

# **ARC Economic Design Network 2005-2008**

## **Four Years of Achievement**

### **Background**

The ARC Economic Design Network (EDN) is a research network set up under a five year agreement (2005-9) between the Australian Research Council (ARC) and participating EDN Institutions to support research and scholarship in economic theory and experimental economics, and their application to the design of economic policy. The purpose of this document is to review what has been achieved in the first four years.

The Institutions that are signatory to the agreement are the Australian National University, the University of Auckland, the University of Melbourne, the University of New South Wales, the University of Queensland, Sydney University, and the CSIRO Division of Sustainable Ecosystems. In addition, there are a number of participating institutions (including Caltech and George Washington University) that have formal links with the Network but are not party to the agreement. In addition to these institutions, the Network currently has 278 individual members.

The objectives of the Network are:

- To coordinate and facilitate research in economic theory, experimental economics, and economic design by members and participating institutions;
- To coordinate and facilitate innovative policy development through the application of this research;
- To provide a central forum for communication and the dissemination of information;
- To support regular and occasional conferences;
- To run an annual summer/winter school;
- To support a program of academic visitors to the network;
- To provide professional training and support to policy makers; and
- To build capacity in the Australasian region, and in particular to facilitate the development and application of experimental economics.

The EDN is funded by the ARC, and by contributions from its Contributing Institutions. Most EDN activities also attract significant additional co-funding from other sources. Over the life of the Network to date, the ARC has contributed approximately 60% of total funding, Contributing Institutions have provided 14%, and co-funding has provided 27%. In addition, the participating institutions have provided substantial in-kind contributions to running the Network and its activities.

The EDN is one of a number of Research Networks set up by the ARC in 2005. The ARC has indicated that it is reviewing the Research Network Scheme, but has so far given no indication that it will continue to provide support for this Scheme or for any of the Networks that it has set up under it.

## Membership and Participation

Since its inception, participation in the Network has been strong at both the institutional and individual level.

Several EDN Institutions have voluntarily increased their level of cash contribution beyond that specified in the initial Network Agreement with the ARC. They have done so to signal the strength of their participation and to gain a seat on the Board:

- The University of Sydney (an additional \$15,000 per year since 2005)
- The University of Queensland (an additional \$5,000 per year since 2007)
- The Australian National University (an additional \$10,000 per year since 2008).

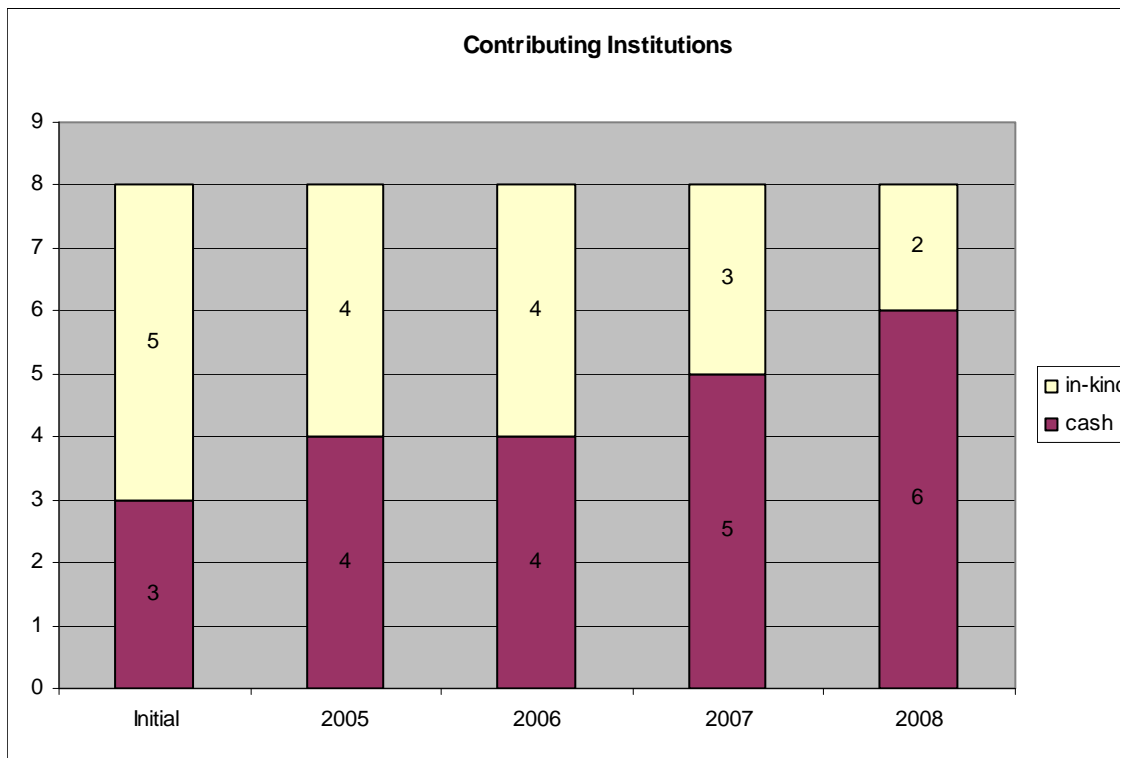
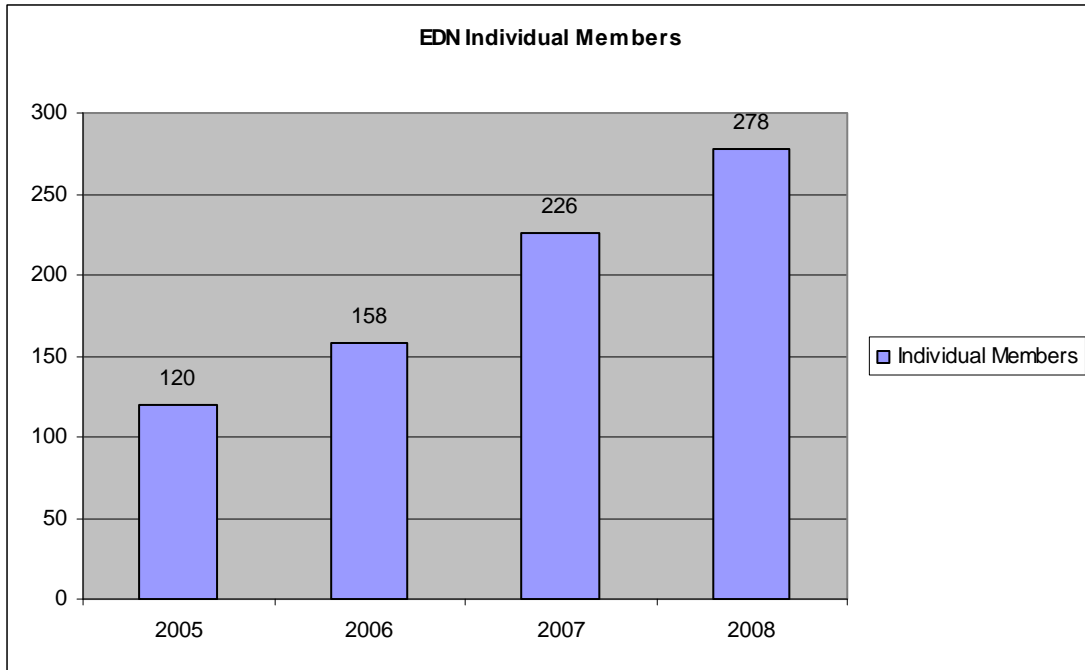
The number of participating institutions that have formal links with the Network but do not have a seat on the Board has also increased, from 10 in 2005 to 12 at present – most recently the University of Canterbury, NZ. Several institutions have recently inquired about full financial membership if the EDN were to continue.

Individual membership has also grown strongly (see Table 1). Members are required to confirm their continuing membership of the Network once per year, so these figures reflect active membership.

Membership is very diverse, ranging from PhD students to Nobel Prize winners. 40% of current members are Early Career Researchers, and 12% are from government or public policy institutions. Around 70% of members are in Australia, 10% are in New Zealand, 10% are in the United States, while the remainder are from all over the world<sup>1</sup>. There are active special interest groups within the Network in Economic Theory, Experimental Economics, Environmental Economics, Competition and Regulatory Policy, and Health Economics. There is a high level of participation by EDN members in the conferences, workshops and other activities sponsored by the Network – data on participation in these activities is set out in our Annual Reports.

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<sup>1</sup> There are members in Australia, Africa, Belgium, Canada, France, Germany, Guatemala, Hong Kong, India, Italy, Japan, Mexico, the Middle East, Nepal, Netherlands, New Zealand, Philippines, Russia, Singapore, Spain, Switzerland, Taiwan, UK, USA.



## The EDN programs

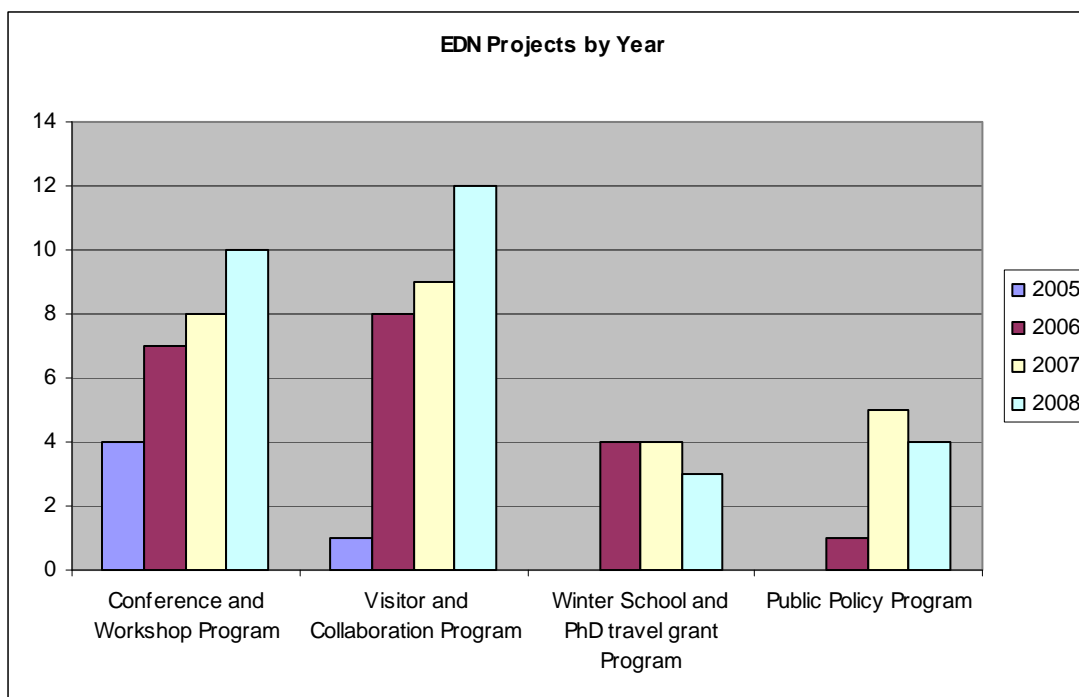
Comprehensive information on all projects and activities that have been funded since the inception of the Network is available on the EDN website, and will not be repeated in detail here. The website is an excellent resource for reviewing all the EDN programs, both in outline and in detail. In most cases, there is a link to the original workshop, conference or event website.

### Communication

- The EDN website <http://pluto.ecom.unimelb.edu.au/ednetwork/index.cfm> has become an important information clearing house. All forthcoming, current and past activities are documented there. There is information to facilitate sharing of academic visitors between EDN institutions, up to date information on seminars, workshops and conferences, and directories of researchers with interests in particular subfields (for example theory, experimental economics, health and environmental economics) and of resources relevant to these subfields.
- The EDN hosts an annual reception at the ASSA world congress and academic job market exchange, the most important international meeting for academic economists. The EDN reception has become a focal point for expatriate academics, graduate students, job market candidates, and past academic visitors to Australian institutions to keep in contact with the Australian academic community.
- Apart from the Annual General Meeting, all meetings of the Board and Executive take place online, using teleconferencing and the EDN Bulletin Board.
- All project management, from initial proposal by a member or member institution, through to consideration by the Executive or Board, and to reporting on completed projects, is managed on line through the EDN Project Management System. Funding decisions are usually made within one week of the initial proposal. In 2008 the EDN approved and managed 34 projects through this system.

### Conference and Workshop Program

- The EDN provides a flexible and rapid mechanism for funding small conferences and research workshops
- The EDN also funds keynote speakers, invited sessions, symposia and specialist streams in topics related to economic design at major conferences such as the Australasian Econometric Society meetings
- The EDN provides travel scholarships for Early Career Researchers and PhD students to most conferences and workshops with which it is associated
- The EDN supports training workshops in economic design topics for policy professionals in government and industry
- Since 2005, the EDN has supported 9 major conferences, 20 small conferences and research workshops, and 6 training workshops.



### Visitor and Academic Collaboration Program

- The EDN funds Visitor Programs at most participating institutions. Visitor Programs augment local funding and bring leading scholars and researchers to spend time in EDN institutions. EDN support has been instrumental in bringing many of the world's leading scholars, including a number of current and recent Nobel Prize winners, to spend time in Australian institutions
- EDN funded visitors are expected to give a public lecture, to spend time with PhD students and Early Career Researchers, and to visit more than one EDN institution.
- The EDN also funds Academic Collaboration Projects, which allow co-authors to travel and spend time together working on joint projects
- Since 2005 the EDN has funded 19 Visitor Programs at various institutions, involving over 100 visitors, and 11 Academic Collaboration projects.

### Winter School, PhD, and Early Career Researcher Program

- The EDN Winter School is regarded by many as the Network's flagship program. This is a residential school, of about a week in duration, held at an EDN institution in July. There are normally two complementary streams of lectures on topics at the research frontier, taught by eminent invited researchers. In addition there may be practical sessions, workshops, laboratory sessions and occasional invited lectures.
- The aim of the Winter School is to fill a gap in graduate training, and to provide career development for Early Career Researchers. No Australian institution is able to provide the depth of advanced PhD coursework that is available at the world's top graduate schools. The Winter School aims to fill this gap.

- The EDN provides full travel and accommodation scholarships to approved PhD students to participate in the Winter School. Students are housed on campus to encourage networking. There is also strong demand for Winter School places from Early Career Researchers and other EDN members. There is no tuition fee, but these participants must meet their own costs.
- All EDN Winter Schools from 2006 to 2008 have been oversubscribed, with numbers capped at around 50.
- In addition to Winter School grants, the EDN provides conference travel grants for PhD students and Early Career Researchers, including a small number of grants to allow PhD students to present their work at international conferences. Since 2006, 80 travel grants have been awarded (including travel grants associated with the Winter School).

### **Public Policy Program**

- One of the objectives of the Network is to be a bridge between academia and policy makers. Twelve percent of EDN members are policy professionals, and they are well represented in most EDN activities. One member of the EDN Board is currently from this sector.
- Since 2005 the EDN has sponsored 8 policy training workshops and 4 policy round tables (most recently on the design of the Emissions Trading Scheme).

### **Support for Experimental Economics**

- One of the objectives of the Network has been to encourage the development of the Experimental Economics discipline, and to strengthen links between theory, experiment and policy design.
- Since 2005 the EDN has sponsored 8 small conferences or workshops in experimental economics, including joint workshops designed to bring together theorists and experimentalists. With EDN support, Australia will host the 2010 Asia-Pacific Meetings of the Economic Science Association, an indication of the maturing of the discipline.
- In the last three years new laboratory facilities have been commissioned in several EDN institutions, and new appointments have been made sufficient to create a critical mass in the discipline. In particular, under a joint venture facilitated by the EDN, the University of Melbourne and the Victorian Government have established an Experimental Economics Laboratory that is used both for economic research and policy design.

## Value Added by the Network

### To EDN Members and Institutions

In October 2008 the EDN surveyed network members and the academic community in order to assess the value of the services that it was providing. This survey generated a very rich set of responses, which we will draw on here. There were 98 responses, of which 92 were EDN members and 6 were not members. This response rate is high for an on-line survey. More interesting is the quality of the responses: most respondents put in considerable time and effort and provided detailed, thoughtful comments on each question as well as selecting a categorical response. This provides a very rich source of feedback, to which we cannot do full justice here<sup>2</sup>.

A summary of the responses, and a small selection of the comments, is presented below at the end of this section. The main conclusions that can be drawn from the data are:

- All of the EDN programs are highly valued by members.
  - For example, in response to the question “How valuable have you found the following EDN programs,” 69% found the Conference and Workshop Program to be highly valuable, 20% to be valuable, 3% to be not valuable, and 7% responded that the question was not applicable<sup>3</sup>.
- The Conference and Workshop Program was the most highly valued program, followed by the Visitor and Collaboration Program, the Winter School and PhD program, and the Public Policy Program.
- There is a universal strong view that the EDN has improved the ability to network with other researchers, and improved the opportunities to collaborate and get feedback on research.
  - This view is backed up by many specific comments and examples, not all reported here but available in the full dataset.
- There is a strong view that the EDN has improved international research linkages, improved the ability to retain or recruit good researchers, improved research productivity, and improved access by government to relevant current research.
  - Senior researchers are more definite in their views on these institutional effects, while junior researchers more likely to be unsure.

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<sup>2</sup> There are around forty pages of detailed comments in all. The full, unedited dataset containing all responses and comments, including some negative comments and feedback (though these are relatively few) is available in a convenient form at <http://pluto.ecom.unimelb.edu.au/ednetwork/surveyResponses/>. A link to this dataset can also be found on the home page of the EDN web site. This data set is presented in a very convenient form, and is well worth looking at.

<sup>3</sup> Most who responded Not Applicable were EDN members from outside Australia. The number of respondents to this question was 85; some (mostly overseas members) did not respond to this question, presumably also finding it not applicable.

- There is strong evidence in the personal comments to support the view that the EDN has improved the ability to retain or recruit good researchers, and in support of the value of the Winter School.
- There is mixed support for the view that the EDN has enhanced the development of new research areas, with many unsure. However there is very strong support expressed in the comments of those who have been involved in the experimental economics discipline (one of the EDN's original core objectives).
- There is strong support by senior researchers for the view that the EDN has filled gaps that are not addressed by other ARC programs. Once again, junior researchers (and overseas members who have had little other experience with ARC programs) in many cases not sure.

## **To Government**

Through its public policy program the EDN has created links between government and academia, and built up the capacity to address policy issues with up-to-date economic design tools. The Network has sponsored policy workshops on a range of issues, including strategic issues in public health, the design of policy instruments to address biodiversity preservation, and the design of an Emissions Trading System to mitigate greenhouse gas emissions. It has also sponsored a series of policy training workshops on auction theory, contract design, and the use of experimental economics in policy design and evaluation. These techniques have been used by government in a range of policy contexts, including biodiversity and environmental policy, urban water quality, and the allocation of aquaculture sites, gaming licences and urban bus routes. Twelve percent of EDN members are from the public sector.

## **Value for Money**

The EDN has been strikingly effective, when its achievements are considered relative to its costs. It has mounted four major programs (The Conference and Workshop Program, the Visitor and Collaboration Program, the Winter School and PhD program, and the Public Policy Program), involving dozens of individual activities. It has engaged with around twenty research institutions and nearly three hundred researchers. It has generated genuine cooperation between the major universities involved. It has generated enthusiastic support from its members and the research community.

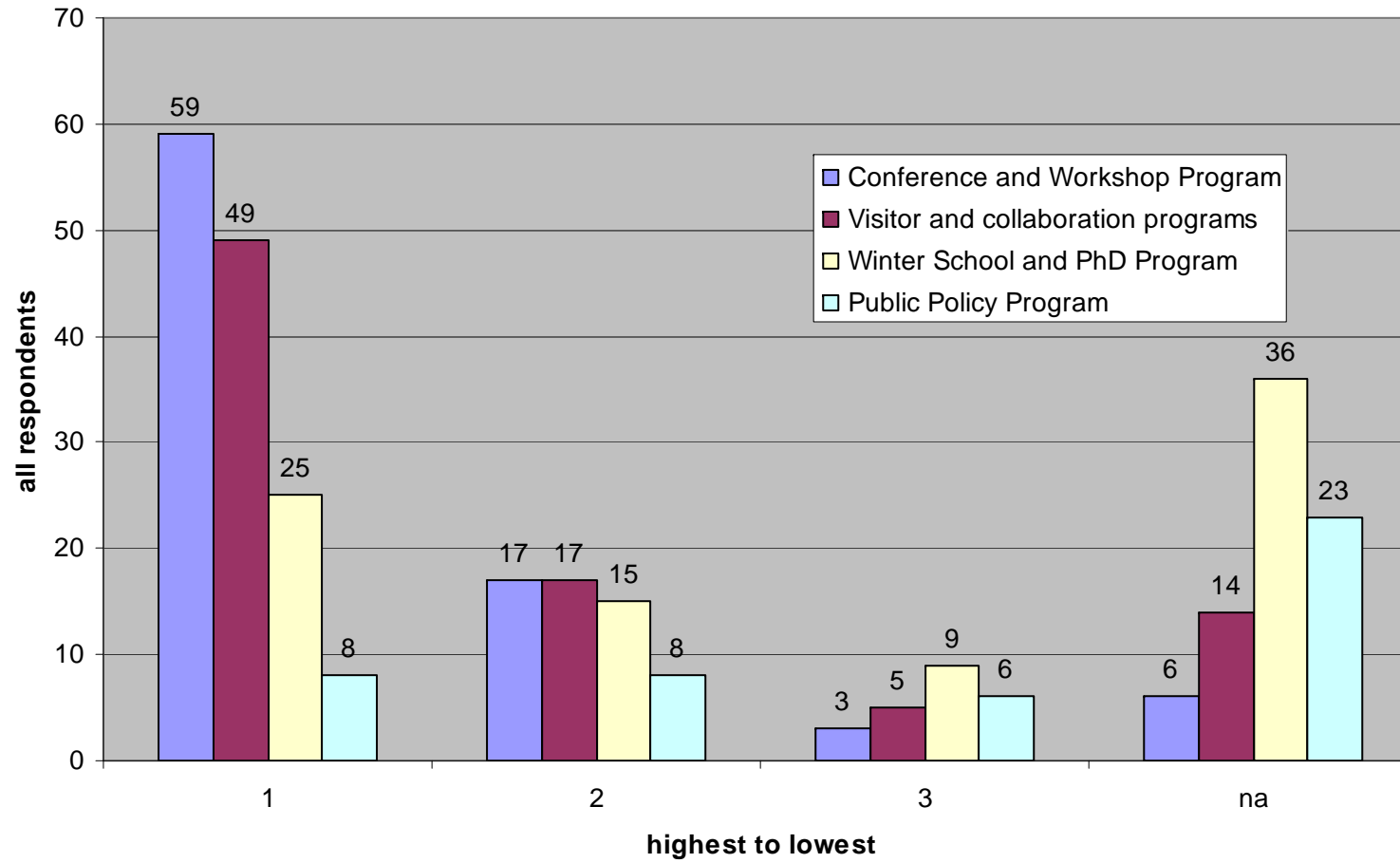
The total ARC contribution has been \$300,000 per year, comprising 60% of the total cost of running the EDN<sup>4</sup>. To put this in perspective, the average annual funding of a 2009 ARC Discovery Grant, each involving at most a small handful of people, is \$116,000. The total number of Discovery Grants awarded was 845<sup>5</sup>.

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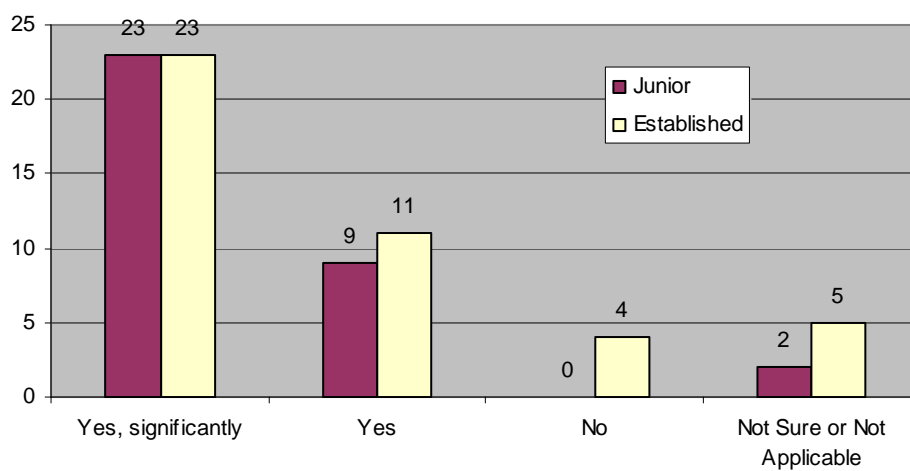
<sup>4</sup> Excluding in-kind contributions by participating institutions.

<sup>5</sup> ARC: Selection Report for Funding Commencing in 2009.

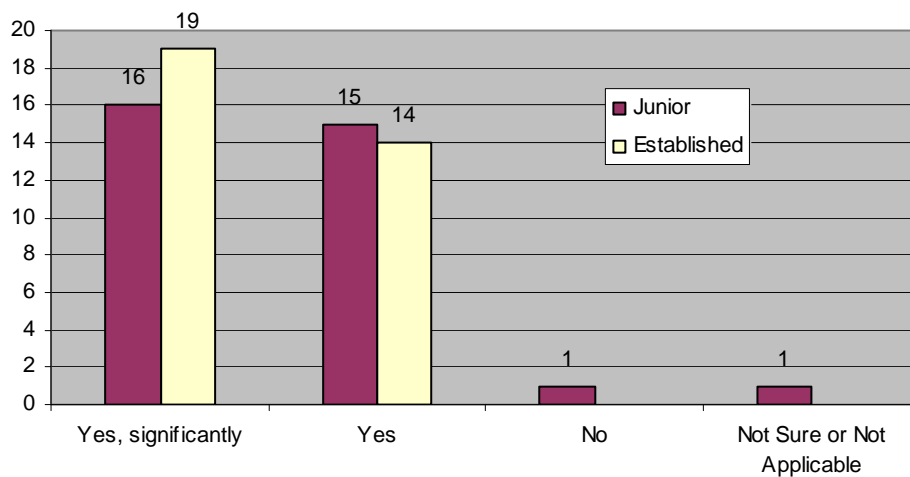
### Value of EDN programs



**Has the EDN improved your ability to network with other researchers?**



**Has the EDN improved opportunities to collaborate and to get feedback on your research?**



*There was nothing like this before. It has certainly achieved its aim of building an Australasian network in the experimental economics area.*

*It is hard to think of an ARC program that compares. Clearly the EDN is an inspired initiative with uniquely positive attributes and possibilities.*

*I do not think any other program comes close to the achievement of EDN in facilitating communication among scholars and practitioners in the area of experimental economics / design of institutions in Australia. It is unique.*

*The networking aspects of all the EDN programs are not funded by other ARC programs. This is critical for maintaining connections overseas and ensuring broad international awareness of the best research in Australia.*

*The quality of conferences and workshops around the Australasian area jumped upwards once EDN pitched in to attract world class speakers.*

*We have had excellent visitors over the past year. What is unusual is the amount of time that these visitors have for junior researchers. This includes discussing research topics and giving advice.*

*The funds available for networking fill an important gap. We were never able to create this type of intellectual environment, before the EDN funding.*

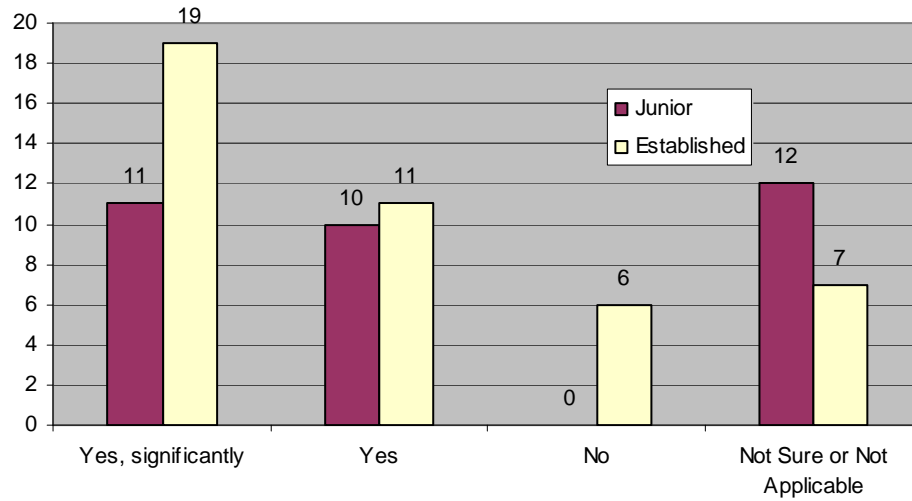
*The Information Economics conference in March of 2007 was an incredible opportunity to interact with the very best economists in the world.*

*This program helps us tremendously to overcome, or at least mitigate, Australia's remoteness. I think it is mainly due to this program that we can correctly consider ourselves as being closely in touch with the centre of gravity of economics, which are the top U.S. schools.*

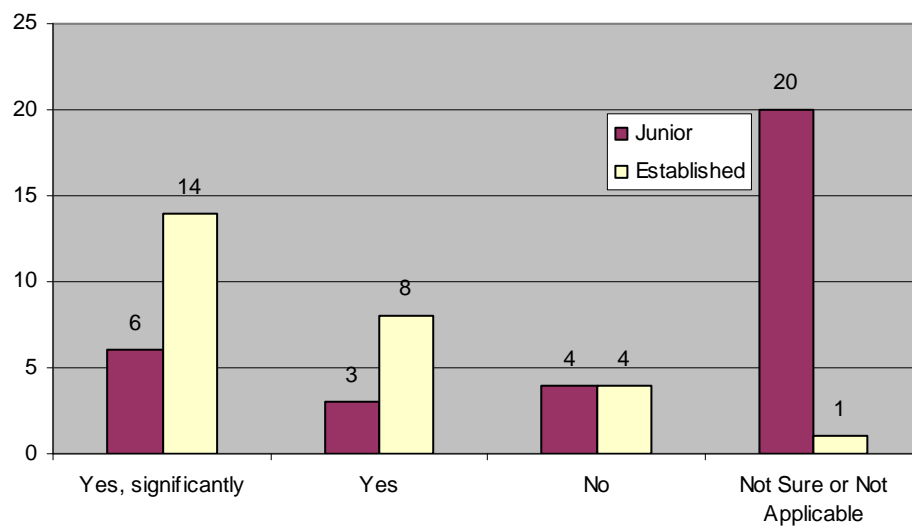
*The EDN is a great initiative breaking the yoke of the tyranny of distances. It is a wonderful tool.*

*I found the EDN to be unique in its ability to bring together and fund research activities of economists from around the globe in a very flexible, un-bureaucratic way. I'm sure it has helped to raise international awareness for some of the great work of Australian economists, to educate researchers and policy makers in modern economic approaches, and to initiate novel, high-level and practically relevant research.*

**Has the EDN improved your institution's international research linkages?**



**Has the EDN improved your institution's ability to retain or recruit good researchers?**



*I am extremely grateful to the ARC for funding the EDN. It has had a big impact on my academic life.*

*My junior colleagues, in particular, have told me of new projects they have commenced following seminars and "tutorials" by EDN visitors. In addition, one of my PhD students is using a new framework introduced by a visitor from the US during his seminar, but not yet described in any paper. The student would not have had access to this idea, nor the opportunity to interact with the academic about this, without EDN funding.*

*The Winter School of 2008 was also a hugely valuable experience. The two lecturers, Preston McAfee and Randall Wright, are both amazing teachers as well as famous researchers. I learned a great deal about how to present material on pricing to graduate students, from Prof. McAfee's lectures. And Prof. McAfee and I have started a joint paper together. But the most useful part of the course for me was the lectures by Prof. Wright, which gave me a whole new set of tools for addressing the problems I'm currently working on, and opened up so many more possibilities. I will be visiting Prof. Wright in the US, next month, to continue conversations begun at the EDN winter workshop.*

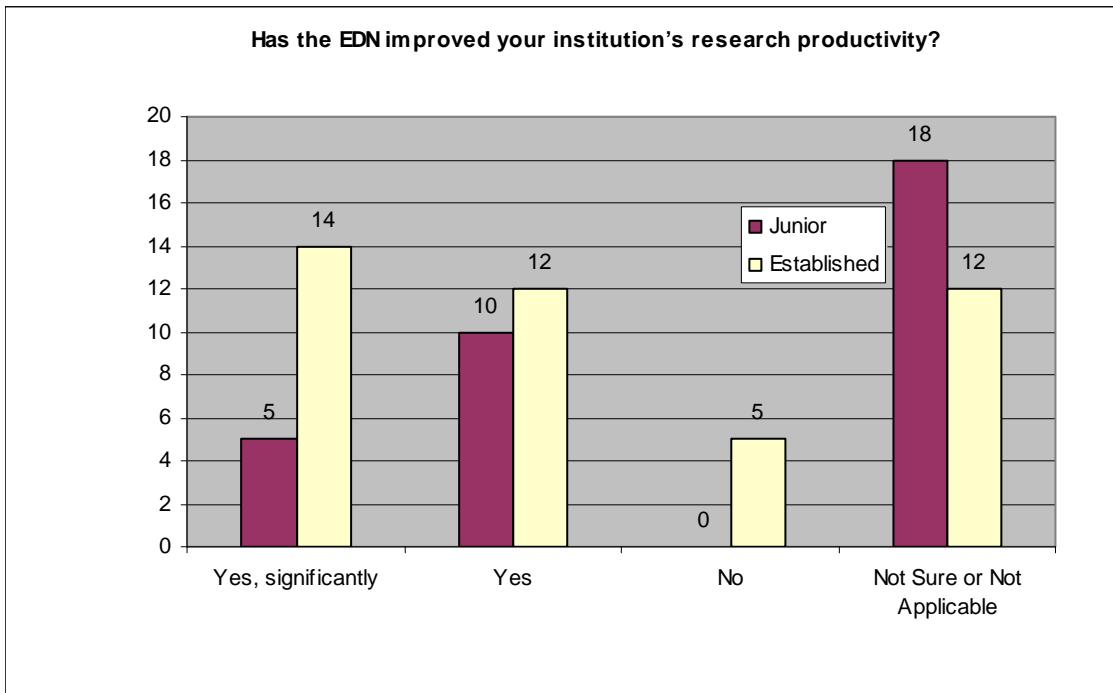
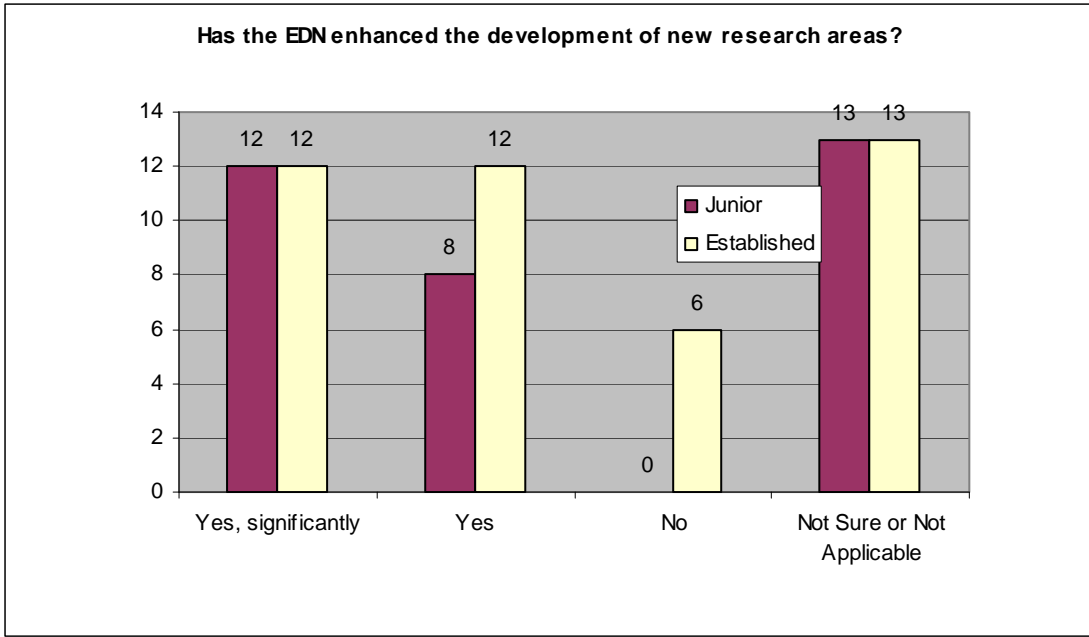
*I attended the Winter School on Money and Pricing and found my time during this five-day program very well spent. In short, it was a superb learning environment. Prof. McAfee and Prof. Wright: both are prominent scholars on their field and perfect speakers. I am very grateful to those that made this winter school possible, and look forward to attending similar programs.*

*This is a BRILLIANT initiative for our young researchers. Advanced coursework is now an integral part of every top-tier PhD programme internationally, but it is very expensive to implement at each individual Australasian University. The PhD Winter School provides a cost-effective alternative. It gives our students access to intensive courses in frontier theory/method delivered by world leading scholars. Pooling students from different Universities also creates valuable intellectual networks, as well as reducing the sense of isolation which can be very de-motivating for PhD students.*

*This is a fantastic opportunity for PhDs and ECRs to hear the best international scholars in their areas of expertise. My PhD students have participated with substantial broadening of their horizons and deepening of their knowledge.*

*Auction theory and experiments workshop run at University of Sydney attracted two extremely well respected authorities to teach the material, of direct benefit to me as I am doing my PhD on the topic*

*The EDN Winter schools have been exceptional. They have been instrumental in getting excellent researchers to the Australian region and the interaction with them has been very beneficial, both in terms of talking and learning about their research and getting comments on our research.*



*I arrived from overseas in January 2007 and almost immediately upon arrival I participated in the Australasian Economic Theory Workshop at ANU, where I met I guess 80 percent of all the people working in my in Australia and N.Z.. Needless to say, this is incredibly helpful, and a very welcoming experience as well.*

*I was on the hiring committee for my department at the American Economic Association meetings in January 2008. Every theorist that we interviewed was strikingly impressed with the level of research activity and workshops, and the ability to bring in top researchers. It was a key factor in selling the university to prospective candidates. We hired an excellent candidate from MIT.*

*First, one of the main reasons I decided to move to Australia was the great visitors' programme. Second, in 2007 and 2008 a number of Universities in the region managed to recruit excellent people. These people told me they were not afraid to be academically cut-off in Australia and that was largely due to the EDN.*

*I have been on the selection committee twice during the lifetime of EDN. We always explain to the job candidates how we are able to maintain a very active visitors and seminars program as a result of EDN. This is a reassuring statement for them because most people worry about being cut off from the rest of the world when they are making the decision to move to Australia. They have told us, after looking at our website, that the amount of activity we have is better than many schools in the US.*

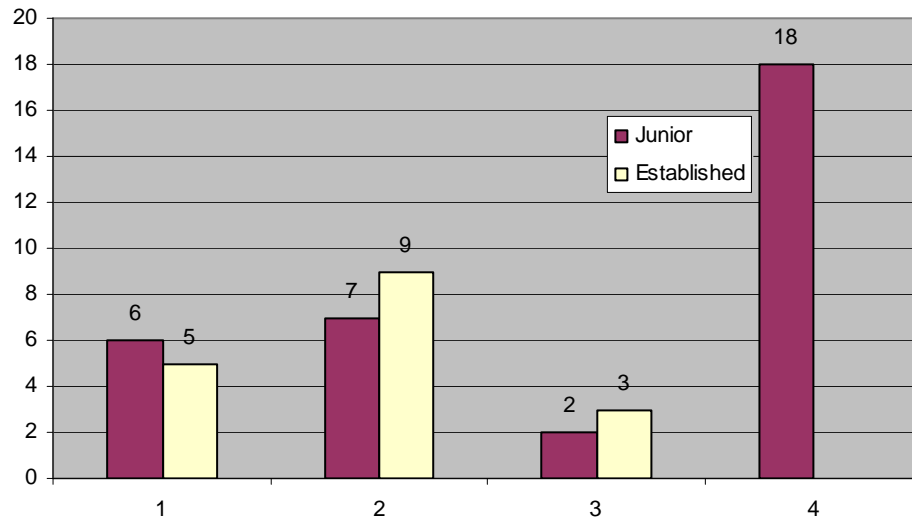
*The EDN has been a crucial advantage to the University when hiring in the international market. This applies from the entry level to the chair level. The top candidates will only consider moving to Australia if they know that we are well integrated in the world academic environment. The EDN has been invaluable in overcoming Australia's academic isolation.*

*Well, it's hard to believe that we would have been able to recruit from top schools like Berkeley or MIT without the prospect of support by EDN for their research once these juniors were hired.*

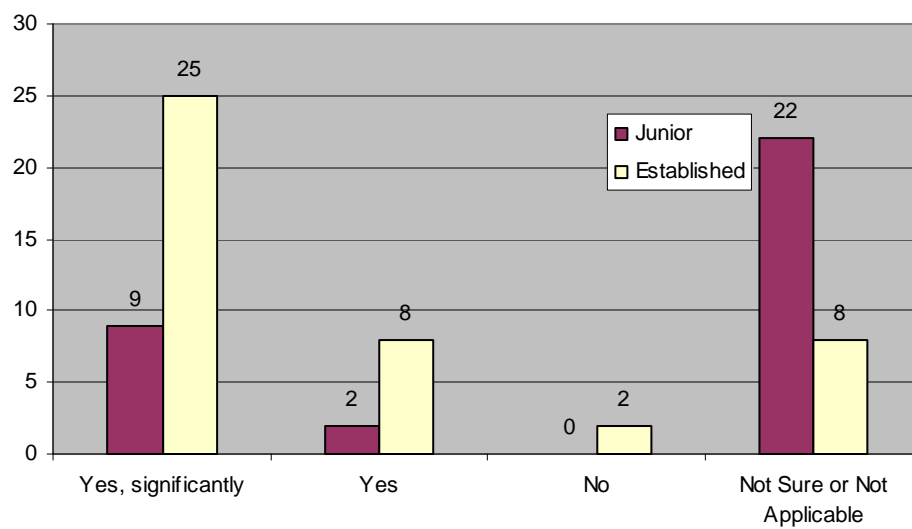
*The visitor program has been outstanding. Amongst other things, it helps in recruiting junior academics from overseas; it clearly demonstrates that Australia is not an academic backwater, and that moving here does not mean losing contact with leading international researchers.*

*I was thrilled to find that it existed up commencing my PhD, as it gave me a collaborative network whilst undertaking an isolated course of study, and allowed me to be exposed to different areas of research*

**Has the EDN improved access by government to relevant current research?**



**Has the EDN filled gaps that are not addressed by other ARC programs?**



*The Emissions Trading Design Workshop organised by the EDN exposed the Commonwealth Government design team to expert input from leading US and EU experimental economists. This workshop was influential in the design of the Commonwealth's Carbon Pollution Reduction Scheme. My staff attend a number of workshops hosted by the EDN. These workshops raise the skills and knowledge of policy economists.*

*Through the EDN, the Victorian Government has been able to gain access to theoretical expertise in mechanism design, to world class expertise in experimental economics and to laboratory facilities. This has enabled Victorian government agencies to progress the development of a number of market mechanisms to address complex policy and resource allocation problems, including:*

- *native vegetation offset markets which involve package problems on both supply and demand side and successfully embed complex ecological rules;*
- *the design of a uniform price auction to assist in managing water quality in urban Melbourne. Here, lab testing revealed some problems with the choice of metric;*
- *development of an auction mechanism for allocation of gaming machine licenses; and*
- *analysis of the potential for use of combinatorial auction design in the allocation of bus routes.*

*Government has also benefited EDN conferences, seminars and workshops in developing the public policy capability in mechanism design.*



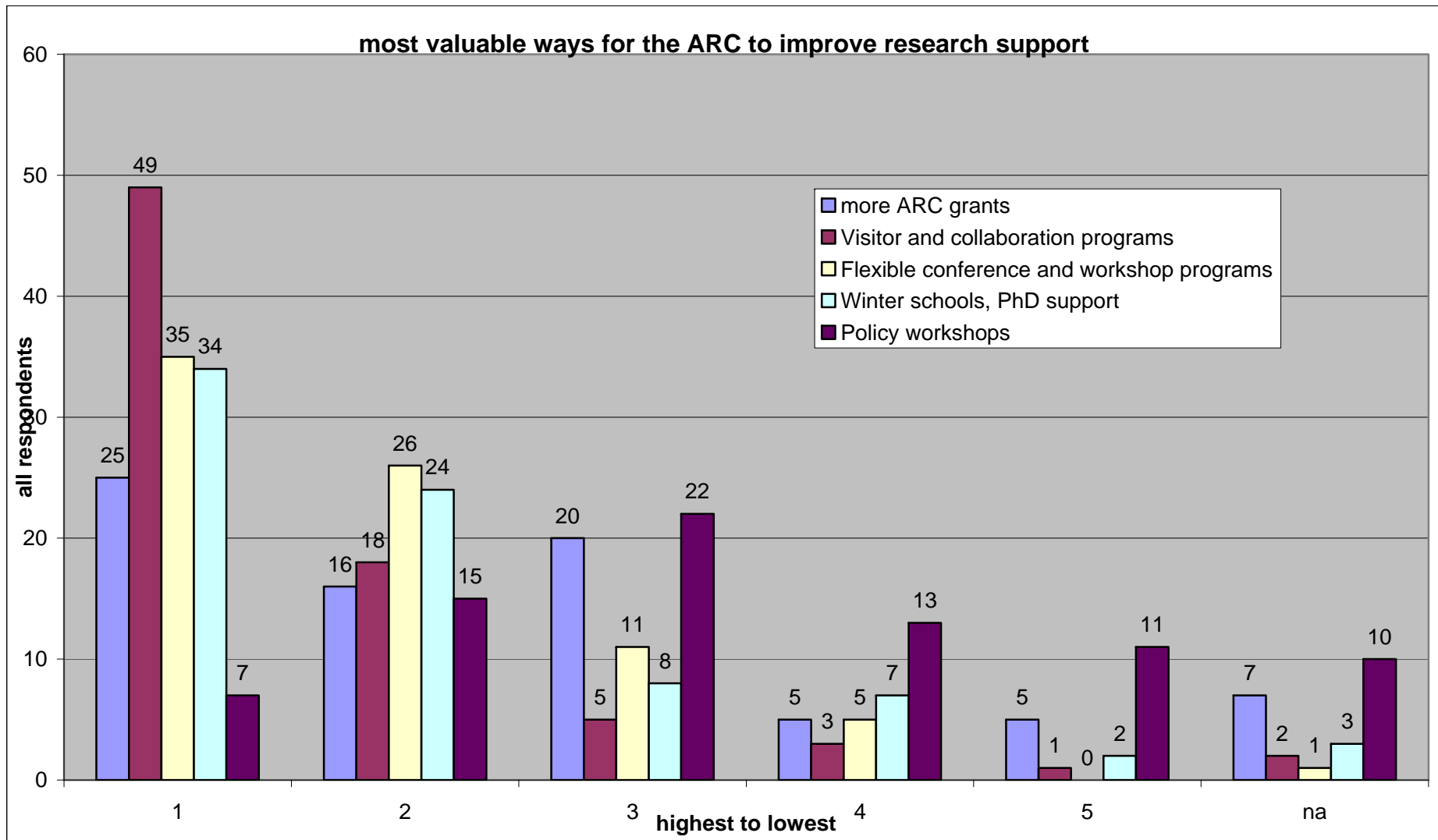
The \$900,000 Experimental Economics Laboratory was funded under a relationship between the University of Melbourne and the Victorian Government established through the EDN

*Had it not been for the EDN, I am convinced that the growth experimental economics has enjoyed as a field in Australia would not have happened.*

*My institution now routinely uses experimental economics laboratories as part of the policy design process. This capability has been developed with the EDN. Many previously intractable policy problems can now be formulated as economic problems and new institutions designed.*

*Experimental economics has skyrocketed in Australia. The number of researchers in this area working in Oz has jumped from about 4 to about 15 since EDN has helped to support the area.*

*EDN has been an energetic and vibrant community. Especially in my area of interest (experiments), EDN has provided useful and interesting workshops that can be of immense value to PhD students and researchers*



## **The Role of the EDN: Filling a Gap**

The ARC Research Network Scheme has been a significant innovation, exploring new modes of engaging with the research community. What can we learn from four years of experience with this scheme? In the case of the EDN and the EDN community of around 280 researchers and 20 research institutes the answer is clear: the innovation has been an outstanding success. It has demonstrated that there are important gaps in the ARC research support system, and that these gaps can be addressed effectively and at relatively low cost.

The message is very clear. When EDN members were asked to nominate the most valuable ways to improve research support for the discipline, the status quo ranked well down the list. Only 25 responses nominated funding ARC research grants as the highest priority; 49 nominated funding visitor and collaboration programs, 35 nominated flexible conference and workshop programs, and 34 nominated the Winter School and PhD support.

Why has the EDN been so effective? Among the reasons are the following.

- It has a coherent but inclusive discipline focus
- Management has been efficient, flexible and responsive to the discipline
- It has demonstrated what can be achieved by cooperation across institutions
- It has encouraged an innovative, outward looking research culture
- It has placed an emphasis on mentoring, PhD training and helping the discipline to recruit and retain the best young researchers
- It has met genuine needs of the discipline that are not addressed by other ARC programs

### **Recommendations**

- 1 That the ARC should learn from this experience, and take steps to address the gaps that are evident in the ARC research support system, either through renewed funding of Research Networks or through similar programs
- 2 That steps be taken to minimise the loss of knowledge and human capital that will occur if the Research Network scheme is simply shut down. These include the loss of brand name and international reputation, the breakdown of communication and collaboration networks that have been built up, and the loss of project management skills, knowledge and infrastructure (including custom built software). Networks should be asked to nominate the minimal investment required to maintain these assets
- 3 That some interim funding be provided to allow Networks to continue activities whose value is so evident that it is almost certain that the ARC will want to support them. In the case of the EDN, the annual Winter School would fall into this category. Each Network should be asked to nominate one or two such activities.

Peter Bardsley, EDN Convener, February 2009.