

## **APPENDIX 1**

- (a) Fields of research investigated**
- (b) Departments in pre-1987 universities examined for academic qualifications**
- (c) Selected higher education statistics - caveats**

## Appendix 1 (a)

### **FIELDS OF RESEARCH (numbering refers to the Australian Bureau of Statistics field of research (FOR) classification)**

020000	Physics;
030000	Chemistry;
040000	Earth Sciences;
050000	Information, Computer and Communication Technologies (Information Systems and Technologies (050100), Computer Software (050300));
070000	General Engineering (Electrical and Electronic Engineering (070500));
090000	Agricultural Sciences (Soil and Water Sciences (090100), Crop and Pasture Production (090200), Horticulture (090300), Animal Production (090400));
100000	Medical and Health Sciences (Immunology(100100), Neurosciences (100600), Physiology (100500), Pharmacology (100400)).

## APPENDIX 1(b)

### Departments in pre-1987 universities examined for academic qualifications profile:

Physics  
Chemistry  
Electronic Engineering  
Electronics  
Computer Science  
Information Sciences  
Computer Sstudies  
Communications  
Systems and Control  
Soil Science  
Agriculture  
Agricultural Science  
Animal Husbandry  
Plant Breeding  
Horticulture  
Livestock Husbandry  
Animal Production  
Croop Production  
Physiology  
Pharmacology  
Developmenetal Neueroscience  
Neuroscience  
Geology  
Earth Sciences  
Mining - Applied Geology

Note: Data from these departments was aggregated under the following groupings:

Physics  
Chemistry  
Electrical Engineering  
Computer Science  
Agricultural Sciences  
Medicine  
Earth Sciences

## APPENDIX 1(c)

### **SELECTED HIGHER EDUCATION STATISTICS (comments on sources of data, reliability etc)**

#### Staff data

Data on staff of pre-1987 universities were obtained from two sources: as a custom extract from the DEET Higher Education Staff Collection (1995, 1992, and 1989); and from the reports of the former Commonwealth Tertiary Education Commission (1986, 1983, 1980, 1977, 1974). The data was not classified by field of research but field academic organisational unit or by departmental group. These classifications were used to allocate staff as accurately as possible to field of research.

The classification system changed several times between 1974 and 1995. In some years, for example 1989, data has only been classified at the broadest level (Engineering, Science) while for 1992 and 1995 and some earlier years a finer level of classification (biological, chemical, earth) is available. So for some fields reasonable allocations for the selected fields were able to be made. For Medical Science this proved more difficult.

There are two other difficulties that reflect on the accuracy of these data. First, some of the detailed DEET data file is missing for 1992, which meant that the data had to be scaled up to known aggregates. Second, in order to make the pre- and post-1987 data comparable, some allowance for amalgamations needed to be made. The addition of Chisholm into Monash, for example, affected staff numbers in fields such as computing and engineering. Staff data for years just prior to amalgamation were used to make appropriate adjustments.

A final source of inaccuracy is the classification of staff by level and their inclusion as academic staff - research officers for example would be included in some cases but not others. This tends to vary by institution and year and it is not practical to attempt to revise the data.

#### Funding and type of research activity data

These data were purchased from the Australian Bureau of Statistics (ABS) as custom extracts from the ABS Higher Education R&D Statistics. Field of research data by funding source and activity data for pre-1987 universities was obtained for the years 1992, 1990, 1988, 1986, and 1984. Field of *science* data is available for 1978 and 1981.

The field of research classification was changed in 1990. This means that trend data is not available for some of the selected fields (eg, Medical Sciences 100100, 100400, 100500 and 100600 and Electrical Engineering), and for others, such as Computing and Agriculture, the data are indicative only.

All funding data has been expressed as constant 1989-1990 dollars. Deflators were supplied by the ABS.