

Cost recovery in a Commonwealth information agency

The ABARE experience

ABARE submission to the
Productivity Commission

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ABARE

Innovation in Economic Research

COST RECOVERY

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Summary

Cost recovery in ABARE had its genesis in arrangements for partial funding by the wool and beef industries of farm surveys carried out by its progenitor, the Bureau of Agricultural Economics, throughout the 1970s and 1980s. In 1989-90 arrangements were made to use the mechanism of Section 35 of the Audit Act 1901 (now Section 31 of the *Financial Administration Act 1997*) to allow ABARE's budget to reflect external revenue. Since that time, cost recovery has become increasingly important. In 1999-2000 cost recovery accounted for approximately 49 per cent of ABARE's revenue.

ABARE's research role is to provide new economic information that will enhance the efficiency of Australia's agriculture, forestry, fisheries, food, minerals and energy industries. In keeping with its primary public good research role, the bulk of ABARE's external funding is from government departments outside Agriculture, Fisheries and Forestry – Australia (AFFA) and industry research and development corporations and is for research that is either of national importance or of importance to a broad spectrum of participants in one or more industries in the commodity sector. ABARE does accept funds for some research that is essentially of a private good nature, but only when it is complementary with its broader public policy role.

It would be difficult to separate the influence on ABARE's research program of cuts in appropriation funding from that of cost recovery arrangements in any definitive way. The 1989-90 development of cost recovery arrangements clearly offered industry research and development corporations the opportunity to fund an expansion in ABARE's farm survey program at a critical time for the rural sector. Access to additional funds also allowed ABARE to extend and then maintain its analytical capacity. Developments since the setting of a 30 per cent external funding target in the 1993-94 budget have meant a reduction in staffing and resources and a reorientation of the research program. Nevertheless, the opportunities provided by cost recovery arrangements have allowed the maintenance of a larger program of policy relevant research than would otherwise have been possible.

Costings for all ABARE projects are based on a standard costing model. Project development, costing and management are handled in the same way for AFFA funded and for externally funded projects. The costing model is updated annually, or earlier if there are significant changes in cost structure. The costings are based on fully distributed cost, including allowance for a return on capital and all relevant government taxes and charges — in keeping

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with competitive neutrality requirements. The move to accrual accounting from 1999-2000 and AFFA's program of market testing, and consequent outsourcing of some services that it provides to ABARE, provides an accurate, market relevant, base for the ABARE costings.

Cost recovery arrangements have had two notable impacts on the efficiency of ABARE's operations. First, there are some direct costs involved in the preparation of applications for funding and other activities involved in seeking external funds. Second, external funding has made it necessary for ABARE to adopt effective formal project, risk and time management systems. As well, to effectively meet client expectations has required the development of a staff culture in which timeliness and client service are highly valued. These developments have applied across ABARE's research program. Projects are designed, costed and managed to the same standards whether funded through AFFA's provision of appropriation funds to ABARE's business or funded by external clients. In other words, there have been significant efficiency gains to the whole of ABARE's operations, not only the part that is externally funded.

1. Introduction

On 16 August 2000 the Assistant Treasurer, Rod Kemp, asked the Productivity Commission to review the cost recovery arrangements for Commonwealth government regulatory, administrative and information agencies. ABARE is a major Commonwealth government information agency. On a professionally independent basis, ABARE provides new economic information to government and the agriculture, minerals, energy, fisheries, forestry and food industries. Over time ABARE has increasingly relied on cost recovery. This report contains an assessment of the influence of cost recovery arrangements on ABARE's operations and contribution to the Australian economy.

The full terms of reference for the Productivity Commission's inquiry are contained in appendix A. This submission contains an attempt to answer some of the questions about the nature and impact of cost recovery asked in the Commission's discussion paper (Productivity Commission 2000), as they relate to ABARE's experience. The emphasis in this submission is on the relevance of cost recovery to ABARE's primary role of providing research results of direct public interest, as indicated by the influence of these results on government policy or industry actions.

Over the years ABARE has sought and received funding from a range of sources. The level and mix of cost recovered funds have changed over time as government policy on cost recovery has evolved and ABARE's relationships with government departments have changed. A brief outline of those changes is given in chapter 3, to provide context for the discussion of the impacts of ABARE's cost recovery.

An assessment of the impacts of cost recovery needs to be handled in the context of ABARE's research role. That role, primarily as a public good supplier of market forecasts and policy relevant research, is outlined in chapter 2. To place ABARE's research activities in a broader context, this submission also contains a discussion of a conceptual framework for assessing the benefits from economic research. An attempt is made to estimate the order of magnitude of benefits from selected ABARE research programs and projects.

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2. ABARE's research role

ABARE's research role derives largely from the government's responsibilities for research and policy making. Governments have a primary role in funding the research required for analysing policy issues. A further role is in funding research related to the management, on behalf of the community, of natural resources that are under the control of the government, such as minerals and energy resources, fisheries, forests, land and water.

Much of the information produced from some types of research can be categorised as a public good in the sense that it is difficult to exclude individuals from using the information, even though they have not contributed to the cost of producing it (Hyman 1990). It is often the case that there is no clearly defined group of beneficiaries who might be levied or taxed to provide the funds for the research. As a result, some research of potential benefit to society as a whole might not be undertaken in a pure market economy because those who might do the research would be unable to capture sufficient of the benefits to cover their costs — that is, research would not be undertaken in the absence of public funding. These issues are discussed in some detail in Curran and Podbury (1994).

Key questions that arise about the type of research done by ABARE are:

- What is the optimal level of funding of public good research?
- How should this funding be allocated between disciplines and sectors of the economy?
- What role does cost recovery from public and private agencies have?
- What is the best way to deliver research output?

Definitive answers to these questions are difficult to obtain because, by definition, the market fails to provide an optimal allocation of research dollars. A large body of benefit–cost literature points to the notion that at current levels of research expenditure societies tend to underinvest in research. In other words, the calculated overall benefit–cost ratios for research expenditure are usually large (see, for example, Alston and Pardey 1996 and Alston, Chan-Kang, Marra, Pardey and Wyatt 2000 for a review and analysis, respectively, of the literature for agriculture). In the following sections an attempt is made first to quantify the overall benefits from ABARE research and then to discuss questions relating to the optimal delivery of that research.

Benefits of economic research

While there is an extensive literature on the benefits of research, little has been written about the benefits of economic research dealing with market or policy assessment. The emphasis in the research evaluation literature is on research into new production or management technologies. The dearth of work on policy research and market assessment is not surprising. A number of characteristics of this type of research and its output make it more difficult to assess than is research aimed at producing technical innovations.

Market assessment and forecasts and policy oriented economic research differ from much physical science based research in that the research output is not embodied in any tangible change to industry inputs or easily measurable change to industry outputs. That makes it more difficult to measure the impacts of economic research. Nevertheless, there are a number of ways in which economic research may influence the efficiency of an economy.

All economic research is aimed at producing new knowledge. The type of knowledge and the nature of the innovations in knowledge produced cover a wide range. Zilberman and Heiman (1999) attempt a categorisation of economic research outputs. Two of their broad categories of output are particularly relevant to the discussion of ABARE research; economic information — in this case commodity market assessment and industry information — and contributions to public policy. On public policy contributions, Zilberman and Heiman note that the contributions of economists may range from development of new theories to routine application of benefit–cost analysis to screen out poor proposals.

Lindner (1987) and Gardiner (1999) suggest that the products of economic research can be regarded as contributions to decision making under uncertainty. Successful economic research reduces the level of uncertainty faced by decision makers. In doing so it has value because it raises the probability of making good decisions. The principle is the same whether the research output is a more reliable forecast of a commodity price or an assessment of alternative policies.

Newness may not be necessary for economic policy research output to be useful. Confirmation of existing research results may be useful if it increases decision makers' confidence in those results. For this reason there may be a body of literature on a particular set of policy options that is collectively valuable, while no particular piece has identifiable value alone.

Regardless of how good the research is, its value is realised only when it is accepted and acted on by decision makers.

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Value of ABARE research

The core research undertaken by ABARE can be considered under three broad headings: policy research, outlook analysis and data collection. ABARE's effectiveness is defined by the extent to which government policy decisions and industry investment and production decisions are improved by ABARE's contribution to their decision making processes. Consistent with the above discussion, information provided by ABARE is only one of a number of factors that may influence a policy or production decision, so it is often difficult to define ABARE's influence on outcomes or to estimate the increase in economic welfare resulting from that influence.

Nevertheless, it is possible to outline the benefits that may result from successful completion of some major components of ABARE's current research program. It is also possible to illustrate the nature and extent of benefits by assessing the impact of some recently completed work. In some cases it is possible to quantify the benefits of ABARE's work and provide a full cost-benefit analysis of specific projects or programs.

ACIL (1989) provided a benefit-cost assessment of ABARE's research on the meat industry for the period 1972 to 1989 to the Australian Meat and Livestock Research and Development Corporation (AMLRDC). ACIL found the present value of net benefits from ABARE's program had exceeded \$1.5 billion (in real 1989 dollars). In particular, ACIL concluded that ABARE's research had stalled the European Community's attempt to subsidise sales of beef into Australia's traditional markets in the Pacific Basin and was instrumental in convincing the Japanese government to remove a bias against Australia in its meat import regulations.

In 1992, ABARE undertook a number of benefit-cost analyses of research programs undertaken in 1990 and 1991 as part of a wider assessment into its overall performance (ABARE 1992). Significant economic net benefits were found to have accrued to the programs analysed. Those programs were:

- institutional arrangements for the Australian wool industry
 - benefits estimated to be at least \$570–600 million against costs of \$383 000.
- taxation of the petroleum industry in Australia
 - benefits estimated at \$1.2 billion against a research cost of \$233 000.
- Japanese access to the Australian fishing zone
 - benefits estimated at \$1.5 million against a research cost of \$15 000.

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The following examples indicate the benefits of current ABARE research. A more detailed assessment of the benefits of these and other research projects is provided in appendix C.

International trade negotiations

The aim in this program of research is to provide analysis and quantification of the effects of multilateral agricultural policy reforms through the World Trade Organisation (WTO) and regional reforms through the Asia Pacific Economic Cooperation (APEC) forum. The program is of particular importance at this time because the WTO agricultural negotiations commenced in January 2000. Work to be undertaken on this program in 2000-01 is estimated to cost \$1.5 million.

The benefits to Australia of this research arise from the gains to the resource sector that result from international trade reform flowing from the WTO and APEC negotiations. ABARE has estimated that a 50 per cent reduction in all barriers to agricultural trade and in market distorting production and export subsidies internationally would provide net welfare benefits to the Australian economy of \$300 million a year. If such a reduction in barriers were realised, only half of one per cent of the benefits estimated to accrue in one year would need to be attributed to ABARE research for it to have recovered the full costs of the research being undertaken in 2000-01.

ABARE estimates that comprehensive trade liberalisation by APEC countries in line with the Bogor Declaration of 1994 would produce gains to Australia of approximately \$1.7 billion a year. If such liberalisation were to occur and only 1 per cent of the gains to Australia could be attributed to ABARE research, the payoff would be \$17 million a year.

Climate change policy

The objectives in the climate change policy program are to provide economic research, policy analysis and advice on key climate change issues with the aim of supporting Australian efforts to advance and achieve outcomes in the national interest.

The results of ABARE analysis and advice proved to be an essential input to the development of Australian government climate change policy and the government's international negotiating position at Kyoto. ABARE analysis demonstrated the inequities of uniform greenhouse targets and the advantages of differentiated targets. Differentiation became a key objective of the Australian government and ultimately this principle was adopted in the Kyoto

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Protocol. ABARE research also demonstrated the cost reducing potential of international emissions trading, and achieving agreement to emissions trading was another key Australian goal.

The benefits derived from ABARE research arise from the reduced economic and trade costs to Australia as a result of negotiating a differentiated greenhouse target of 108 per cent relative to the 1990 base year level for the commitment period 2008–12. Additional benefits arise from the reduced costs resulting from the adoption of international emissions trading in the protocol. The cumulative GNP benefit to the Australian economy as a result of securing agreement to a differentiated target, compared with (in the absence of ABARE analysis) a scenario in which Australia had agreed to a uniform emission reduction target (the agreed overall Annex B Kyoto target), is projected to be \$23.6 billion. The benefit from the agreement to the use of international emissions trading in meeting emission targets is projected to be \$12.7 billion. If only 1 per cent of the Kyoto outcome achieved for Australia on these two issues is attributed to ABARE's work, the cumulative GNP benefit arising from this research is \$363 million.

Dryland and stream salinity

Dryland and stream salinity are emerging as major environmental and economic problems in the Murray–Darling Basin. Large scale tree planting has been widely advocated as a solution for current and impending salinity problems. Results from modeling carried out by ABARE (in cooperation with CSIRO in partnership with the Murray Darling Basin Commission) estimate that adoption of large scale afforestation would cause a reduction in the net present value of agriculture and forestry of \$50 million in the Macquarie–Bogan catchment and \$70 million in the Goulburn–Broken catchment.

The Goulburn–Broken and Macquarie–Bogan catchments represent only a small fraction of the Murray–Darling Basin. If there is a 10 per cent chance that the outputs of rigorous policy modeling discourage adoption of policies of the type modeled in the large scale afforestation scenarios in one catchment only, the net present value of that modeling would be in the order of \$5–7 million. ABARE's work was incorporated in the development of the Murray–Darling Basin Commission's salinity management strategy. If ABARE's contribution to the modeling accounted for 5 per cent of the consequent policy uptake, the value of ABARE's effort would be \$250 000–350 000.

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Industry uses of farm surveys

ABARE's annual surveys of broadacre and dairy industries provide a unique database on farm structure, operation and performance. While a primary purpose of the collection is to supply information for government needs, the surveys have a wide range of industry uses. ABARE is working with industry research and development corporations to make the survey data more accessible for industry benchmarking. ABARE's graphical package ag@caccess allows internet access to a range of data that can be used for benchmarking. As well, ABARE has developed grains@caccess, using industry defined benchmarks, in conjunction with the Grains Research and Development Corporation and is currently working with the Australian Dairy Research and Development Corporation to provide a set of industry benchmarks that will be accessible through the DairyWeb internet site.

Using the ABARE farm surveys database, Chapman, Beare and Neeman (2000) find that around 20 per cent of the difference between farms in a region in relative rates return cannot be explained by a range of factors such as location, farm size and industry composition but persists over time. Differences in the efficiency of farm management may be one of the significant contributors to such performance differences. Used as an appropriate part of a management information system, industry benchmarking has the potential to lessen the difference in performance between farms.

If 20 per cent of the difference estimated by Chapman, Beare and Neeman in average rate of return between the top 75 per cent of farms and Australian farms as a whole could be closed by improved management, the gains would amount to \$233 million a year. If such gains were achieved, and benchmarking from ABARE survey data was responsible for 1 per cent of them, the value of that data for a single year would be over \$2 million. In 1999-2000, the full cost of ABARE's survey program was \$3.6 million. As noted above, provision of benchmarking tools is only one of the uses of the survey database.

Realising the benefits of research

Two critical questions underlie all of the potential benefits of current ABARE research outlined above — what is the probability of a successful outcome, and what is ABARE's role in any success? While it is not possible to provide definitive answers to those questions, it is possible to give an outline.

Zilberman and Heiman (1997, 1999) emphasise the importance of transmitting and interpreting the results of economic research to the ultimate realised value of that research. In particular they note (1997, p. 1541) that the most effective communication channel depends on the nature of the decision making

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process. The communication strategy adopted by ABARE recognises both the importance of dissemination and the relevance of different media for a variety of dissemination tasks.

ABARE ensures wide dissemination of its commodity forecasts through the media and substantial mailing lists. ABARE's annual OUTLOOK conference provides a key focus for the commodity, manufacturing and service sectors to exchange ideas on market conditions and policy issues. Dissemination of ABARE's commodity forecasts is a primary purpose at OUTLOOK. The other main purpose is enhance the debate on key industry and policy issues. The conference provides a venue for decision makers across a breadth of industries to exchange ideas on issues of current or impending importance. In this context, the conference provides a primary opportunity for disseminating the results of ABARE's policy oriented research.

Recognising the importance of communicating commodity market information, particularly to producers, ABARE also organises a series of regional conferences. ABARE officers are also regular participants in industry and professional conferences.

The results of ABARE's public policy research are made widely available, for example, through publication of research reports and current issues briefs. At another level, contributions are made at a key decision maker level. Such contacts range from frequent briefings of portfolio ministers, through contribution to the climate change and trade negotiations to participation in fisheries management advisory committees.

ABARE's web site provides a further means of providing clients with information about ABARE's research and its products. The web site offers a timely and efficient means of distribution to complement existing print publications and assists in disseminating information to the widest possible target audience.

In addition, it is essential that research is accurate because policies based on incorrect information may involve significant (and often unnecessary) economic costs. It is also important in maximising the benefits from research that results are communicated effectively to policy makers and stakeholders. ABARE has a comprehensive and rigorous refereeing system and clearance process to ensure the integrity of its research results. The objectivity and integrity of ABARE's data and analysis are highly valued by clients and stakeholders. ABARE's professional editorial and publishing staff are key players in information dissemination and ensure that the results of ABARE research are communicated effectively to clients in a clear and concise form.

3. Research funding

Historical context of cost recovery

The history of cost recovery in ABARE dates back at least to the early 1970s when some research and data gathering activities of the Bureau of Agricultural Economics (BAE), then part of the Department of Primary Industries, was industry funded. Most of the funding, throughout the 1970s and 1980s, was from the wool and beef industries, to meet part of the cost of collecting and analysing farm survey data.

In 1987, with amalgamation of departments and creation of the Department of Primary Industries and Energy, ABARE was constructed from the BAE and the smaller Bureau of Resource Economics. While ABARE's research charter was much broadened from the BAE's, cost recovery arrangements were initially unchanged. In 1989-90 new user charging arrangements were implemented where the revenue from costs recovered from client charges was directly attributed to ABARE's funding through the mechanism of Section 35 of the *Audit ACT 1901* (now Section 31 of the *Financial Administration Act 1997*). ABARE's budget appropriations were reduced accordingly by the amount of the receipts. Together with the new mechanism for retaining receipts there was an emphasis on greater user charging. ABARE expanded its charging for services to include other government agencies, including areas within the Department of Primary Industries and Energy, and for the sale of its publications, thereby increasing its funding base to increase its research capacity.

As a result of the then government's budget decisions in 1993-94, ABARE was set a 30 per cent cost recovery target to be reached progressively by 1996-97 with resultant net savings of \$3.58 million in reductions to budget funded running costs over the out years.

The reductions to running costs budgets (appropriations) are given in table 1.

In the 1996-97 budget ABARE's funding was further reduced by \$1.82 million a year to again lower its dependence on budget funding to undertake commodity analyses and economic research. The reduction in funding was to be offset by operating efficiencies and an increase in the level of external revenue received by ABARE from client charging and improved marketing of its services. To offset these reductions in appropriations, ABARE was to aim toward attaining 40 per cent recovery of expenditure from revenue. In addition to this specific reduction in funding, a further 2 per cent (\$0.33 million)

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1 Reductions in appropriation funding, 1993-94 to 1996-97

	1993-94	1994-95	1995-96	1996-97	Total
	\$'000	\$'000	\$'000	\$'000	\$'000
Original savings calculations					
Salaries	154	532	910	910	2 506
Administrative expenses	66	228	390	390	1 074
Total	220	760	1 300	1 300	3 580

across the board reduction in funding was applied to ABARE's year on year appropriations. The efficiency dividend has also applied to ABARE's year on year appropriations.

To meet these reductions in budget funding, some refocusing of priorities to accord with the needs of clients and a substantial downsizing/reduction in ABARE's staffing and associated running costs occurred.

In October 1998 ABARE's budget funding was further reduced as a result of budget cuts to the newly formed department of Agriculture, Fisheries and Forestry – Australia (AFFA). The changes to administrative arrangements also involved ABARE no longer maintaining a separate Section 31 account with the Department of Finance and Administration, and ABARE receipts being incorporated in the AFFA Section 31 account. Another fundamental change was the move of the resources sector of the then Department of Primary Industries and Energy to the Department of Industry, Science and Resources (DISR). ABARE maintained funding for research supporting the resources sector in the form of a transfer of appropriation from DISR. This arrangement has continued into 2000-01 on the basis of a service level agreement negotiated with DISR.

ABARE's research program

ABARE's research program is designed as a forward looking program that is expected to provide realised benefits to the national economy through increasing the competitiveness of the commodities sector.

Developing the research program

In formulating its agriculture, fisheries and forestry research program, ABARE draws on the key policy issues identified within AFFA. AFFA work priorities are established by a set of Output Action Teams, one for each of the AFFA outputs identified in the Portfolio Budget Statements. Each team is

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responsible for setting priorities within its output, with Executive oversight of priorities across outputs. ABARE research projects contribute to most of the ten outputs, and are funded according to the priorities set in the output management process. Similarly, the scope and content of research contained in the Service Level Agreement between DISR is determined in close consultation with DISR policy divisions. A wide range of both formal and informal contacts with other clients and stakeholders also contribute to the development of ABARE's research program. Cost recovery arrangements have had an important bearing on relationships with those clients and stakeholders.

A key aspect of the formulation of ABARE's research program is an assessment of research priorities in terms of impending policy and industry issues. Priorities are influenced by the likely payoff to the Australian economy of policy change or change in industry behavior and the likelihood that ABARE research results will contribute to such change, as discussed in chapter 2. Also important is the question of available and appropriate sources of funds to finance the research. In addition to AFFA's provision of appropriation funds to ABARE's business through the Output Action Teams, funding is provided from a range of sources.

With multiple clients and evolving priorities, ABARE's research program must be adaptive. In order to manage the development, funding and timely delivery of high quality research in such an environment, ABARE has had to develop effective management systems. These are further discussed in chapter 4. It is important to note here that the costing and management systems used by ABARE are applied in the same way across all elements of the research program, regardless of the nature or source of funding.

Funding in 1999-2000

Details of ABARE's budget for 1999-2000 are set out in table 2.

In 1999-2000, ABARE cost recovered approximately 49 per cent of its budget, including 20 per cent from DISR. ABARE secures other external funding by entering competitive tenders, submitting research proposals and bids and periodically responding to invitations to tender for particular economic research projects.

2 *ABARE budget, 1999-2000*

	1999-2000 outcome
	\$
Revenue	
Annual appropriations	11 521 000
External revenues	11 234 216
Total revenue	22 755 216
Expenditure	
Salaries	13 512 176
Administration	7 154 144
Property operating expenses	1 317 724
Total expenditure	21 984 044

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In 1999-2000 the major activities funded from external sources were contracted research consultancies that accounted for 66 per cent of total external funds received (table 3). A significant part of these funds was contributed to the cost of projects with national significance, such as assessing the likely economic impacts of climate change response policies, undertaking regional forest assessments, modeling and analysing effective measures to deal with water reform and salinity and analysing the behavior of firms in relation to energy efficiency investment.

3 ABARE activities funded from external sources, 1999-2000

	\$	%
Research	7 416 000	66.0
Data collection and analysis	1 397 810	12.4
Conferences	1 079 800	9.6
Publications	685 672	6.2
Miscellaneous and other sales	654 934	5.8
Total	11 234 216	100.0

Data collection, through industry surveys, and data analyses accounted for a further 12 per cent of total external funds received in 1999-2000. The bulk of these activities were funded by research and development corporations, with Meat and Livestock Australia and the Grains Research and Development Corporation being the largest contributors.

Contracted research consultancies together with data related activities accounted for the majority of external funds received in 1999-2000, with a share of 84 per cent. Approximately 75 per cent of ABARE's cost recovered revenue is gained from DISR, other government departments (including state departments) and research and development corporations. The remaining funds are obtained from a variety of external clients through consultancy work, sponsorship and the sale of data and publications.

Revenue contributions by other government agencies

ABARE sometimes seeks additional funds from other government agencies to allow widening of the scope of particular public interest research projects or programs. As well, ABARE works at the instigation of such agencies on a consultancy basis. In the latter cases, the research undertaken is public policy work, but of a nature that may be beyond the scope or extent that ABARE could perform with the appropriation funds provided to the ABARE business by AFFA.

Recent examples of financial contributions to ABARE's research by other government departments include contributions from the Department of Foreign Affairs and Trade (DFAT), and Environment Australia to climate

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change research and DFAT funding of an ABARE study of food security and international trade. Work for other governments has included assessment of the costs of Snowy River environmental flows for the New South Wales Environment Protection Authority and a report on tree clearing for a Queensland government working group. The service level agreement with DISR covers energy and resource sector research.

The examples mentioned above, and all other significant work for agencies outside the portfolio, have all been financed through the normal ABARE external funding provisions.

Cost recovery and competitive neutrality

A full description of ABARE's cost recovery principles and practices is given in appendix B. ABARE usually charges full cost recovery for services provided to external clients. ABARE complies with the government requirements with respect to competitive neutrality. Its charges are based on the full cost of service delivery and, when entering competitive bids, ABARE includes an appropriate charge to cover return on capital and all relevant government taxes and charges — payroll taxes, goods and services tax, stamp duties, financial institution duties, land taxes and local government rates — and, where appropriate, takes into account all relevant government taxes and charges in line with competitive neutrality requirements. As noted above, projects for which AFFA provides funds to the ABARE business are costed on the same basis as the externally funded projects.

Changes in the market and policy environment

Cost recovery developments in ABARE need to be seen in the context of broader changes in government and the economy as a whole. Two sets of recent change have, in particular, influenced ABARE's forecast delivery responsibilities and the reliability of ABARE's research costing, respectively.

Privatisation and corporatisation of agricultural service providers

Over the past decade there has been a gradual move toward corporatisation, privatisation and deregulation of grain storage, handling and marketing authorities in Australia. Bulk handling authorities and the Australian Wheat Board are now public companies with primary financial responsibilities to their shareholders.

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Overall there are less constraints on the commercial activities of most players in Australian grain markets and more direct commercial responsibilities. For two reasons the changes in industry structure and regulation is likely have led to less ease of access to clearly objective information within the grain handling and marketing system than there was previously. First, a commercial organisation will generally need to be circumspect about information release in order to remain viable, rather than having at least the implicit public information role of a government organisation. Second, the direct financial responsibility to shareholders means that cost conscious managers of public companies cannot staff discretionary activities.

One of the impacts of the tightening of staffing and staff roles in grains infrastructure organisations has been to divert requests for information to other organisations. The change is illustrated by an increase in briefing and information requests handled by ABARE's grain analysts since the creation of AWB Ltd. The increased number of those making requests reported that they had been referred to ABARE by AWB Ltd. To some extent such an increase in information requests may represent an increase in ABARE's legitimate role as a public good provider of market information. On the other hand, at least some of the demand may be for information that can be provided by the private sector.

Outsourcing and accrual accounting

In terms of the various definitions of costs raised by the Productivity Commission (2000, p. 21) in its issues paper for this inquiry, the ABARE costing model outlined in appendix B is one of fully distributed cost. ABARE has always endeavored to account fully for the costs of its activities. However, in a cash accounting public service environment with no market testing of the various cost components, the best endeavors may have produced costings that only approximated reasonable estimates.

Two things have changed that allow ABARE to be confident that its costings are accurate. The first is the moves by AFFA to market test and, where appropriate, outsource a range of services that it provides to ABARE. The second influence on the accuracy of costing is the change to accrual accounting from 1999-2000.

Information technology and human resource management services are now privately provided to AFFA. The services are provided at market rates established by open tender. Importantly, outsourcing the provision of these services is a result of a systematic program of market testing of the full range of services once provided internally. The program provides an assurance that services are

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being provided efficiently, regardless of whether they are outsourced or produced within the department.

The change from cash to accrual accounting means that there is a more realistic account of costs over time and assurance that full account is taken of capital costs. The combination of accrual and market testing/outsourcing changes means that ABARE costings are based on realistic full costs with a competitive market base.

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4. Impacts of cost recovery

There are three broad aspects of the impacts of cost recovery — impacts on ABARE's research program, impacts on the efficiency of ABARE's operations and impact on the economy.

Impacts on ABARE's work program

The evolution of cost recovery arrangements has resulted in a number of changes in the structure and orientation of ABARE's research program. Two important aspects of those changes concern the synergies across different elements of the research program and strengthening of some links with industry and key policy makers.

Synergies across ABARE's work program

As is described in chapter 3, the background to ABARE's cost recovery involves a sequence of changes that have allowed the maintenance of a broad program of research in the face of a substantial reduction in appropriation funding. ABARE's ability to produce high quality research, commodity analysis and briefing output is related to:

- the number and quality of resources devoted to each of these activities;
- the degree of complementarity between these activities; and
- the intellectual capital and analytical tools accumulated across the organisation over time.

Cost recovery developments have had a strong influence on the availability of resources, relationships between research activities and analytical tools in ABARE. As Curran and Podbury (1994) point out, the change in ABARE's financing arrangements in 1989-90 allowed industry research and development corporations to fund an expansion in farm survey coverage at a critical time for the rural sector. As well, access to additional industry funds allowed ABARE to establish and maintain its professional capability. Falls in funding by the industry research and development corporations as depressed economic conditions cut their levy based revenue put pressure on ABARE to broaden its external revenue base from 1992-93.

It is more difficult to assess the impacts of cost recovery from 1993-94. Separating the impacts of budget cuts from those of cost recovery require-

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ments and opportunities is difficult. As noted above, budget cuts induced a refocusing of research priorities and reductions in staffing and other running costs, particularly in 1996-97. In the sense that cuts in appropriation funding and cost recovery targets were tied, cost recovery was associated with a decline in ABARE's resource base and analytical capacity. On the other hand, cost recovery arrangements add an important degree of flexibility to ABARE's operations in allowing development of new avenues of funding or research and in allowing maintenance of important client relationships in the face of changing government structures.

Arrangements allowing ABARE to continue providing commodity forecast, data services and policy related research for the minerals and energy sector to DISR on a contractual basis have important positive effects on ABARE's overall efficiency. There are substantial synergies arising from the broad resource sector coverage of ABARE research. The types of synergies that exist in ABARE include:

- similar methods and techniques developed within the organisation that can be used to analyse a variety of issues and problems across industries;
- economies of scope in commodity analysis and research that are made possible as a result of common factors influencing commodity markets or resource management issues; and
- ABARE's ability to access and manipulate large amounts of time series data collected and stored in internal databases to analyse problems, and to determine the nature of data collected with knowledge of what issues are to be analysed.

Links with industry and other stakeholders

ABARE's research program has always been developed in close consultation with industry and key policy makers. In some ways cost recovery developments over time have drawn the research program and ABARE's staff even closer, matching the needs of industry and policy makers within AFFA, DISR and other Commonwealth and state government organisations. Most of the research undertaken by ABARE has a substantial public policy content. Where core AFFA funding is not available, or is insufficient, to undertake priority projects with significant public interest, ABARE seeks funding from other relevant public sources, primarily other government departments and industry research and development corporations.

Most of the ABARE research funded outside the direct AFFA budget and the service level agreement with DISR is of a public good nature, although the

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beneficiaries of some of that work may be confined to one industry or location. In the case of funding by other government departments or authorities, such as DFAT, the Australian Greenhouse Office or the Murray–Darling Basin Commission, ABARE is funded on the basis of its standing in a contestable market for research services. ABARE must pass a market test of being an efficient provider. Within ABARE the research must pass the test of consistency with ABARE’s primary public policy and public information roles.

Industry research and development corporations fund a major part of ABARE’s collection, analysis and dissemination of farm survey data. A predominance of research outputs that are local or industry level public goods is a primary economic justification for the partial industry levy funding and industry direction of rural research and development corporations (these issues are discussed in more detail in ABARE 1995). The structure of the corporations allows direct industry input to choices about funding levels and research emphasis. Industry research and development corporations also fund ABARE to carry out some industry oriented research and research of broader public policy interest (in keeping with their matching Commonwealth funding — for example, Rural Industries Research Development Corporation and Agricultural Research and Development Corporation funding of international trade research).

ABARE’s provision of services to the industry research and development corporations is contestable. The corporations’ substantial funding of industry surveys and related research arises from the synergies between this work and ABARE’s core public policy responsibilities for monitoring farm activities and incomes and the farm level impacts of alternative policies. From an economic perspective, it makes sense to base discrete sets of policy briefing and research and industry oriented research from a single survey database. Doing so allows all of that research to draw on a more comprehensive and regionally accurate database than would otherwise be available. The mix of funding of the ABARE business by AFFA and the corporations is consistent with the satisfaction of policy demands at the same time as the more industry oriented research priorities are set within an organisational model specifically developed for that purpose.

Impacts on efficiency

The most positive effects of cost recovery arrangements on the efficiency of ABARE’s operation derive from the adoption of effective project management systems. Cost recovery arrangements have caused ABARE to adopt formal project management systems much earlier than it would otherwise have done. ABARE is currently in the process of implementing a web based project

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management and time recording system, INVISIC, to provide comprehensive management data for both project and program managers. INVISIC is replacing long standing separate 4D based project management and time recording systems.

The driving force behind the adoption of a project management system was accountability associated with expansion of ABARE's external client base. Since the change to user charging arrangements in 1989-90, ABARE has had two clear accountability requirements associated with those arrangements. ABARE must be able to account to external clients for expenditures on and delivery of research commissioned by those clients. As well, it must be able to ensure that it spends no more than the budgeted resources on externally funded research and that it is still able to deliver core public goods research.

Cost recovery arrangements drive a high level of accountability not only in terms of expenditure, but also in terms of timely delivery of research. ABARE operates in a competitive market for research and timely delivery of a high quality product is essential to maintaining a continuing flow of external funds. The twin requirements of accountability to external clients and delivery of research outputs for which AFFA funds the ABARE business have meant that adoption of an effective project management system was essential. Those requirements have also meant that it has been essential to develop a staff culture in which a close focus on client needs and timeliness is highly valued.

The project management systems and cultural change engendered by the development of cost recovery in ABARE have not been confined to externally funded research. In effect, the changes that were necessary to service external clients have been extended to ABARE'S work program as a whole. As noted above, costing of projects to be funded by AFFA is carried out in the same way as costing for externally funded work. The same project management rigor applies across the research program. There have been significant efficiency gains across ABARE's research program as a result of the development of these management systems. It would have been much more difficult to motivate such change in the absence of a strong external client focus.

The application of cost recovery arrangement in ABARE has not been without cost. In particular, increasing levels of cost recovery have resulted in a trend toward consultancies with a shorter timeframe and for small amounts of money. In the five years to 1995-96 the number of individual contracts increased from 22 to 99. In 1999-2000 the number of contracts was 110. Managing a large number of time critical contracts increases the risk of bottlenecks. The process of seeking and negotiating contracts also involves considerable staff time and associated resources. Cost recovery arrangements have

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meant that ABARE has had to change the way that it does business. Adopting greater flexibility in allocation of staff resources has played a key role in meeting the challenge. Finding ways to streamline clearance processes without compromising quality control was another important change. In effect, these adaptations have formed an essential part of the development of better ways of managing resources, managing risks, and managing finances.

Broader economic impacts of ABARE cost recovery

Several issues are important to an assessment of the broader economic impacts of ABARE's cost recovery. As is noted at the beginning of this submission, ABARE's primary role is to provide new economic information that is of value to participants and policy makers in Australia's commodity sector and others who depend on resources used in that sector. Importantly, ABARE has a role in providing new public good information. Cost recovery arrangements are clearly economically useful to the extent that they enhance that role either by improving the quality or quantity of output or by increasing the efficiency of its delivery — for example, by decreasing its cost. Conversely, cost recovery arrangements could impose economic costs if they diverted research effort toward providing essentially private goods at the expense of policy research.

As observed above, the refocusing of ABARE's research program as a result of cost recovery has largely been within a set of issues and projects with a clear public good nature. The emphasis in the current research program is on research into nationally important policy issues and wide dissemination of accurate commodity market information. On occasion, ABARE takes on some work that could be considered largely of private interest. However, as Curran and Podbury (1994, p. 63) point out, '... the case for a government research organisation to undertake stand alone research on a strictly commercial basis is not clear cut.' Work of this nature is generally undertaken only if it is complementary with existing public good research commitments. In such cases, undertaking the combination of private and public good research can increase efficiency.

The closer links with industry and policy makers driven by cost recovery arrangements have had two clear impacts on the research program. First, they have strengthened the research focus on issues of immediate priority to industry and policy makers. Second, they have provided more immediate channels to convey the results of research to key decision makers. In doing so, they strengthened the influence of ABARE's research results. On the other hand, both the budgetary pressures and the increased client focus associated with cost recovery have made it more difficult to maintain the long term view and

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the intellectual capital necessary to keep ABARE's research effort ahead of the policy debate.

Who pays for research may be important to its economic impact. ABARE's cost recovery arrangements mean that some research that once would have had direct appropriation funding is supported in other ways. Some small part of that work is now funded by the private sector. Arguably having some of the apparent beneficiaries influence research choices and pay for them may enhance economic efficiency. For the most part, however, the change in support of research has been through DISR, other government departments and the rural research and development corporations. While the focus of research has been changed by more direct links between researchers and industry and policy advisers, the ultimate sources of funds have not changed greatly. Commonwealth government matching of industry research levy funds mean that almost half the funds provided by industry research and development corporations are derived from general taxation revenue, along with all of ABARE's direct funding by government departments.

It would be difficult to provide a definitive summary of the impact of ABARE's cost recovery. The incentive effects outside ABARE seem likely to be minimal. So the most important questions concern the overall impact on the efficiency of ABARE's operations and effectiveness in carrying out research and disseminating the results. As noted above, the effect of cost recovery on project management has been to enhance the efficiency of ABARE's operations. On the other hand, the process of seeking external funds has some direct costs. However, it seems likely that the improvement in efficiency resulting from more effective project management more than outweighs any direct costs of seeking funding. The improvements in efficiency are manifested across the whole research program, not only the part that is externally fund.

It is more difficult to assess the impact of cost recovery on the research program. As noted by Curran and Podbury (1994), the development in 1989-90 of funding arrangements under Section 35 of the *Audit ACT 1901* allowed ABARE considerable flexibility in meeting changed research demands from industry research and development corporations and other clients. That flexibility remains with the current arrangements under Section 31 of the *Financial Administration Act 1997*. As well, cost recovery arrangements generally have enhanced contacts with industry and policy makers. However, it is difficult to separate the impacts of reduced core funding since 1993-94, cost recovery targets and other elements of cost recovery.

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Overall impact of cost recovery

The most significant impacts of ABARE's evolving cost recovery arrangements have been on efficiency of ABARE's operation and, to a lesser extent, on the orientation of the research program. It would be difficult to make a definitive and comprehensive judgment about the impact of cost recovery arrangements on ABARE's research program. Changes in cost recovery arrangements have been closely tied to other changes in ABARE's appropriation funding and changes in departmental structure and operation. However, cost recovery arrangements have allowed the continued delivery of a broad program of public good research. In some ways the arrangements have also drawn ABARE closer to meeting the needs of key policy makers and industry.

Cost recovery arrangements have had a strong, and largely positive, impact on the efficiency of ABARE's operation. The development of formal costing models, project management systems and time management systems and improvements in risk management have been driven by a strong external client focus. However, the efficiency benefits of those systems apply to all of ABARE's work, not only the externally funded portion.

Appendix A: Terms of reference

Productivity Commission Act 1998

I, ROD KEMP, Assistant Treasurer, pursuant to Parts 2 and 3 of the *Productivity Commission ACT 1998*, hereby refer the cost recovery arrangement of Commonwealth Government regulatory, administrative and information agencies — including fees charged under the Trade Practices Act 1974 (TPA) — to the Commission for inquiry and report within twelve months of receipt of this reference (16 August 2000). The Commission is to hold hearings for the purpose of the inquiry.

Background

2. This inquiry is principally a general review of cost recovery arrangements across Commonwealth regulatory, administrative and information agencies. In addition, the inquiry will incorporate the review of fees charged under the TPA which is required under the *Commonwealth Legislation Review Schedule*. The inquiry will take into account the analytical requirements for regulation assessment by the Commonwealth, including those set out in the *Competition Principles Agreement*, where relevant.

Scope of Inquiry

3. The Commission is to report on:
 - (a) the nature and extent of cost recovery arrangements across Commonwealth Government regulatory, administrative and information agencies, including identification of the activities of those agencies for which cost recovery is undertaken;
 - (b) factors underlying cost recovery arrangements across Commonwealth Government regulatory, administrative and information agencies;
 - (c) who benefits from the regulations, administrative activity and information to which cost recovery arrangements are applied;
 - (d) the impact on business, particularly small business, consumers and the community of existing cost recovery arrangements, including any anti-competitive effects and incentive effects;

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- (e) the impact of cost recovery arrangements on regulatory, administrative and information agencies, including incentive effects;
- (f) the consistency of cost recovery arrangements with regulatory best practice;
- (g) appropriate guidelines for:
 - (i) where cost recovery arrangements should be applied;
 - (ii) whether cost recovery should be full, partial or nil;
 - (iii) ensuring that cost-recovered activities are necessary and are provide in the most cost-effective manner;
 - (iv) the design and operation of cost recovery arrangements, including the treatment of small business;
 - (v) the review of cost recovery arrangements; and
 - (vi) where necessary, implementation strategies to improve current arrangements.
- 4. In reporting on matters in 3 above, the Commission should, where relevant, have regard to:
 - (a) implications of recent and emerging technologies; and
 - (b) legal constraints on the design and operation of cost recovery arrangements.
- 5. With respect to fees charged under the TPA, the Commission should have particular regard to:
 - (a) those fees charged that restrict competition, or which impose costs or confer benefits on business; and
 - (b) whether cost recovery arrangements that restrict competition should be retained in whole or part, taking into account whether the benefits to the community as a whole outweigh the costs, and whether the objectives of those arrangements can be achieved only by restricting competition.

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6. In making its assessment of fees charged under the TPA:
 - (a) the Commission is to have regard to environmental, welfare and equity considerations; economic and regional development; occupational health and safety; consistency between regulatory regimes and efficient regulatory administration; the interests of consumers generally; the competitiveness of business including small business; compliance costs and the paperwork burden on small business; and the efficient allocation of resources; and
 - (b) the Commission should:
 - (i) identify the rationale for fees charged under the TPA;
 - (ii) clarify and assess the objectives of the fee arrangements;
 - (iii) identify whether, and to what extent, the fee arrangements impose costs or confer benefits on business or restrict competition;
 - (iv) identify any relevant alternatives to these fee arrangements;
 - (v) analyse and, as far as reasonably practical, quantify the benefits, costs and overall effects of the arrangements and alternatives identified in (iv);
 - (vi) identify the different groups likely to be affected by these arrangements and alternatives;
 - (vii) list the individuals and groups consulted during the review and outline their view;
 - (viii) determine a preferred option for the fee arrangements, if any; and
 - (ix) examine mechanisms for increasing the overall efficiency, including minimising the compliance costs and paper burden on small business, of the arrangements and, where it differs, the preferred option.
 7. The Commission should take account of any recent substantive studies relevant to the above issues.
 8. In undertaking the review, the Commission is to advertise nationally, consult with key interest groups and affected parties, and produce a report.
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9. The Government will consider the Commission's recommendations, and the Government's response will be announced as soon as possible after the receipt of the Commission's report.

Appendix B: Cost recovery principles and practices

Several issues arise in deciding when it is appropriate to seek or accept external funding for research. Primary concerns include the relevance of a project to ABARE's core functions and the issues of probity and competitive neutrality. In seeking funding from external sources, ABARE takes care to ensure that the projects selected do not prejudice the achievement of core research objectives. A further constraint on ABARE access to external funds is the need to select projects for external funding that do not compromise ABARE's reputation as an independent, professional and objective provider of research and policy advice and to avoid conflict of interest with ABARE's current sources of information.

A second consideration is compliance with the legislative and Australian Public Service framework within which ABARE operates. For example, issues that need to be considered include fraud control and risk assessment; financial reporting and accountability; acceptance of funds; contracts and commitments; the export of government services; sponsorship; ethics (including conflict of interest); pricing and the acknowledgment of funds.

Legislative framework

The current legislation that ABARE must comply with (as part of the Australian Public Service) when recovering external funds is as follows:

- *Financial Management and Accountability Act 1997*;
- Financial Management Orders derived from the above Act;
- Chief Executive Instructions;
- *Public Service Act 1999*;
- Guidelines on Official Conduct of Commonwealth Public Servants provided by the Public Service and Merit Protection Commission;
- Public Service Regulations;
- *Crimes Act 1914*;
- *Productivity Commission Act 1998*;
- *Trade Practices Act 1974* and legislation administered by the Australian Competition and Consumer Commission.

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Fraud control and risk assessment

Under Regulations 19 and 20 of the *Financial Management and Accountability Act 1997*, and the Financial Management and Accountability Orders derived from that Act, AFFA is required to review and report to the Minister on the portfolio fraud control plan. Fraud control risk assessment includes such risks as loss of or damage to the reputation of the Minister as well as strictly financial fraud issues. ABARE contributes to the preparation of this plan as part of the AFFA portfolio. As part of AFFA's internal audit program, ABARE's cost recovered activities are evaluated on a periodic basis, the most recent audit being conducted in 1999.

Funds mechanisms

ABARE operates within AFFA's agreement under Section 31 of the *Financial Management and Accountability Act 1997* for the receipt and use of external funds. Under this arrangement external funds raised by ABARE (as part of AFFA) are paid into the Consolidated Revenue Fund (in accordance with Department of Finance and Administration (DoFA) directions relating to the banking and receipting of external funds) and are available through a request by AFFA to the delegate at DoFA for AFFA/ABARE to use the funds to meet expenditure.

ABARE receives its budget funding (approximately 51 per cent of its running costs) through a budget allocation process within AFFA. This is based on the acceptance of research projects developed by ABARE within the AFFA output framework. With the advent of accrual accounting for the 1999-2000 budget, the ABARE funding was included as a single line appropriation within AFFA.

Financial reporting

In accordance with APS requirements, ABARE submits financial statements for inclusion in AFFA's *Annual Report* in addition to reporting on performance against measures and indicators included in AFFA's Portfolio Budget Statements. ABARE's budget and future research directions are currently included as a part of the ten AFFA outputs in the Portfolio Budget Statements for AFFA.

Acceptance of funds (contracts and tenders)

ABARE's achievement of its planned outcomes depends on its achieving nominated cost recovery targets. ABARE secures its external funding by entering competitive tenders, submitting research proposal bids and periodically

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responding to invitations to tender for particular economic research projects. If these bids are successful, ABARE subsequently enters into contracts and memorandums of understanding with the relevant clients.

Contracts and commitments

For a contract for externally funded research to be approved, the following tests must be considered:

- Is ABARE able to accept funds from this organisation, taking into account any government restrictions (for example, tobacco sponsorship, trade sanctions)?
- Is the proposed project consistent with ABARE's output and outcome priorities?
- Is ABARE able to accept this funding without limiting ABARE's control over the research methods used and the findings of the research?
- Is ABARE able to accept these funds without ABARE or the government's integrity being likely to be affected by the funder?
- Has an assessment of risk been made on this project?
- Is there any requirement for disclosure of conflict of interest on this project?

Having taken account of the above issues, including competitive neutrality, the Executive Director makes a judgment about whether acceptance of the funding would affect ABARE's independence and integrity.

Export of government services

ABARE complies with the Chief Executive Instructions formulated by the portfolio on the export of government services.

Sponsorship

ABARE conducts various conferences and events, including the annual Outlook conference. Outlook is Australia's pre-eminent economic forecasting conference which provides a forum for the presentation and discussion of market forecasts and issues affecting Australia's minerals, energy, agriculture, forestry, fishing, manufacturing and services industries.

As part of its conduct of conferences and other events, ABARE seeks sponsorship funding and offers a specified sponsorship package in return.

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Sponsorship funding for the Outlook and other conferences is conducted in accordance with sponsorship guidelines developed in accordance with the Australian National Audit Office (ANAO) Report No. 29, 1996-97, *Management of Corporate Sponsorship*.

From time to time, private individuals, firms or other agencies may wish to support ABARE's research effort by making general untied donations to the organisation. The acceptance of any such donations is subject to the same tests as listed above.

Ethical issues

ABARE's ethical considerations are guided by the *Guidelines on Official Conduct of Commonwealth Public Servants* that is issued by the Public Service and Merit Protection Commission (PSMPC). This AGPS publication is available to all ABARE staff and it can also be purchased from AGPS bookshops.

The issues covered in these guidelines fall under the six main points developed by Management Advisory Board–Management Improvement Advisory Committee (MAB–MIAC), Publication No. 12, *Building a Better Public Service*.

ABARE will not knowingly accept funding or sponsorship from industries that contravene government restrictions (for example, tobacco sponsorship, trade sanctions).

Conflict of interest

Under the FMA Act 1997 Regulations nos 7 and 8, an official performing duties in relation to procurement of property or services must have regard to the *Commonwealth Procurement Guidelines 1997* in which the basic precepts on which a conflict of interest should be declared are detailed. This AGPS publication is available to all ABARE staff participating in purchasing activities and it can also be purchased from AGPS bookshops. Disclosure of interest (under Public Service Regulation 8B) requires that if there is any form of current or prospective personal interest, the persons involved must disclose it to the Agency.

Acknowledgment

ABARE publicly acknowledges in its publications and conference papers any external funding contributions made to its research outcomes. The question of where in the publication and whether the funding body's logo appears on the

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publication is determined against a criterion relating to the share of the total cost contributed by the funding body. For example, joint projects that are funded 50–100 per cent by the funding body can have the funding body logo in addition to the ABARE logo on the front cover in a design that is in accordance with ABARE's design criteria.

Costing methodology

The costings for ABARE's tenders are prepared using a costing model incorporated in ABARE's Project Management System (PMS). This model uses the costing methodology set out in the former Department of Finance *Guidelines for Costing of Government Activities 1991*. This methodology makes provision for labor on-costs and overheads including salaries (above the line and below the line costs); administrative and operational expenses; compensation and legal expenses; accommodation; superannuation; and corporate support. Competitive neutrality components are also included when appropriate.

The ABARE costing model parameters are updated on an annual basis, and also if there is a significant variation in the operations of ABARE throughout the year that would have implications for costs. Pricing guidelines for provision of services such as the sale of data, graphics, publications and other information services are being incorporated in the updated version of ABARE Charging Guidelines.

Pricing strategy

ABARE as a norm charges full cost recovery for services provided to external clients and, where appropriate, takes into account all relevant government taxes and charges in line with competitive neutrality requirements. Some services offer both public and private benefits. For example, while a client may derive private benefits from specific findings of an economic study, wider dissemination of the broad findings of the study may provide substantial public benefits. In this case only a proportion of the total cost of the service should be recovered from the private users of the service.

Executive approval is sought when there is a need to determine if it is not appropriate for ABARE to charge full cost recovery, for example:

- when a particular project has significant policy content but is not fully cost recoverable, the Executive Director determines the proportion of the total funding that is to come from external sources and any institutional arrangements to be established in association with the funding (for example, whether to establish a research liaison committee) — this process

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is determined in the first instance as part of the formulation of ABARE's output projects and on an *ad hoc* project basis as the year progresses;

- where a chargeable service has a nonchargeable public interest component, the price may be discounted; or
- where a comparable service is available from the private sector and ABARE is in competition with private sector, current market rates apply.

In its coverage of the charging and costing of government activities, the *Financial Management and Accountability Act 1997*, Model Chief Executive Instructions, Chapter Nine, Charging and Costing of Government Activities, does not reference any particular Act, Regulations or Orders. This is because it recognises that the nature of charging and costing regimes will vary from agency to agency.

However, it also states as a general rule:

Charging should be considered as the norm in all but the following exceptional circumstances where charging would not be appropriate:

- *the Government has decided that a particular service is to be provided free;*
- *the transaction is of a 'one-off' nature, involving a trivial or immaterial amount; or*
- *it can be shown that the ongoing administrative costs of charging exceed the expected long term efficiency gains.*

The base for determining a charge depends on the nature of the particular service and the market environment in which it operates.

Accountability

ABARE is accountable for externally funded revenue in three ways. First, it is directly accountable to its clients. ABARE provides the necessary acquittals and reports to its clients in accordance with their requirements, as outlined in the contracts or memorandum of understanding. Second, as a Commonwealth government agency that is a designated business unit of a budget sector agency under the *Financial Management and Accountability Act 1997*, ABARE is accountable for the handling of budget and externally funded revenue. Finally, as an agency that tenders for competitive contracts, ABARE is subject to the government's competitive neutrality requirements as set out in the *Productivity Commission Act 1998*. ABARE is accountable under several other Acts as referred to above, but the *Financial Management and*

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Accountability Act 1997 and the *Productivity Commission Act 1998* requirements have the most bearing on this review.

Competitive neutrality is defined as ‘a policy which aims to promote efficient competition between public and private businesses operating in the same market. It seeks to ensure that significant government businesses do not enjoy net competitive advantages over their private sector competitors simply by virtue of their public sector ownership’ (Commonwealth Competitive Neutrality Complaints Office, *Competitive Neutrality* guide, May 1998).

ABARE complies with the government requirements in this area. Its charges are based on the full cost of service delivery and, when entering competitive bids, ABARE includes an appropriate charge to cover return on capital and all relevant government taxes and charges: payroll taxes, sales tax and excise, stamp duties, financial institution duties, land taxes and local government rates.

In accordance with APS requirements, ABARE submits financial statements for inclusion in AFFA’s *Annual Report* in addition to reporting on performance against measures and indicators included in AFFA’s Portfolio Budget Statements. ABARE’s budget and future research directions are currently included as a part of the ten AFFA outputs in the Portfolio Budget Statements for AFFA. Output 10 relates specifically to economic research. Standard APS accounting arrangements for the management and expenditure of funds are employed and ABARE’s use of funds is subject to examination through the Senate Legislative review process and Australian National Audit Office scrutiny.

ABARE has been able to undertake research on a competitive basis with private research organisations because it makes efficient use of the resources at its disposal. As part of the AFFA portfolio and the APS, ABARE is also required to answer to the central agencies, the Minister and to the Parliament. While these are important accountabilities, they are often prescriptive and limiting in the degree to which the organisation can act quickly and creatively in response to a rapidly changing environment. These constraints become more apparent as the proportion of external funding increases and budget funding decreases.

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Appendix C: Benefits of ABARE research

This appendix provides examples of benefits associated with ABARE's research programs.

Agricultural economic and food industry research

Industry benefits of farm surveys

ABARE's annual surveys of broadacre and dairy industries provide a unique database that has a wide range of uses to industry and government. Provision of farm performance information for government needs is a primary function of the surveys. For example, farm survey data are used in assessing applications for exceptional circumstances assistance and in preparing policy advice on issues such as dairy deregulation. At another level, both ABARE and the industry research and development corporations that provide a large part of the funding for the surveys have been working toward improving industry access and use of the data.

In 1999 ABARE developed the graphical package [ag@ccess](#) and made it accessible on the internet, providing a range of survey data that can be used in industry benchmarking. In conjunction the Grains Research and Development Corporation, ABARE has developed [grains@access](#), using industry defined benchmarks for agroecological regions. ABARE is currently working in association with the Australian Dairy Research and Development Corporation to provide physical and financial benchmarks at a regional level that are accessible through the DairyWeb internet site.

The financial performance of Australian farms is immensely variable, between regions, between farms and over time. Among the many factors that contribute to that variability are differences in the effectiveness of management of farms. Used as part of a broader management planning process, benchmarking using a reliable and comprehensive survey database has the potential to contribute to a significant improvement in farm management. To be effective, industry benchmarks need to be constructed and used on the basis of a clear understanding of the factors that contribute to differences in performance between farms.

Recent ABARE research involved an attempt to separate those parts of the variability in farm performance that were caused by factors such as location, farm size and industry composition (Chapman, Beare and Neeman 2000).

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Farms were ranked according to rate of return to capital, including capital appreciation. Using rank order rather than absolute values limits the influence of extreme values. Around 20 per cent of the variability between farms persists over time. One significant cause of persistent differences in rate of return may be differences in the way in which farmers have structured and managed their farms.

For Australian broadacre farms as a whole, Chapman, Beare and Neeman (2000) find an average rate of return of 2.82 per cent for the top 75 per cent of farms, compared with 1.56 for all farms. If 20 per cent of the difference in average rate of return between the top 75 per cent of farms and Australian farms as a whole could be closed by improved management, the gains would amount to around \$233 million a year. If such gains were achieved, and benchmarking from ABARE survey data was responsible for 1 per cent of them, the value of that data for a single year would be over \$2 million. In 1999-2000, the full cost of ABARE's survey program was \$3.6 million. The difference in performance between the top 75 per cent of farms and the average for all farms accounts for part, only, of the performance difference between farms. There are substantial differences within the top 75 per cent. As noted above, there are a number of other important public benefits from the survey program. The provision of benchmarking tools is only one of the uses of the survey database.

Wine grape projections

Since 1992 ABARE has provided three year projections of wine grape production and winery intake by variety and major growing region for the Grape and Wine Research and Development Corporation. This research is invaluable in helping growers and winemakers to develop production and long term marketing strategies.

Growers in Australia have had a history of responding to current trends in wine consumption by substantially increasing plantings of currently desired varieties. In the past, this has led growers to pull up vineyards as preferences for wine varieties have changed. For example, there is currently increasing concern that the area planted to premium white wine varieties in recent years is in excess of expected future requirements.

By providing information on prospective production and planned winery intake, ABARE's research can help to reduce future imbalances of wine grape production. The cost of producing the report is currently \$75 000, compared with the establishment cost of a vineyard which is around \$35 000 per hectare. If the reporting of projected production and winery intake can give advance

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warning of impending oversupply and reduce plantings by as little as 3 hectares, the benefits of the report will exceed its cost.

Land use and water economic research

Dryland and stream salinity

A simulation model integrating the relationships between land use, vegetation cover, surface and ground water hydrology and agricultural returns was developed at ABARE, in cooperation with CSIRO in partnership with the Murray–Darling Basin Commission, to evaluate salinity management options in the basin.

Land clearing for agriculture has been a primary cause of salinity. Consequently large scale tree planting can offer a solution for current and impending salinity problems, under some circumstances. However, the hydrogeological processes are complex and slow in responding to land use change. Salinity benefits from afforestation are likely to be realised only in the longer term. Soil, rainfall or hydrogeological conditions in some catchments or parts of catchments may mean that there are few salinity benefits from afforestation even in the long term. Costs of afforestation, particularly establishment costs and the reduction in catchment surface water yield, are realised more immediately and may outweigh any potential benefits.

The modeling framework has been applied to two catchments in the Murray–Darling Basin — the Goulburn–Broken and Macquarie–Bogan (Heany and Beare 2000). For each of those catchments a comparison is made between a baseline in which there is no intervention to manage increasing salinity and a scenario in which there is large scale replacement of agriculture with plantation forestry. In the Macquarie–Bogan catchment the net present value of agriculture and forestry activities is \$50 million less in the large scale forestry scenario than in the no intervention base. In the Goulburn–Broken catchment the forestry intervention leads to a \$70 million reduction in net present value. Salt loads carried out of the catchments are reduced in the long term. However, forestry also reduces water flow from the catchments as well, imposing additional costs on downstream water users. In the Macquarie–Bogan catchment the reduction in water flow causes the salinity of water leaving the catchment to rise even over the long term. The average salinity of water leaving the Goulburn–Broken catchment eventually falls, after rising quickly on the establishment of forestry. However, the fall in average salinity is only 2 per cent after 100 years.

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Heaney, Beare and Bell (2000) also consider the possibility that opportunities may exist for small scale targeted afforestation to have a positive net payoff. Modeling of small scale subcommercial forestry developments in part of the Macquarie–Bogan catchment, the authors demonstrate that whether such payoffs exist depends critically on the underlying groundwater salinity, the response time of the groundwater system and the soil type, which influences recharge rates.

The research demonstrates the tradeoffs inherent in salinity management and the risks in setting across the board afforestation goals as a solution to salinity problems. It also demonstrates the types of information needed at a local level to test whether targeted afforestation can make a cost effective contribution to salinity management. The Goulburn–Broken and Macquarie–Bogan catchments represent only a small fraction of the Murray–Darling Basin. If there is a 10 per cent chance that the outputs of rigorous policy modeling discourage adoption of policies of the type modeled in the large scale afforestation scenarios in one catchment, the net present value of that modeling would be in the order of \$5–7 million. If ABARE made a 5 per cent contribution to that modeling and consequent policy uptake, the value of ABARE's effort would be \$250 000–350 000.

Trade and international policy research

International trade negotiations

This program of research provides analysis and quantification of the effects of multilateral agricultural policy reforms through the World Trade Organisation (WTO) as well as the potential impacts of economywide trade liberalisation under the Asia Pacific Economic Cooperation (APEC) form.

Prior to the Uruguay Round that concluded in 1994, agriculture was largely excluded from the international rules and disciplines that limited the extent to which countries could restrict import competition and subsidise production and exports for other products. As a result agricultural exporting countries, including Australia, were restricted in their access to markets and were disadvantaged by competition from others' subsidised production and exports.

The WTO Agreement on Agriculture, which was an outcome of the Uruguay Round, provided a framework for reducing the distortions to agricultural trade from limitations on market access and domestic and export subsidies. However, the actual degree of trade liberalisation was modest and it is important that the current negotiations (which commenced in January 2000) substantially build on the gains made.

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ABARE's analysis of a range of issues critical to the current negotiations continues to provide impetus for the negotiations and assists in the formation of Australia's approach. In particular, ABARE has analysed the 'three pillars of protection', particular industry impacts and the impact of trade liberalisation on developing countries. Substantial input continues to be required. As the negotiations progress, there will be a demand for quick turnaround analysis and advice both on broad policy initiatives and on commodity specific effects on more detailed initiatives. This will require ABARE to conceptualise the significant issues, to have developed models that can be readily and confidently used, and to have the capacity to provide strong briefing material quickly. This, along with ongoing studies of issues critical to progressing the negotiations, makes model development and conceptualisation of key issues matters of priority.

The direct benefits to Australia arise from the gains to the farm sector as a result of international agricultural trade reform flowing from the WTO and toward which this research has made a contribution. ABARE has estimated that a 50 reduction in all barriers to trade and in market distorting production and export subsidies would provide net benefits to the Australian economy of \$300 million a year. Work being undertaken on this program in 2000-01 is estimated to cost \$1.5 million.

If 10 per cent of the welfare benefits to the Australian economy from a negotiated halving of protectionist barriers to agricultural trade could be attributed to ABARE research, the potential benefits would be an estimated \$30 million a year. Only 0.5 per cent of the benefits in one year, if realised, would need to be attributed to ABARE research for it to have recovered the full costs of the research undertaken in 2000-01.

APEC trade negotiations

Trade liberalisation is one of the key elements of APEC's economic agenda. As outlined in the Bogor Declaration in 1994, developed member economies of APEC have committed to a goal of free and open trade by 2010 and developing economies by 2020. Implementation of these commitments has lagged in some economies, especially in contentious sectors such as agriculture.

ABARE has undertaken detailed analysis for the APEC Energy Working Group of the impacts for economic growth and energy sector outcomes of comprehensive trade liberalisation according to the Bogor agenda. The analysis has been widely disseminated in the region and has provided strong arguments for the pursuit of trade liberalisation. The analysis indicates that if the Bogor agenda were implemented according to the above timetable, the net

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gains to all APEC economies would be of the order of \$400 billion a year. Australia's share of this gain is approximately \$1.7 billion a year.

If only 1 per cent of the gains to the Australian economy could be attributed to ABARE research and dissemination, the potential benefits would be an estimated \$17 million a year.

Climate change policy

The first Conference of the Parties (COP) to the United Nations Framework Convention on Climate Change, held in Berlin in March–April 1995, agreed to the Berlin Mandate negotiating process. The Berlin Mandate was to strengthen the greenhouse commitments of developed countries for the post 2000 period. The Berlin Mandate negotiations were conducted over two and a half years and were completed when the third COP agreed to adopt the Kyoto Protocol in December 1997. Australia was under significant international pressure to agree to a uniform emissions reduction target at Kyoto. A uniform target would have resulted in large economic and trade costs for Australia.

ABARE analysis demonstrated the inequities of uniform greenhouse targets and the advantages of differentiated targets. Differentiation became a key objective of the Australian government and ultimately this principle was adopted in the Kyoto Protocol. ABARE research also demonstrated the cost reducing potential of international emissions trading, and achieving agreement to emissions trading was another key Australian goal.

The benefits derived from ABARE research arise from the reduced economic and trade costs to Australia as a result of negotiating a differentiated greenhouse target of 108 per cent relative to the 1990 base year level for the commitment period 2008–12. Additional benefits arise from the reduced costs resulting from the adoption of international emissions trading in the protocol. The cumulative GNP benefit to the Australian economy as a result of securing agreement to a differentiated target compared with (in the absence of ABARE analysis) a scenario in which Australia had agreed to a uniform emission reduction target (the agreed overall Annex B Kyoto target) is projected to be \$23.6 billion. The benefit from the agreement to the use of international emissions trading in meeting emission targets is projected to be \$12.7 billion. If only 1 per cent of the Kyoto outcome achieved for Australia on these two issues is attributed to ABARE's work, the cumulative GNP benefit arising from this research is \$363 million.

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Minerals and energy economics research

Energy market reform

The objective in ABARE's energy market reform work is to inform community debate, support industry and government decision makers, and contribute to the development of efficient, least cost and timely reforms in the gas and electricity markets.

A report completed by the then Industry Commission in 1995, 'The growth and revenue implications of Hilmer and related reforms', included estimates on the benefits of electricity and gas reform. The reforms assessed related to the establishment of competitive markets for both commodities. The Industry Commission estimated that real GDP would be 1.4 per cent higher each year as a result of the reforms. Thus, once the reforms in the electricity and gas markets are implemented, they will add around \$6.4 billion to Australia's real GDP a year.

Assuming ABARE's ongoing contribution to the adoption of the electricity and gas market reforms is 1 per cent, the estimated gross benefit of ABARE's energy market reform research is around \$64 million a year.

Economic and policy analysis of energy market reform issues has been one of the core research programs within ABARE in recent years. ABARE has a strong record of high quality publications and consultancy reports that have made a significant contribution to the economic debate associated with the formation of competitive energy markets. Particular issues that have been addressed include those related to the effectiveness of structural and regulatory reform in the electricity generation sector, the scope for noncompetitive behavior in the national electricity market, convergence of gas and electricity markets, and electricity network pricing.

The energy market reform work program for 2000-01 builds on past ABARE research in this area and covers a number of key policy issues focusing on gas market reform, grid augmentation and noncompetitive outcomes in the electricity markets, and competition in energy retailing.

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