and teachers in orders to foster interest in economics majors. However, good economics HSC students are already a fertile recruiting ground.

3.3 Advisor to Take Economics Major

This question allowed for multiple responses. By far the most significant response was: No-one, own decision 78%.

Other responses were: Parents/Family	17%
Teachers/Career Counsellors	12%
Friends	11%

4. Formation of Intention Not to Study Economics: Non-Economics Majors N = 314

4.1 Non-Economic Majors (Two Choices)

79.2% of students in ECON101 were not intending to undertake a major in economics. Their intended majors were, in descending order of preference:

Accounting	39.2%
Management	35.7%
Marketing	23.2%
Business Systems	18.5%
Law	7.6%
Information Technology	2.8%
Engineering	1.6%

This suggests that while the Economics-Management joint major choice can be improved, we need to particularly focus on encouraging more Economics-Accounting, Economics-Business Systems and Economics-Marketing joint majors.

4.2 **Reasons for Not Undertaking Further Study in Economics**

This question allowed for multiple responses.

Subject Related Reasons:

Did not like economics: **78.2%**

- Too boring **31.2%**
- Too theoretical/mathematical **16.2%**
- Irrelevant **13.3%**
- Other **6.4%**

Other areas more interesting **30.9%**

Did not do well at economics at High School **0.9%**

Other reasons:

- Better job prospects in other areas **28.0%**
- Set courses **12.7%**

4.3 **Complementarity Between Major Choice and Reason for Not Taking an Economics Major**

Accounting Majors: N = 121

Better job prospects elsewhere **41.3%**

Find economics boring **28.9%**

Other areas more interesting **25.6%**

Management Majors: N = 111

Find economics boring **40.5%**

Other areas more interesting	37.8%
Better job prospects elsewhere	28.8%

Marketing Majors: N = 72

Other areas more interesting	44.4%
Find economics boring	40.3%
Better job prospects elsewhere	31.9%

Business Systems Majors: N = 57

Other (set courses)	36.8%
Find economics boring	28.1%
Other areas more interesting	24.6%
Better job prospects elsewhere	22.8%

4.4 **Complementarity Between Reason for Not Studying Economics Major and Study of Economics at HSC: Non-Economics Majors**

Note: this question allowed for multiple responses.

- A) Those who did study economics at HSC, N = 169
- Better job prospects elsewhere 32.5%
 - Find economics boring 31.4%
 - Other areas were more interesting 29.6%
- B) Those who did not study economic at HSC, N = 140
- Other areas were interesting 32.9%
 - Find economics boring 32.1%
 - Better job prospects elsewhere 23.6%

Of the other reasons given, students put a higher weight on too hard (15%) and too theoretical or mathematical

(17.1%) if they did not study economics at HSC then if they did (7.7% and 16.0% respectively). Students who did study economics at HSC put a higher weight on irrelevant (16.0%) compared with those who did not (10.7%).

5. Further Work

These survey results are only indicative of student intentions as actual choices as to further economic studies will not be made until the end of first year. Nevertheless, it does suggest a disturbing trend away from economics majors which has ramifications for third year options, unless reversed.

Possible future actions could include:

5.1 Promoting the Employability of the Analytical and Research Skills Obtained Through Economics Study

- (a) Research into employer requirements and their perceptions regarding the employability of economics graduates.
- (b) Provision of a jobs display on employment opportunities for economics graduates.
- (c) Provide information on possible future study choices and job prospects at the end of ECON111.

- 5.2 Establish better relationships with HSC economics classes and teachers to provide more encouragement to these students to consider economics majors. This should particularly focus on the employability of economics graduates given the results in 4.4(a).

- 5.3 Improve 'pastoral care' for first year economics students to engender a positive attitude towards economics studies by sharing the responsibility throughout the Department.
- 5.4 Undertake a further survey at the end of ECON111 to explore in more detail students attitudes to economics i.e. why they 'find it boring'. Utilize this information in designing the subject matter for future first year courses.