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## EXECUTIVE SUMMARY

The inquiry was prompted by concerns that competition policy, privatisation and outsourcing during the past decade may have had an adverse effect on the R&D conducted in those corporatised or privatised public sector agencies (such as the energy utilities) now operating in a commercial environment.

The potential adverse effects include: a concentration on short-term rather than longer-term R&D; a downgrading of unprofitable “public good” R&D and data collection functions; uncertainty over the ownership of data; and decreased R&D co-operation between corporatised/privatised agencies, as well as between those agencies and external R&D providers.

### CHAPTER 1: INTRODUCTION (p. 1)

This chapter sets out the background to the inquiry and relevant policy changes of the past decade, notably the national competition policy agreements signed by Commonwealth, State and Territory governments in 1995.

### CHAPTER 2: THE LEVEL OF R&D UNDERTAKEN (p. 17)

#### Australia’s R&D performance

The most common measure of a country’s R&D effort is its gross expenditure on R&D (GERD) expressed as a proportion of its GDP. In 1996-97 Australia’s GERD/GDP ratio was 1.68 percent, well below the OECD average of 1.97 percent.

When R&D expenditure in government agencies and universities is considered in isolation from business expenditure, Australia’s ratio of 0.86 percent of GDP is the third highest in the OECD. The source of Australia’s indifferent ranking in *gross* expenditure on R&D, therefore, is our low business expenditure on R&D (BERD). The 1999-2000 *Science and Technology Budget Statement* records Australia’s BERD/GDP ratio at only 0.80 percent, compared with the OECD average of 1.27 percent.

#### ***The fall in business expenditure on R&D since 1996-97***

While Australia’s BERD/GDP ratio remains significantly below the OECD average, our BERD growth rate from 1991 to 1997 was the fourth highest in the OECD. However, throughout the inquiry there were suggestions that

recent changes in government policy, particularly in relation to the R&D tax concession, were likely to cause the first reduction in BERD in many years. The Australian Bureau of Statistics (ABS) has since confirmed that in 1996-97 and 1997-98 BERD decreased for the first time since the ABS started measuring R&D in the mid 1970s. In 1997-98 BERD declined by seven percent (in current price terms) compared with 1995-96.

The government has suggested that the fall in R&D is attributable to the termination, in 1996, of the syndication scheme (discussed in Chapter 5) and tightening of the definition of activities eligible for the R&D tax concession. However, the recent decrease in BERD from an already low base ought to be cause for concern. The Committee therefore welcomes the National Innovation Summit to be hosted in February 2000 by the government and the Business Council of Australia.

## **The effect of policy changes on the *level* of R&D**

A difficulty with assessing the effects on R&D of the competition policy process is that it is being applied at varying speed to different utility sectors, different organisations within sectors and comparable sectors in different States. Quarantining the effects of public policy changes on R&D is difficult, and accurate data is not readily available.

There is no direct evidence that the energy and water utilities' total R&D spending has diminished – figures supplied by the Department of Industry, Science and Tourism (DIST)<sup>1</sup> in fact suggest a substantial increase in R&D within the gas, electricity and water industries in the decade under review. However, it appears that those funds are being allocated to fewer projects. Analysis of company-level data shows that the commencement of a few large projects accounts for almost all of the increase in gas and electricity R&D.

### ***Will policy changes drive R&D offshore?***

Increased competitive pressures may encourage firms to reduce costs by cutting their R&D effort, purchasing “off the shelf” technology from overseas and customising it to local conditions. The Committee took evidence of such an effect in the energy, water and telecommunications sectors. Also, it is claimed that privatisation of utilities has led to ownership moving to foreign firms, which prefer to source technology from their countries of origin.

While the Committee stresses the importance of maintaining an indigenous R&D capacity, there is little value in limiting foreign ownership of former public utilities, or in dictating to commercial entities where they should source their R&D. A better philosophy would be to create a policy environment conducive to R&D spending in Australia, by Australian *and* overseas

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1 Since renamed the Department of Industry, Science and Resources (DISR).

companies. Policy matters which have been raised in this context include the R&D tax concession, mechanisms to encourage linkages between firms and between firms and research bodies, Australia's capital gains tax regime and the availability of venture capital.

Also, when former Australian companies relocate overseas a question arises as to whether taxpayer support of their R&D should be recouped, as that funding has helped develop intellectual property (IP) that might subsequently compete against Australian products. The Committee's interest was raised by cases such as water purification company Memtec and computing company CSA.

The Committee accepts that recouping past subsidies is not practical, and that intelligent licensing arrangements – where IP generated with taxpayer support is licensed to companies, rather than being sold – can overcome some of the concerns examined.

### ***Loss of “critical mass” for R&D***

One of the potentially negative effects of competition policy is the loss of “critical mass” for R&D in affected sectors. The smaller, disaggregated agencies have a lesser capacity relative to their predecessors to invest in R&D. A related concern is the decreased willingness of the new agencies to co-operate either with each other or with external R&D agencies.

A number of co-operative mechanisms to offset the loss of “critical mass” were raised in evidence to the inquiry. Those mechanisms include:

- **A new system of sector-wide research bodies:** the Rural R&D Corporations (RDCs) and the Australian Mineral Industries Research Association (AMIRA) were suggested as model research brokers for those sectors affected by competition policy changes. The RDCs and AMIRA purchase R&D from existing providers such as the CSIRO, the universities and private research groups.
- **The Energy Research and Development Corporation (ERDC):** participants in the inquiry criticised the government's withdrawal of funding for the ERDC in 1997. Several organisations told the Committee that the ERDC, which funded pre-competitive R&D in a sector heavily affected by public policy changes, was both efficient and effective.
- **The Co-operative Research Centre (CRC) program:** CRCs are established under formal contracts with the Commonwealth Government, normally for seven years, to undertake long-term strategic research on specific issues. The Committee was told that the CRCs are playing a vital role in re-establishing critical mass for R&D following the break-up of many water boards and electricity commissions. This role was not an initial aim of the CRCs and should not be overlooked in funding for the program and/or individual CRCs.

**Recommendation 1 (p. 37):**

**The Committee recommends that the forthcoming National Innovation Summit’s working group on “increasing critical mass in both public and private R&D” examine:**

- **establishing sectoral R&D brokers for collaborative, pre-competitive research; and**
- **the extent to which such collective research should be financed by industry levies as against public subsidies.**

**Recommendation 2 (p. 41):**

**The Committee recommends that in recognition of the success of the CRC program, and its important role in re-establishing “critical mass” for R&D in sectors affected by public policy changes, the government at least maintain real funding for the program at current levels.**

**Lack of adequate data**

A major difficulty throughout the inquiry was a lack of reliable, consistent data with which to measure the effects of policy change on both the level and the type of R&D conducted. A predecessor of this Committee recommended in 1995 that organisations which are required to submit annual reports, in both the public and private sectors, include in those reports information collected in a consistent manner on their R&D expenditure. The government’s response to that report did not specifically address that recommendation.

**Recommendation 3 (p. 43):**

**The Committee recommends that the government require organisations in both the public and private sectors, which are required to submit annual reports, to include in those annual reports information on their R&D expenditure. The government, in conjunction with the ABS and industry, should develop an agreed basis according to which such expenditure can be measured.**

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## **CHAPTER 3: THE TYPE OF R&D UNDERTAKEN (p. 45)**

### **The role of basic research**

Scientific research is usually categorised as being “basic”, “strategic” or “applied”. Basic research is aimed at discovery, which may not have any particular objective in mind other than the advancement of knowledge. Strategic research is directed at broad areas of research that are considered important and the results of which are widely applicable, while applied research has a shorter-term focus and is directed at more specific problems.

Several participants in the inquiry cautioned that a focus on outcome-driven R&D should not obscure the importance of basic, curiosity-driven research, which in turn has certain implications for funding of universities and public sector research agencies. Matters relating to the university research system are examined in Chapter 4.

### **The effect of policy changes on the *type* of R&D**

As with other aspects of the inquiry, attempts to identify the effects of public policy changes on the *type* of R&D conducted are complicated by several factors. One factor is the increasing difficulty of making distinctions between the different types of R&D, for example in the core technologies of communications. Also, many of the changes in R&D during the decade under review would have occurred anyway – overseas business R&D has also moved towards more short-term innovative efforts.

### ***Relevance of the R&D to industry***

There is no doubt that the R&D conducted in sectors affected by competition reforms now has more relevance to the commercial needs of industry. Decisions about R&D in utilities are now taken at a much higher level, and the R&D is oriented towards matters which have a more immediate value to the utility concerned.

Several organisations advised that this more commercial focus for R&D should prove beneficial, with sensible analysis of the potential benefits of R&D, clearer definition of programs and targets, and improved implementation of the results of research. Where there are difficulties – such as a decline in “public good” and long-term research – it may be appropriate to put structures into place across the economy to facilitate such activities, rather than to portray the decline as a failure of competition policy.

## ***Long-term and “public good” R&D***

Competition policies have clearly led to a more management-driven focus for R&D. However, there appears to have been a consequent reduction in basic and long-term research, including activities which have a “public good” component (with diminished support for such R&D in other agencies, notably universities). For example, concern was expressed during the inquiry about corporatised energy utilities’ reduced interest in renewable energy research. Concerns also emerged about access to, and continued maintenance of, long-term environmental data collected by the former public sector water utilities.

### **Recommendation 4 (p. 55):**

**The Committee recommends that, as part of ongoing reforms in the water sector, the government seek the agreement of the Council of Australian Governments on common standards for:**

- **continued public access to water flow and water quality data collected by the former public sector water utilities; and**
- **ongoing responsibility, either through nominated public sector agencies or the new water service providers, for collecting such data and making it publicly available.**

The following proposals to safeguard long-term and public good R&D were put to the Committee:

- the R&D conducted by public sector reform targets should be assessed at an early stage of the process, with explicit arrangements made to safeguard “public good” activities (by either imposing those activities on the new service providers and funding them as a community service obligation, or transferring the activities to an appropriate public sector research agency); and
- there should be an R&D “stocktake” to quantify the loss of public good activities previously undertaken by public sector utilities.

**Recommendation 5 (p. 57):**

**The Committee recommends that the government propose to the Council of Australian Governments that a stocktake of the R&D activities of utility service providers be carried out, to quantify any substantial loss of such activities – particularly those with a “public good” component – resulting from the application of competition policy and like reforms to the electricity, water, gas and telecommunications sectors. A possible mechanism for such a stocktake could be a review by the National Competition Council. Where functions with a net benefit to the community are no longer being performed due to a lack of commercial incentives, those functions should be either:**

- **performed by the new service providers and funded by the government in a manner similar to a Community Service Obligation; or**
- **transferred to an appropriate public sector research agency, again with funding adjustments as required.**

**Recommendation 6 (p. 58):**

**The Committee recommends that the government propose to the Council of Australian Governments that, in future, R&D activities undertaken by competition policy reform targets be identified at an early stage of the reform process. Where the continued performance of non-commercial “public good” and longer-term research is deemed to be desirable, arrangements should be made as per Recommendation 5.**

***Certain policy changes in public sector R&D***

Several government science agencies, including the CSIRO, are now required to find up to 30 percent of their funds from sources other than annual appropriations; that is, from research consultancies and contracts. The Committee heard concerns that there are limits to extending external funding without detracting from agencies’ public good research functions.

**Recommendation 7 (p. 61):**

**The Committee recommends that the government bear in mind the public good when setting the external earnings targets for Commonwealth research agencies.**

“Competitive neutrality” requires that government business activities not enjoy competitive advantages simply by virtue of public sector ownership. This can take the form of requiring government businesses to pay taxes (or tax

equivalents), together with removing regulations which provide special advantages for government businesses. The CSIRO and the Australian Vice-Chancellors' Committee (AVCC) expressed concern about the application of competitive neutrality principles to their respective sectors. The Committee, while not making recommendations on these matters, draws to the government's attention the concerns of the CSIRO and the AVCC.

## Research infrastructure and equipment

As with other aspects of the inquiry, there are difficulties in attributing changes in research infrastructure and equipment over the past ten years to public policy changes. In telecommunications, for example, the shift from network R&D to systems R&D has led to declining investment in equipment, as the equipment required for systems development is less expensive than the specialised equipment required previously. The decline in investment has therefore resulted more from a change in the nature of the work than from policy changes.

Also in relation to telecommunications R&D, privatisation may have had an effect on *access* to research infrastructure. One of the roles that Telstra, as a monopoly, performed was to provide other bodies with access to facilities for testing devices and applications. As noted earlier, part of the process of policy change should be to identify the loss of such functions and, where appropriate, to transfer those functions to a public sector agency.

## Outsourcing

Outsourcing of public sector functions has increased during the decade under review, and has had some beneficial effects for R&D. Some former public sector entities have turned to universities for their R&D needs and directed their funds accordingly. Utilities often use "risk and reward" contracts, which can provide a greater incentive for contractors to take an innovative approach. Shifting R&D to suppliers also may enable those suppliers to provide more innovative inputs to other customers.

While outsourcing has its benefits it can exacerbate problems mentioned earlier, such as the move away from long-term R&D – as utilities which outsource R&D tend to focus on short-term projects. The critical mass for R&D can also be affected by outsourcing and downsizing in former centres of excellence, with experts either leaving the field or being distributed over a number of service providers. There are also suggestions that outsourcing can favour overseas R&D providers.

The Australian Academy of Science and the Institution of Engineers urged governments to recognise that outsourcing can legitimately take account of public-good benefits, and to allocate incentives and rewards to encourage more innovative behaviour.

**Recommendation 8 (p. 66):**

**The Committee recommends that the government ensure that outsourcing processes which encourage innovation and take account of “public good” benefits are examined at the National Innovation Summit.**

***The need to retain “in-house” expertise***

There has been speculation that policies such as privatisation and outsourcing led to some of the more newsworthy failures in public infrastructure which occurred during the course of the inquiry. These include the water crisis in Sydney in July 1998 and earlier power failures in Queensland and Auckland, New Zealand.

The inquiry did not establish that the Australian failures were attributable to privatisation or outsourcing. However, the Committee stresses to all Australian governments (and their utility service providers) the need to retain sufficient in-house R&D expertise to make informed decisions when contracting out services.

**Recommendation 9 (p. 69):**

**The Committee recommends that the government acknowledge the need to retain sufficient “in house” R&D expertise to make informed decisions when contracting out services, and that the government requests the States to do likewise.**

***Outsourcing and health research***

Contracting out hospital services appears to have had potentially serious effects on health research. The National Health and Medical Research Council (NHMRC) informed the Committee that services and facilities previously made available through the public hospital system have been withdrawn, or only made available at high cost. One unintended consequence may be to undermine on-site clinical research.

Further to Recommendation 8 above, the NHMRC suggested that research and teaching could, for example, be treated as a separate item in hospital “casemix” funding.

**Recommendation 10 (p. 70):**

**The Committee recommends that the Commonwealth Minister for Health raise with State Ministers for Health the need to make explicit financial provision for clinical research when outsourcing public hospital services.**

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## **CHAPTER 4: R&D AND THE UNIVERSITY SECTOR (p. 71)**

Universities have traditionally played a major role in research in Australia. Other significant roles of universities include the provision of training and experience for future researchers and the dissemination of learning, ranging from the elementary to “leading edge” international knowledge. Universities thus contribute to innovation by activities which add to the “stock of knowledge”.

Before 1987 the tertiary education sector included colleges of advanced education and institutes of technology, which were only funded for undergraduate teaching and postgraduate course work. The implementation of a unified national system in 1987 brought about a major structural change, increasing the number of tertiary institutions with university status. Despite their different status, many of the former institutes had already established a successful research effort via industry linkages.

Issues which arose during the inquiry in relation to the university sector include:

- what type of research is being done?
- where is the research being undertaken?
- how is research infrastructure funded?

### **Categories of research**

Pure basic research and applied research each account for about 35 percent of Australian university research expenditure, while strategic basic research accounts for 25 percent. However, 82 percent of all the pure basic research undertaken in Australia, and 44 percent of the strategic basic research, is carried out by universities. Universities account for 26 percent of Australia’s applied research – reflecting the greater private sector role in that area.

The report sets out universities’ R&D spending by field of research. Although data for the 1990s in relation to higher education R&D is readily available, data prior to this does not appear to have been routinely collected and, where available, is not always comparable with present day data.

**Recommendation 11 (p. 73):**

**The Committee recommends that the Department of Education, Training and Youth Affairs, the Department of Industry, Science and Resources and the Australian Bureau of Statistics continue to collect and analyse data annually on R&D in the higher education sector in such a way that comparisons over time and with the international arena are facilitated.**

The evidence to the inquiry reflected the debate about the appropriate balance between universities' basic research and research with more immediate benefits for economic growth. That balance needs to be reviewed on a regular basis, and presumably will be discussed during the National Innovation Summit and in debate on the government's Green Paper on higher education research.

## **R&D funding**

Universities receive federal government support for research through:

- operating grants;
- funds administered by the academic research councils (the Australian Research Council and the National Health and Medical Research Council); and
- other programs which provide funds directly or indirectly (government-sponsored industry R&D bodies in agriculture, energy and resources).

In the decade since the implementation of the unified national system, annual new enrolments in higher education have expanded from 394 000 (1987) to 659 000 (1997) – an increase from 31.7 to 46 people in tertiary education per thousand head of population. According to the Australian Vice-Chancellors' Committee (AVCC), total funding for higher education per planned equivalent full-time student unit (EFTSU) fell by 12.9 percent between 1988 and 1999.

The Australian Research Council (ARC) is the main vehicle through which the federal government supports research carried out in universities, with the majority of universities' targeted research funding allocated on the ARC's advice. One criticism of the system is the high applicant failure rate occasioned by limited funding. The ARC was able to fund less than 20 percent of all 1996 grant applications, meaning that a large proportion of worthwhile research projects are not supported.

The state of university research infrastructure was also the subject of considerable evidence to the inquiry. The Committee recognises that the funding of infrastructure is an urgent issue and that the best method of funding

is difficult to determine. An audit to determine the state of university infrastructure and the level of its usage would be beneficial.

**Recommendation 12 (p. 83):**

**The Committee recommends that the Department of Education, Training and Youth Affairs, further to its study of infrastructure funding under the Research Evaluation Program, undertake an audit to determine the state and level of usage of higher education research infrastructure.**

**Recommendation 13 (p. 83):**

**The Committee recommends that the Minister for Education, Training and Youth Affairs discuss with the Australian Vice Chancellors Committee the most appropriate methods of funding higher education research infrastructure.**

**Recommendation 14 (p. 83):**

**The Committee recommends that the government ensure that funding of higher education research infrastructure is discussed at the National Innovation Summit.**

## **Relationship between industry and universities**

Universities are becoming increasingly dependent on other funding sources. Many universities have “commercial arms” to foster links with industry and the community.

In the context of the more competitive market in which utilities now operate, the Electricity Supply Association of Australia stated that universities have often not been able to respond in a flexible manner, which has caused industry to seek out other organisations to provide a solution. The AVCC cautioned that the agendas of universities and industry should not necessarily coincide, and that various government initiatives in R&D “...are designed to maximise the benefit of these differences”.

When research is undertaken by a university on behalf of a private client the results may not come into the public domain. This is particularly the case where a corporatised or privatised utility is expected to appropriate fully the research results to position itself better in the market. There may also be uncertainty as to who owns the intellectual property – the university or the customer.

## ***Formal linkage programs***

Increased university-industry-government collaboration has in recent years been a priority of federal governments. Relevant programs examined in the report include the CRC program, the Strategic Partnerships with Industry Research and Training (SPIRT) scheme, and the Research Centres program.

## **Employment**

The report sets out various statistics on employment of science and engineering graduates. In relation to the policy changes being investigated by the Committee, reduced employment in the public sector has meant the loss of some training opportunities, as recent graduates in engineering frequently worked for three to five years in the public sector before moving to the private sector. The research community is also concerned about the implications of the sale of utilities overseas for employment opportunities for researchers.

Also, many research projects have shorter time frames or receive funding for short periods before a further application is necessary. Consequently, new positions in research organisations are frequently offered on a casual or short-term contract basis.

The Committee agrees with the AVCC that data should be collected on changes in employment patterns resulting from public policy changes. The Committee commends this to governments, further to Recommendation 9 (on the need for governments to retain in-house expertise).

## **CHAPTER 5: R&D INVESTMENT – INCENTIVES AND IMPEDIMENTS (p. 93)**

### **The R&D tax concession**

The R&D tax concession was introduced in 1985, entitling companies to claim 150 percent of the cost of their R&D as an expense against taxable income. The reduction of the concession to 125 percent in 1996 was the most controversial issue of the inquiry, with suggestions that it was responsible for the decline in business expenditure on R&D (BERD) referred to earlier. While this suggestion has been rejected by the government, an appropriate response to the decline in BERD should be determined when the government formulates its response to the review of business taxation arrangements.

**Recommendation 15 (p. 99):**

**The Committee recommends that the government, in its review of business taxation (or as part of the National Innovation Summit deliberations) determine an appropriate policy response to the reduction in BERD from 1996-97 onwards.**

**Recommendation 16 (p. 101):**

**The Committee recommends that the government maintain the current definition of activities eligible for the R&D tax concession.**

## **The R&D Start program**

R&D Start is a competitive grants scheme which aims to increase the number of private sector R&D projects with high commercial potential, encourage the commercialisation of the outcomes of R&D, foster links between industry and research institutions, and increase funding by the finance sector of R&D and commercialisation activities.

For successful R&D Start applicants the level of support can be substantially higher than that provided by the tax concession. Also, an “up front” grant might be more successful than the tax concession in inducing R&D that would not otherwise have been performed. Against this is the fact that the cost of running a competitive grants scheme, relative to its disbursements, is substantially higher than the cost of a generally-available tax concession, while compliance costs for business are also higher. Also, many applicants will inevitably be unsuccessful.

Whether the government has found the right balance between targeted grants and the generally-available tax concession should be evaluated at the National Innovation Summit.

**Recommendation 17 (p. 105):**

**The Committee recommends that the government request that the forthcoming National Innovation Summit evaluate the effectiveness of the R&D Start program, and the appropriate balance between targeted assistance and the generally-available tax concession.**

## Access to venture capital

Limited access to venture capital is an acknowledged problem for Australia's small, innovative firms. Initiatives discussed during the inquiry include the former "syndication" provisions of the R&D tax concession, and the introduction in 1997 of the Innovation Investment Fund.

Syndication was introduced following a review in 1987 of the R&D tax concession. Syndication enabled two or more companies to jointly register for the concession for projects with R&D expenditure in excess of \$500 000. Syndicates generally consisted of investor firms which contracted research firms to undertake R&D. Syndication allowed those research firms to bring forward the realisation of their accumulated tax losses, and trade those losses for investors' funds.

Syndication was terminated at 23 July 1996, principally owing to its high costs and concern over tax minimisation by syndicate partners who had little interest in commercial development of R&D. While several participants in the inquiry criticised the removal of syndication, others submitted that the government was right to be concerned with some of the "fairly imaginative" taxation schemes that emerged. The Committee therefore does not recommend that syndication be restored.

In 1997 the government established the Innovation Investment Fund (IIF). The IIF is designed to encourage the growth of early stage technology-based companies, and to create a self-sustaining early stage venture capital industry. While the IIF will be evaluated by the government in 2001-2002, its performance to date should be evaluated at the National Innovation Summit.

### **Recommendation 18 (p. 114):**

**The Committee recommends that the government request that the forthcoming National Innovation Summit evaluate (a) the extent to which the IIF is developing a self-sustaining venture capital market, and (b) whether the IIF is successfully targeting the projects and companies which should be supported.**

The Committee took evidence on measures which could complement the IIF. These include: an additional focus on pre-venture capital; the use of government purchasing policies; the extension of the R&D tax concession to interest and dividends paid by trusts and/or funds set up to invest in R&D and high technology; and the establishment of an insurance scheme, to offset the risk of investing in new Australian technology.

**Recommendation 19 (p. 115):**

**Further to Recommendation 18, the Committee recommends that the government ensure that the evaluation canvasses whether additional measures are required to complement the Innovation Investment Fund.**

## **Capital gains tax**

A number of submissions suggested that Australia's capital gains tax (CGT) regime discourages the growth of local high-technology industries. In addition to lowering the CGT rate, other options for reform might be to exempt certain investments in high technology enterprises from CGT, an exemption from CGT for US pension funds, and "time weighting" of CGT so that less tax is payable the longer an asset is held. The Committee will be strongly interested in the outcome of the government's ongoing review of business taxation, and the impact that hopefully will have for innovation and long-term investment.

## **CHAPTER 6: SOME ADDITIONAL ISSUES** (p. 121)

### **Qualifications of Australian managers and financiers**

Much could be done to improve awareness of R&D and innovation amongst Australian management and financiers. Some suggestions to the inquiry were: that MBA electives, which focus on science and technology, should be developed; inducements to current managers to enter (or re-enter) tertiary training; and more customised courses for companies.

**Recommendation 20 (p. 124):**

**The Committee recommends that the Commonwealth Minister for Education, in co-operation with tertiary institutions, science and technology organisations and bodies such as the Australian Institute of Management, develop innovation courses for use in management training.**

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## **Streamlined programs and policy stability**

Participants in this and other inquiries have called for rationalisation of the multiple sources of government innovation programs, but have also emphasised the need for long-term policy stability. It is claimed that government incentives schemes for private sector R&D have been implemented without a long-term strategic plan in mind.

A bipartisan national vision for R&D, with a supporting suite of programs capable of outlasting Australia's short electoral cycle, would be a useful outcome for the National Innovation Summit to pursue.