TOWARDS A MARKET ORIENTED APPROACH: EMPLOYER REQUIREMENTS AND IMPLICATIONS FOR UNDERGRADUATE ECONOMICS PROGRAMS

by

P. Hellier, M. Keneley, R. Carr* and B. Lynch
School of Accounting, Economics and Finance, *Deakin Business School
Deakin University

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1. OBJECTIVE

The problem of declining enrolments in the economics discipline has been the subject of a debate which has gathered momentum since Lewis and Norris's much quoted article published in 1997. This problem has stemmed largely from a fall in demand for traditional economics courses. The ensuing discussion put forward a variety of reasons for this decline. Some have argued that the rise of more generalist business degrees and the expansion of other related disciplines, such as management, marketing or e-commerce, were responsible (Millmow, 1995; Hodgkinson and Perrera, 1996). Others saw the cause lying in the progressive narrowing and specialisation of the discipline leading to courses which were out of date and not relevant to current issues (Alford, 1996, AVCC, 1992). Highlighting the problem was the focus of much of the debate, few suggestions were made as to its resolution. An air of resignation surrounded the discussion.

Keneley and Hellier (2001) argued for a more constructive framework and suggested that a way forward may be to adopt a market oriented approach. Research literature suggests that students who experience a more market oriented approach to teaching economics may benefit from the added value provided, which will in turn lead to higher retention rates at undergraduate and postgraduate levels. If this is the case, it could have far reaching implications for the way in which economics is taught at university and the way in which economists are trained. It was argued that a first step in the implementation of such an approach was to identify what the market required of economics graduates. A survey to help determine these requirements was conducted in 1985 by Abelson and Valentine. This research was designed to discover what skills and training employers require of economics graduates. Among other findings, it concluded that universities

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2 The authors gratefully acknowledge the financial support and assistance provided by the Australian Economic Society.
should place more emphasis on developing basic interpretative and communication skills in students. In the period of time since the Abelson and Valentine report, demand for economics courses has continued to decline suggesting that the discipline is not meeting the needs of either students or graduate employers.

Since 2001 the discussion has continued unabated. However there is now evidence of a shift in emphasis emerging. Prior to this date, the decline in enrolments had been much lamented, but very little data had been gathered, (since the Abelson and Valentine study), as to what the market actually required and why students no longer elected to study economics. The shift in recent times has seen the publication of the results of a number of surveys of tertiary students' perceptions and expectations. The recognition of the need to adopt a more inclusive approach to curriculum development, which the publication of these survey results implies, is a major step forward in the debate. Although the student body constitutes only one group of stakeholders whose opinions are necessary in developing a market oriented approach to teaching economics, it is nevertheless an important milestone in the process of shifting focus from a producer to a customer focused approach.

The results of the various surveys provide interesting insights into student expectations of their tertiary courses. Azzalini and Hopkins (2002) surveyed second year Bachelor of Commerce students and found that students felt the study of economics was too hard and theoretical with little real world application. In short, students were after highly applied subjects, grounded in real world examples. Furthermore, their survey results indicated that course content was not necessarily in line with students' career expectations. Interestingly, the majority of students did not see a career path in the public sector as a desired option. This led Azzalini and Hopkins (2002: 15), to conclude that a shift in emphasis in course content to reflect a more market oriented pedagogy was required.

Other similar studies recently published include, Marangos (2002) and Guest and Dhus (2002). Marangos (2002a) considered the learning strategies adopted by first year economics students and whether their learning plans were realised. The aim was to
identify the way in which students study in order to derive teaching strategies which may better assist learning outcomes and indirectly encourage greater enrolments in economics units. Whilst this research does not suggest a solution to the problem of declining enrolments it does indicate that a change in the conventional approach to teaching methodologies may have something to offer the student.

Further research undertaken by Marangos (2002b) investigates the value students place on the study of economics. Marangos makes the salient point that although enrolments have declined, students still study economics, implying that it must be of some value to them. An important finding was that although many students study economics they do not expect to work as economists. Survey results indicate that students by and large study economics because they believe it complements their other majors and enhances their employment prospects. This necessarily has important implications for the content of economics courses and the manner in which they are taught. This type of result has been confirmed by research at other universities.

Guest and Duhs (2002) surveyed graduates from two universities as well as academics teaching economics courses. They concluded that the teaching of economics was rated very poorly. One reason for this was student dissatisfaction with the prevailing pedagogy. A result which mirrored other studies and international trends. Students wanted fewer topics, taught in a more in depth and in an applied manner. On the other side of the coin Guest and Duhs (2002:158) found that there was little incentive for academics to make such changes when the reward structure within universities favoured research above teaching.

The results of these university surveys point to the need for a rethinking of the way in which undergraduate economics units are taught. However, before new programs and approaches are adopted, it is necessary to determine the preferences of other market participants. As indicated by Marangos (2002b:89) over fifty per cent of students studying economics did so because they believed it would enhance their job prospects. Keneley and Hellier (2001) pointed out that graduate employers should also be
considered as key stakeholders in the market for economics graduates. It can be argued that the demand for economics courses is a derived demand. Students make choices about their courses, which are to a large extent based on the available employment opportunities. In this regard the employers have a pivotal role to play in determining the skill base required of economics graduates. If a market oriented approach to educating economics students is adopted, then it must begin by identifying the critical theory and skill base required by employing organizations.

In 2001 the authors approached the Economics Society of Australia with a proposal to up build on the study by Abeslon and Valentine (1985). The objective of the study was to survey a group of employers from both the public and private sectors throughout Australia to determine who employs economics graduates and what they see as desirable skills in these graduates. Specifically the research aimed to address four main considerations. These were:

- to determine the overall importance of economics skills and knowledge to employers.
- to analyse the importance of various specific skills to employers.
- to gauge the extent to which economics graduates met those requirements.
- to determine if there was unmet demand for economics graduates, specifically, if employers were having difficulties in recruiting suitable economics graduates and their responses to any difficulties.

This paper outlines the results of this research and points to the skills employers see as desirable in an economics graduate. The following sections of the paper deal with the research methods, data analysis and findings, application and discussion and concluding comments.

**2. METHOD**

Data was collected using a questionnaire sent to selected organizations representative of employers of graduates with economics majors. This questionnaire was developed
with the assistance of a small advisory group. The questionnaire consisted of 51 questions and was divided into four main sections. The first part of the questionnaire was derived from Abelson and Valentine (1985). Employers were asked to rate the importance of specific skills and other knowledge required of economics graduates. The importance of each skill was rated using a scale from 1 (of little importance) to 5 (of critical importance).

Part two of the questionnaire defined economics skills simply as skills of analysis in relation to topics (such as, prices, markets, production, costs, revenue, efficiency, fiscal and monetary policy and trade); and asked whether the skills required of graduates were specific or general in nature, and whether the application of such skills were few or many. Rather than attempting to list the wide range of skills economists use, it was decided to take a more general approach and ask about broad economic skills without precisely specifying individual skills. Pilot study and primary study responses indicated that respondents had little difficulty answering these questions.

Part three of the questionnaire required employers to rate the performance of recently recruited economics graduates. Performance criteria were derived from the DEETYA Research Report into Employer Satisfaction with Graduate Skills (2000). The items covered basic competencies, personal qualities and skills, and other general attributes. Employers were asked to rate performance between 1 (very poor) and 5 (excellent).

The fourth section of the survey was concerned with the demand for economics graduates. Employers were asked how important economics graduates were to their organization and whether they had experienced difficulties in recruiting suitable graduates. The aim was to establish whether or not there was a shortage of economics graduates. The final two questions asked employers whether their requirements of economics graduates had changed in recent years or were likely to change in the

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3 This group consisted of Professor Phil Lewis, President of the Economic Society of Australia, Mr Steve Kates, Director, Australian Chamber of Commerce, and Mr John Dalton, Director of Industry and Regional Policy, Victorian Department of Innovation, Industry and Regional Policy.
foreseeable future. Employers were also given the opportunity to raise any other issues about the employment of economics graduates.

The questionnaire was mailed to ten employers in a pilot study in September 2002. These organizations were drawn from public and private organizations within several of the cohorts proposed for the primary study. Four organizations completed the questionnaire. Four of the six non-respondents did not participate because they did not specifically seek to employ economics graduates.

The primary study questionnaire was sent by email to 121 organizations in November 2002. The surveyed organizations were chosen from a variety of sources which included government websites (www.gov.au); graduate employment websites (www.graduateopportunities.com.au; and www.jobsearch.gov.au/government/gov_gradlink.asp); and Australian share-market listings in daily newspapers. As with the pilot study, non-respondents received followed-up contact at least once and were encouraged to complete the questionnaire. Table 1 summarises the questionnaire distribution and responses.

Table 1: Summary of Questionnaire Responses.

<table>
<thead>
<tr>
<th></th>
<th>Completed Questionnaire</th>
<th>Replied But Did Not Complete Questionnaire</th>
<th>Non-Respondents</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Public Sector Organizations</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Federal Government</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Departments</td>
<td>3</td>
<td>0</td>
<td>5</td>
<td>8</td>
</tr>
<tr>
<td>National Authorities</td>
<td>3</td>
<td>0</td>
<td>4</td>
<td>7</td>
</tr>
<tr>
<td>Universities</td>
<td>2</td>
<td>0</td>
<td>3</td>
<td>5</td>
</tr>
<tr>
<td>State Government Departments</td>
<td>4</td>
<td>1</td>
<td>5</td>
<td>10</td>
</tr>
<tr>
<td>State Authorities</td>
<td>2</td>
<td>0</td>
<td>4</td>
<td>6</td>
</tr>
<tr>
<td>Local Government Authorities</td>
<td>0</td>
<td>4</td>
<td>8</td>
<td>12</td>
</tr>
<tr>
<td><strong>Private Sector Organizations</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Banks and other Financial Institutions</td>
<td>1</td>
<td>0</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>Accountants, Stockbrokers and Consultants</td>
<td>7</td>
<td>3</td>
<td>7</td>
<td>17</td>
</tr>
<tr>
<td>Agricultural, Rural and Mining Companies</td>
<td>0</td>
<td>1</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Construction and Manufacturing Service Providers</td>
<td>1</td>
<td>4</td>
<td>8</td>
<td>13</td>
</tr>
<tr>
<td>Conglomerate and Other Organizations</td>
<td>3</td>
<td>4</td>
<td>8</td>
<td>15</td>
</tr>
<tr>
<td>Employer, Employee</td>
<td>2</td>
<td>1</td>
<td>4</td>
<td>7</td>
</tr>
<tr>
<td>Organizations</td>
<td>1</td>
<td>6</td>
<td>2</td>
<td>9</td>
</tr>
</tbody>
</table>
Twenty-nine organizations completed the questionnaire. A further twenty-four responded but did not complete the questionnaire. Of the latter group, 15 indicated that they would not complete it because they had not recently employed economics graduates. Appendix 1 provides a list of the participating organizations.

### 3. ANALYSIS AND FINDINGS

Usable questionnaires were received from 29 organizations, 14 public sector and 15 private sector organizations. As this was a non-random sample of organizations, it was not possible to draw conclusions of a general nature from the analysis. The study provides purely descriptive results for the respondent organizations. This section considers employer data on the importance of economics skills to the organization, difficulties in recruiting economics graduates, the types of skills required of graduates and the performance of new economics graduates.

Sixteen (55%) of the 29 organizations reported that economics skills were *very important* or of *critical importance* to the successful operation of the organization (Table 2).

**Table 2: The Importance of Economics Skills to the Organization.**

<table>
<thead>
<tr>
<th>Importance of Economics to the Organization</th>
<th>Not</th>
<th>Some</th>
<th>Important</th>
<th>Very</th>
<th>Critical</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Public</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>6</td>
<td>6</td>
<td>14</td>
</tr>
<tr>
<td>Private</td>
<td>0</td>
<td>6</td>
<td>2</td>
<td>1</td>
<td>3</td>
<td>12</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>1</td>
<td>7</td>
<td>2</td>
<td>7</td>
<td>9</td>
<td>26</td>
</tr>
</tbody>
</table>

*Note: Three private sector organizations did not respond to this question.*

Of the 29 organizations only seven (three public sector and four private sector organizations) experienced difficulties recruiting suitable economics graduates in the last three years. Table 3 summarises the ways these seven organizations attempted to overcome their recruitment difficulties.
Employers were asked to consider the extent to which work undertaken by the majority of their economics graduates required economics skills. They were also asked to distinguish between general and specific skills, and assess the application of those skills (many, some or few) required by their organization. As mentioned previously, economics skills were defined as skills of analysis in relation to topics such as prices, markets, production, costs, revenue, efficiency, fiscal and monetary policy. General skills implied a general working knowledge of these areas, whilst specific skills implied a more detailed knowledge of specific analytical tools.

Table 4: General Skill Requirements.

<table>
<thead>
<tr>
<th>General Economics Skills Required</th>
<th>None</th>
<th>Very Few</th>
<th>Some</th>
<th>Many</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Public</td>
<td>1</td>
<td>0</td>
<td>3</td>
<td>10</td>
<td>14</td>
</tr>
<tr>
<td>Private</td>
<td>0</td>
<td>1</td>
<td>8</td>
<td>6</td>
<td>15</td>
</tr>
<tr>
<td>Total</td>
<td>1</td>
<td>1</td>
<td>11</td>
<td>16</td>
<td>29</td>
</tr>
</tbody>
</table>

Nearly all responding organizations required some or many general economic skills (Table 4). However, the public sector organizations appeared to have greater requirements for general skills than did the private sector. The needs of organizations that require many applications of general economics skills was put succinctly by one public sector organization which said it was:

“Looking for skills that can be transferred to various applications”. 
Almost two-thirds of the organizations required graduates to use more detailed and specific economics skills in at least *some* applications and nearly one third required the use of these skills in *many* applications. Again, it was the public sector organizations that had greater requirements for detailed and specific economics skills than did the private sector organizations (Table 5). Notably, five of the 14 public sector organizations specifically mentioned *public policy* as important additional knowledge for economics graduates.

As might be expected, requirements for detailed and specific economics skills depend upon the function of the employing organization and the type of work to be undertaken by the graduate. Responses shown in Table 6 illustrate the particular needs of some specific organizations.

**Table 5: Specific Skill Requirements.**

<table>
<thead>
<tr>
<th>Detailed and Specific Economics Skills Required</th>
<th>None</th>
<th>Very Few</th>
<th>Some</th>
<th>Many</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Public</td>
<td>2</td>
<td>2</td>
<td>4</td>
<td>6</td>
<td>14</td>
</tr>
<tr>
<td>Private</td>
<td>3</td>
<td>3</td>
<td>6</td>
<td>3</td>
<td>15</td>
</tr>
<tr>
<td>Total</td>
<td>5</td>
<td>5</td>
<td>10</td>
<td>9</td>
<td>29</td>
</tr>
</tbody>
</table>

**Table 6: Skills Required of Graduates Employed in Specific Organizations.**

<table>
<thead>
<tr>
<th>Organization and Function</th>
<th>Economics and Allied Skills Required of New Graduates</th>
</tr>
</thead>
<tbody>
<tr>
<td>A Government Primary Industry Department</td>
<td>Assessing economic viability of initiatives in the agriculture, fisheries &amp; forestry industries and economic reviews of same.</td>
</tr>
<tr>
<td>A Government Treasury Department</td>
<td>General and specific economic theory, the application of theory including the likely behavioural aspects, and the political implications of implementing the resultant policy advice.</td>
</tr>
<tr>
<td>An Industry Performance Commission</td>
<td>Looking for specialisation in econometrics, labour market economics, environmental economics, statistical analysis, analysis of financial documents, effect of economics on social and industrial issues, quantitative economics and economic models.</td>
</tr>
<tr>
<td>A Government Education Department</td>
<td>Economics teachers need to have completed at least one year of professional studies including economics methodology relating to years 7-12. A unit in special education studies and an integrated professional experience component. Additional studies in behavioural management, teaching students from diverse cultural backgrounds and Aboriginal education are recommended.</td>
</tr>
</tbody>
</table>
The majority of organizations that had a need for many economics skills also reported a high level of importance of economics skills to the organization. It is not surprising that the more detailed and specific the economics skill requirements the more important economics skills were to the organization (Table 7).

### Table 7: The Relationship Between the Application of Economics Skills and their Importance to the Organization.

<table>
<thead>
<tr>
<th>Application of Economics Skills Required</th>
<th>Importance of Economics skills to the Organization</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Lesser Importance or Non-Response</td>
</tr>
<tr>
<td>Many General Skills</td>
<td>3</td>
</tr>
<tr>
<td>Many Detailed and Specific Skills</td>
<td>1</td>
</tr>
</tbody>
</table>

Note: This table indicates the number of responses, organizations may respond to both general and detailed skill categories.

Organizations that required many applications of general skills or at least some application of specific economics skills, also reported more difficulty in recruiting graduates with these skills. One-third of the organizations requiring many applications of economic skills had difficulty recruiting suitable graduates (Table 8).

### Table 8: The Relationship Between the Application of Economics Skills and Recruitment.

<table>
<thead>
<tr>
<th>Application of Economics Skills Required</th>
<th>Recruitment of Suitable Economics Graduates</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No Difficulty</td>
</tr>
<tr>
<td>Many General Skills</td>
<td>11</td>
</tr>
<tr>
<td>Some Detailed and Specific Skills</td>
<td>6</td>
</tr>
<tr>
<td>Many Detailed and Specific Skills</td>
<td>6</td>
</tr>
</tbody>
</table>

Note: This table indicates the number of responses, organizations may respond to both general and detailed skill categories.

Organizations also rated the importance of a number of specified skills and knowledge for their economics graduates using a scale from 1 (little importance) to 5 (of critical
importance). Figure 1 shows the mean response for the 29 organizations for each skill or knowledge requirement. The columns indicate the average response and the error bars indicate the range of responses.

**Figure 1: The Importance of Specific Skill and Knowledge.**

![Graph showing importance levels](image)

On average, respondents rated most of the skills and knowledge as important or better (level, 3+). The range of responses indicate that at least some individual respondents rated some skills or knowledge as critically important (level, 5).

The skills that are ‘generic’ in nature gained the highest importance ratings. These generic skills include clear writing skills, data analysis skills, interpersonal skills and a practical orientation to work. Relative to other listed skills and knowledge, mathematical and statistical training did not rate highly. This is another aspect of the general finding
that generic skills were rated more highly than more detailed technical skills. Knowledge of related areas such as accounting, finance and law rated lower than knowledge of economic theory. This lower rating might be expected since the survey was specifically designed to determine what organizations require of economics graduates. Further economic studies at masters or doctorate levels were also rated low, which is consistent with generic skills being more valued. This may also be explained by the scope of the study, which focused on employer requirements of bachelor and honours degree graduates.

There were two substantial differences between the average ratings of the public and private sector organizations. Private sector organizations rated industrial experience as very important, (nearly 4 on average), while the public sector respondents rated this requirement as being of some importance, (just over 2 on average). On the other hand the public sector organizations rated knowledge of economic theory very important (over 4 on average), while the private sector organizations rated this as important (just over 3 on average).

As might be expected, respondents from organizations that had a higher need for detailed economics skills tended to attach higher importance to variables such as; knowledge of economic theory, knowledge of economic institutions, analysis of policy issues and appreciation of limitations of economic analysis. For example, respondents from organizations who reported that they needed staff with many detailed economics skills had a score of 4.7 on average for knowledge of economic theory. Those from organizations with requiring no or very few detailed economics skills had an average score of only 2.7, on this variable.

Organizations also rated the performance of recently recruited graduates on specified attributes using a scale from 1 (very poor) to 5 (excellent). Three groups of performance attributes were assessed: basic competencies (such as oral communication, logical and orderly thinking, knowledge of economic theory), personal qualities and skills (such as time management skills, team work, practical orientation and focus) and other attributes
(such as enthusiasm, customer or client orientation, capacity to handle pressure). Figure 2 shows the mean response for the 29 organizations for each attribute, with error bars indicating the range of responses.

**Figure 2: The Performance of New Economics Graduates.**

On average, new graduates appeared to have performed at least satisfactorily for the measured attributes. However the average level of performance and the range of performance clearly indicated that there is room for improvement. For most attributes, average performance rated between good and satisfactory, none were rated as excellent.

No organization rated new graduates’ *knowledge of economic theory* less than satisfactory. Tertiary economics education would seem to be meeting these employers’ expectations as to the knowledge of economic theory held by bachelor degree and
honours degree graduates. One public sector employer, which has considerable demand for economics skills, commented:

“... generally reasonably confident about the standard of graduate [organization name] has access to in recruitment for its graduate program”.

The highest average ratings of graduate performance were the desire for further learning; ability to benefit from on-the-job-training, and enthusiasm. For respondent organizations, universities would seem to be producing new graduates with attributes for life-long learning.

Attributes that on average rated the lowest were the capacity to handle pressure, time management skills, presentation skills, comprehension of business practice and leadership qualities. This is perhaps not surprising, as these performance variables are more directly related to the actual business environment than to the traditional undergraduate environment. The following employer comments express the view that new graduates could be better trained in applied job skills.

From the private sector:

“Many applicants and recruits appear to have less exposure to the application of economic theory to policy issues, within their degrees (and post grad)”.

“Economic theory must be balance[d]. Business reality”.

“Practical work experience is very important eg. Vacation periods/industrial placements.

And from the public sector:

“New graduates [teachers] often have unrealistic expectations in relation to student knowledge and also in regard to teacher workloads”.

For each of the measured performance variables there were no substantial rating differences between the public and private sector employer evaluations of new graduate performance.
A comparison between graduate performance and employer requirements for selected variables provides a broad indication of deficiencies in graduate performance as assessed by employers. Differences were determined between the scores employers gave on performance and requirements for selected variables: Figure 3 shows the mean gaps for the selected variables, with error bars showing the range of differences between employer assessment of graduate performance and employer graduate requirements.

**Figure 3: The Difference Between Performance and Requirements in Specific Skills.**

A positive mean score in Figure 3 suggests that new graduate performance tends to exceed employer requirements. This may be the case for *computer* and *mathematics skills*. A negative mean score suggests that the performance of new graduates is below what is required. This appears to be the case for the other knowledge and skill variables. The results illustrated in Figure 3 support the hypothesis that the more generic skills
required in graduates are not being satisfactorily met. An assessment by one private sector employer was:

“Written and oral presentation skills of new graduates (not just in economics) have deteriorated over [the] past decade”.

Employers were invited to write comments in answer to the question: Has your organization’s requirements, regarding knowledge, skills and training of economics graduates changed in recent years, or is it likely to change in the foreseeable future? The written responses are provided below.

<table>
<thead>
<tr>
<th>Sector</th>
<th>Responses from individual Organizations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Public</td>
<td>Yes –Technical proficiency and specialisation in the areas mentioned… [i.e. econometrics, labour market economics, environmental economics, statistical analysis, analysis of financial documents, effect of economics on social and industrial issues, quantitative economics and economic models]. Our requirements are that the graduates have up to date knowledge and skills in all areas of economic theory and practice. Current requirements may change as a result of recommendations [of a professional association committee] on the professional standards of teachers including graduate teachers. Not significantly. Looking for skills that can be transferred to various applications.</td>
</tr>
<tr>
<td>Private</td>
<td>Numbers will, regrettably, probably continue to decline due to cost-cutting pressures. There will be a continuous focus on graduates having strong communication skills. Having just the technical knowledge is not enough. Yes – we now also recruit students with combined economics and actuarial studies for one of our 3 business units. Hasn’t really changed much but is likely to require graduates to hit the ground running in the future. Practical work experience is very important eg. Vacation periods/industrial placements.</td>
</tr>
</tbody>
</table>

In general, there does not appear to have been major changes over recent years in what employers require of new economics graduates. Nor do they anticipate any major changes forthcoming in the near future. From employer comments, it is clear that, apart from some technical skills specific to their operations, organizations are looking for well-rounded graduates with communication skills and a practical approach to problem solving.
Employers were also asked if there was any other information they thought the researchers should be aware of regarding what the organization requires of the economics graduates it employs. The written responses are also provided below.

<table>
<thead>
<tr>
<th>Sector</th>
<th>Written Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Public</td>
<td>[Organization name] does not focus on high academic achievement but prefers to find grads who are the ‘right fit’ for our organization.</td>
</tr>
<tr>
<td>Public</td>
<td>Public policy skills – a number of economics graduates recently interviewed seemed quite impractical on this front.</td>
</tr>
<tr>
<td>Public</td>
<td>In addition to the above, [organization name] looks for well rounded background as [the organization’s] work touches on all aspects of public policy in Australia, including Australia’s integration into the international environment.</td>
</tr>
<tr>
<td>Public</td>
<td>We do have a requirement that graduates have successfully completed an honours in economics.</td>
</tr>
<tr>
<td>Public</td>
<td>Our graduates generally require an HD average in core microeconomics courses.</td>
</tr>
<tr>
<td>Public</td>
<td>As a University Economics Department we require PhD at or near completion.</td>
</tr>
<tr>
<td>Public</td>
<td>Economics graduates will improve their employment prospects by considering appointments as teachers to schools in areas of staffing need such as western and south-western [capital city name] and isolated rural [state name].</td>
</tr>
<tr>
<td>Public</td>
<td>This organization employs graduates as teachers, in most cases the quality of teacher education causes us greater concern than the quality of their undergraduate training.</td>
</tr>
<tr>
<td>Private</td>
<td>Cannot emphasise too highly the value placed on (1) capacity to write succinctly for an audience without formal economics training (2) to speak clearly, logically and articulately in conveying assertions, analysis and conclusion (3) knowledge of data sources, the weaknesses of and limits to uses of different types of data.</td>
</tr>
<tr>
<td>Private</td>
<td>Many applicants &amp; recruits appear to have less exposure to the application of economic theory to policy issues, within their degrees (and post grad).</td>
</tr>
<tr>
<td>Private</td>
<td>Economic theory must be balance, business reality.</td>
</tr>
</tbody>
</table>

Employers again emphasised the need for communication skills and the practical application of economic theory to business problems and public policy issues.

In summing up the study’s findings, graduates generally performed satisfactorily in relation to the skill required by employers. However, our results indicate that there is room for improvement in meeting employer needs in regards to generic skills, particularly relating to the various forms of communication skills. Respondents repeatedly indicated a need for increased training and improved graduate performance in
the application of economic theory to social issues and business problems. Those organizations surveyed saw the increased practical application of economic theory as assisted by improved graduate performance in the areas of data analysis, writing and report presentation skills, and improved interpersonal skills. This was summarised by one large private banking corporation which said:

"Cannot emphasise too highly the value placed on (1) capacity to write succinctly for an audience without formal economics training (2) to speak clearly, logically and articulately in conveying assertions, analysis and conclusion (3) knowledge and data source, the weaknesses of and limits to uses of different types of data".

4. APPLICATION AND DISCUSSION

Having established the skills and attributes employers' value in economics graduates, the next step is to develop an undergraduate program to meet these needs. The following discussion outlines how such an approach could be implemented and some of the issues that need to be addressed in the process. The adoption of an employer-oriented approach involves several stages. These stages are (a) the creation of an educational strategy based on adding value to employers; (b) the translation of that strategy into internal organizational processes; (c) the implementation of the educational program, and (d) the monitoring of the performance effects upon customer groups (Keneley and Hellier, 2001).

(a) A market oriented educational strategy aimed at adding value to employers. Our survey established that employers did not require increased mathematical and statistical content. This finding has implications for the content of economics units. Course content with more emphasis on mathematical analysis may be appropriate for students who wish to pursue postgraduate studies in economics. However, given employer requirements, the adoption of more advanced mathematical economics would seem to be inappropriate for students undertaking a generalist economics undergraduate major.
Meeting employer requirements does not necessarily mean a reduction in academic standard and rigour. However, it is likely to result in a change in subject content and analytical techniques. At the undergraduate level, there could be less emphasis on mathematical techniques and explanations and more emphasis on practical problem solving, data analysis and the examination of policy issues. Employers regard these latter skills as very important.

Such employer oriented changes in undergraduate economics units may also increase students’ perceived value of economics and ultimately improve retention rates in economics subjects. This view is supported by the survey conducted by of Marangos (2002b) found that students do not necessarily value the intrinsic nature of economics but see it as a means of enhancing their employment prospects (Marangos, 2002b:91). Such employer-oriented changes may also enhance the value of economics subjects for those students who do not have the educational background or confidence to cope with material containing substantial mathematical and statistical content.

b) Translating employer value based educational strategies into organisational processes. The study found that employers regard practical orientation and interpersonal skills to be very important but graduate performance in these areas appeared to be below the level required. The research of Guest and Duhs (2002) suggests that students themselves are aware of these requirements and that this is reflected in a dissatisfaction with the prevailing teaching methods. Guest and Duhs (2002:152) concluded that a more applied problem based approach, emphasising a closer engagement with student would be more effective.

One way of meeting employer requirements for a practical orientation, is to ensure that subject content is supplemented by actual business and case study data. This material could be drawn from industry, research publications, relevant authorities and public sector departments. Consideration of real business problems may also require the inclusion of data analysis and reports from a variety of relevant disciplines, including marketing, management and public finance.
Employer requirements for interpersonal skills involve issues of effective communication, interaction and team building activities. Undergraduate programs which include personnel from various discipline backgrounds can assist the development of interpersonal skills. Many topics covered in undergraduate economics units lend themselves to multi-discipline study. The teaching program could at times involve personnel from a range of business disciplines to enable students to understand the contribution economics and other disciplines can make to the understanding of business or social problems. A similar point has been made by Ward, Crosling and Marangos (2001:87). They argue that economics departments need to recognise the complimentary nature of economics to other business disciplines and modify their approaches accordingly. A well designed and integrated short-term work experience program as part of undergraduate studies could also greatly enhance the practical orientation and interpersonal skills of economics graduates.

A market-oriented approach which takes into account employer requirements may result in a move away from a pure economics principles and theory approach towards a more multi-disciplinary problem solving approach. Such a shift may however cut across traditional university faculty and department administrative structures.

(c) The implementation of the educational program. Our study found that employers regard writing, data analysis and report presentation skills as very important. The study also found that in general employers’ required economics graduates to have improved skills in these areas. One way of addressing these requirements is for student assessment to take the form of written and verbally presented analytical reports on business problems using relevant numerical data. Such reports might be undertaken individually or with others and could be part of a larger student report. In addition progress reports could be used to determine whether adequate and appropriate advancement is being achieved, or whether alternative learning arrangements need to be introduced. Group reports can however, make the assessment of each individual student’s contribution quite difficult. Methods for equitably overcoming the ‘free-rider’ effect would need to be established.
(d) Monitoring and evaluating the performance effects on customer groups. The study examined employer requirements of bachelor degree holders in economics. However the customers and/or stakeholders of these educational programs also include students, universities (via their post graduate programs) and the Federal government. At times the requirements of these customer groups may differ and provide a potential source of conflict. For example in the relative emphasis place on practical business problem solving and communications skills training compared to economic principles and theory content.

Undergraduate economics program monitoring and assessment should be designed to establish the combination of learning options to produce better student enrolments, retention, employment and post graduate selection. Gauging the most effective combination of mathematics, statistics and computing skills in undergraduate economics programs provides a continuing challenge for program designers.

5. CONCLUSION
The study by Abelson and Valentine (1985) found that employers placed more importance on the acquisition of sound economics and general skills and less upon training in related disciplines. Included in these skills were an ability to interpret economic data, a good knowledge of economic theory and a demonstrated capacity to communicate both in writing and verbally. Our present study has confirmed these findings and our results indicate that the emphasis on the need for generic skills continues to be important. The generic skills with the highest employer requirement rating were the ability to write clearly and concisely, data analysis, presentation and communication skills, interpersonal skills and a practical orientation.

These results suggest an employer-oriented perspective to learning programs could benefit graduates. Such an approach may result in a move away from a primarily economics principles, theory and analysis approach towards a more multi-discipline business problem solving approach to undergraduate economics education. However there are a number of challenges in implementing such a change. Two immediate ones
are; firstly, how to develop multi-disciplinary economics programs that may run across the usual university faculty, school and department organization structures. Secondly, how to effectively balance employer requirements for greater communication and data analysis skills with the usual substantial mathematics, statistics and computing prerequisites required by postgraduate economics subjects.

Is the adoption of a more employer oriented outlook worthwhile given these challenges? Will the implementation of such an approach to undergraduate economics education result in increased employer satisfaction with graduates and increased student enrolments and retention in economics subjects? These questions can only be determined *ex-post* by careful quantitative and qualitative analysis. But as one respondent put it, what we can be assured is that from the employer perspective:

> “There will be a continuous focus on graduates having strong communication skills. Having just the technical knowledge is not enough”.

An employer oriented approach would suggest that the issues raised by employers are worthy of consideration in the search for a solution to the problem of declining enrolments in economics majors.
REFERENCES


AVCC (Australian Vice-Chancellors' Committee) (1992), Report of the Academic Standards Panel, Economics, Canberra: AGPS.


APPENDIX 1: Participating Organizations

Public Sector Organizations

Federal Government Departments
A government primary industry department
A government department providing advice on policy matters of domestic and international concern
A government department providing advice on budget policy and economic conditions

National Authorities
An organization responsible for ensuring compliance with the Trade Practices Act
An authority responsible for monetary policy
A review and advisory body on microeconomic policy and regulation

Universities
The general administration of a large Australian university
The Economics School of a large Australian university

State Government Departments
A state government department of treasury and finance
A state government department of education and training
A state government department of development
A state government department of education

State Authorities
A state public service
An office of state revenue

Private Sector Organizations

Banks and other Financial Institutions
A major Australian financial institution

Accountants, Stockbrokers and Consultants
A leading Australian economic consultancy
A large provider of consulting, technology and outsourcing
A specialist group of chartered accounting and consulting firms
One of Australia’s largest providers of business advisory services
A national financial and actuarial consulting firm
A specialist organization in senior executive search and selection
A leading Australian investment house

Construction and Manufacturing
A world leader in fibre cement technology

Service Providers
Human resource consultant to major corporations and government departments
One of Australia’s largest leisure and entertainment companies
A telecommunications carrier

Conglomerate and Other Organizations
One of Australia’s top 40 companies
A large management consulting firm

Employer, Employee Organizations
An association of unions