



Australian Government
Australian Research Council

Social, Behavioural and Economic Sciences: Grant Information

University of Technology Sydney 29 September 2009



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Presentation available at

http://www.arc.gov.au/media/ARC_Presentations.htm

Agenda: SBE

- **Context**
- *Discovery Projects*
- *Linkage Projects*
- *Discovery Indigenous Researchers Development Scheme (DIRD)*
- **Success Rates for SBE**
- **Internationalisation**
- **Conclusion: Opportunities**

Major ARC Schemes



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- *Discovery Projects* –
 - Excellent fundamental research by individuals and teams
 - *Discovery Indigenous Researchers Development* –
 - Develop research expertise of Indigenous Australians
 - *Australian Laureate Fellows* -
 - For outstanding researchers to stay in or return to Australia
 - *Future Fellows* –
 - Rewards best mid-career Australian researchers and outstanding international researchers
-
- *Linkage Projects* –
 - Collaborative research between universities and industry/government/community
 - *Centres of Excellence* – Large outstanding research teams conducting focussed, sustained investigations on important challenging problems
 - *Linkage infrastructure, equipment and facilities (LIEF)* –
 - Collaboration across universities & partner organisations to fund major infrastructure

Context: Desirables—Minister Carr 2009

March, 2009

- **Applications to build on university's research strengths; strategic; play to strengths**
- **Collaboration needed between universities and business and public sector research agencies**
- **Develop PhDs, support research students**
- **Collaborate across universities, especially international collaboration by researchers**
- **Collaboration across natural and human sciences**

September, 2009

- **Fund first rate research, the bedrock of the innovation system**
- **Gain value for money/ROI from ARC funding of research**
- **Internationalisation**
- **International benchmarks – is the research as good as that of the rest of the world**
- **Build people capacity, support infrastructure to attract researchers**
- **ERA: Measure outcomes to identify strengths and gaps and to fill gaps**
- **Engage with publicly funded research agencies eg ANSTO, IP Australia**



Changes and the Future



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- **Consultation paper issued on possible adjustments to the peer review process** (respond by 19 October 2009)
- **Elaborated clarified definition of medical and dental research issued:** http://www.arc.gov.au/applicants/md_research.htm
- **Increased focus on outcomes**
 - **Reporting of outcomes of prior grant funding**
 - **Excellence in Research in Australia evaluation**
 - **Track record possibly adjusted as in consultation paper on peer review: Research Opportunity and Performance Evidence**
- **Federal budget –**
 - **Superscience Fellowships**
 - **Bionic eye**
- **New ARC Centre of Excellence round 2010 for 2011**

Present Selection Weights



<u>Criteria</u>	<u>Discovery</u>	<u>Linkage</u>	<u>Futures</u>	<u>DIRD</u>
• Researcher Track Record	40%	20%	50%	40% <i>capacity</i>
<hr/>				
• Project Significance & Innovation	30%	25%	-	40%
• Project Quality	-	-	10%	
• Project Approach	20%	20%	-	
<hr/>				
• National Benefit	10%	10%	-	above
• National Research Priority	-	-	10%	-
<hr/>				
• Industry Partner Commitment	-	25%	-	-
• Collaboration	-	-	15%	-
<hr/>				
• Strategy	-	-	15%	-
<hr/>				
Quality of research env./mentor	-	-	-	20%
Total	100%	100%	100%	100%
Average Success Rate about	22%	44%	20%	~40%

Discovery Projects: No. Applications & Results



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ARC as a whole	2004	2005	2006	2007	2008	2009
No.	3,240	3,441	3,766	4,047	4,121	4,164
No. funded	875	1,053	917	822	878	845
Total Funds	237.9 million	297.5 million	273.6 million	274.7 million	300.8 million	288.4 million
ARC Success Rate	27.0%	30.9%	24.5%	20.4%	21.4%	20.4%
SBE Success Rate	31.0%	23.0%	19.0%	22.0%	22.0%	24.0%

2009 Funded Discovery Projects



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Characteristic	All ARC	SBE
Av. duration of funded grants	3.27 years	3.22 years
Av. 1 st year funds gained	\$116k = 67% of request	\$89k = 66% of request
Av. \$ funds gained for total project	\$341,000	\$262,000
ECR-only applications (≤ 5 years since PhD awarded)	Success Rate = 15.5% % of income = 10%	Success Rate = 20% % of income = 13%
Applications that included ECRs	Success Rate = 37%	47%
Average no. assessments per proposal	5 assessors ■ 2 CoE, 2 Oz Reader, 1 International Assessor	5.08, SD = 0.81
Average no. Chief Investgtrs	1.96	2.31

• http://www.arc.gov.au/ncgp/dp/dp_fundingrules.htm



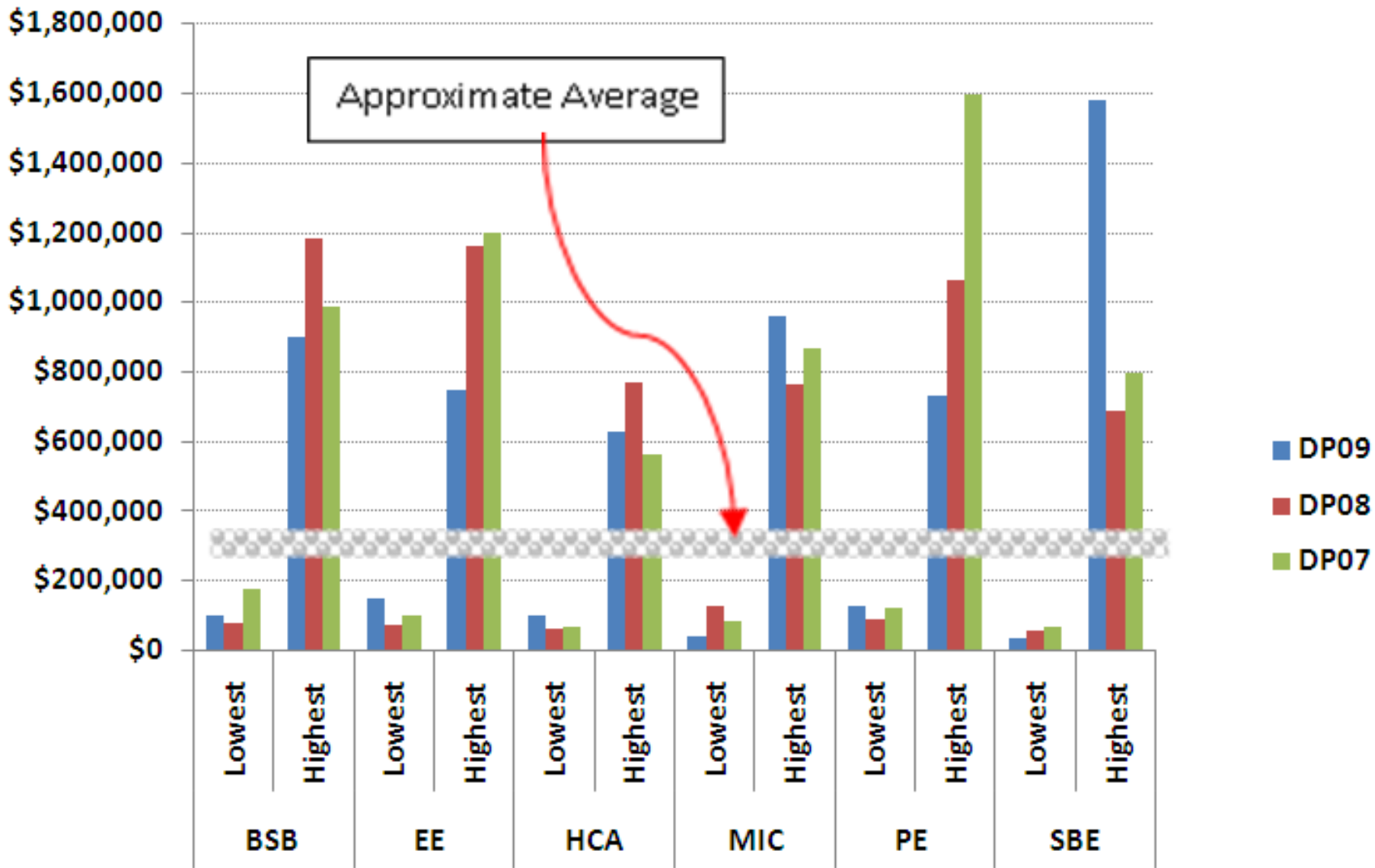
- *Need good-excellent scores on both(1) Project and (2) Fellow*
 - **Australian Postdoc Fellowships (≤ 3 years since PhD):**
 - **2009 Success Rate = 17%: SBE = 18.3%**
 - **Can be 3 years (100%) or 4 years - 75%**
 - **Australian Research Fellows/Queen Elizabeth II Fellows - ≤ 8 years since PhD, also ≤ 13 years if previously had ARF/QEII:**
 - **2009 Success Rate = 15.1%: SBE = 20%**
 - **Can be 50%. Has a much better success rate**
 - **Australian Professorial Fellowships - ≤ 13 years since PhD**
 - **2009 Success Rate = 14.3%: SBE = 14.3%**
 - **Can be 50%. Has a much better success rate**

No. & Success Rate of ECR-Only Proposals (≤ 5 years since PhD) for 2009

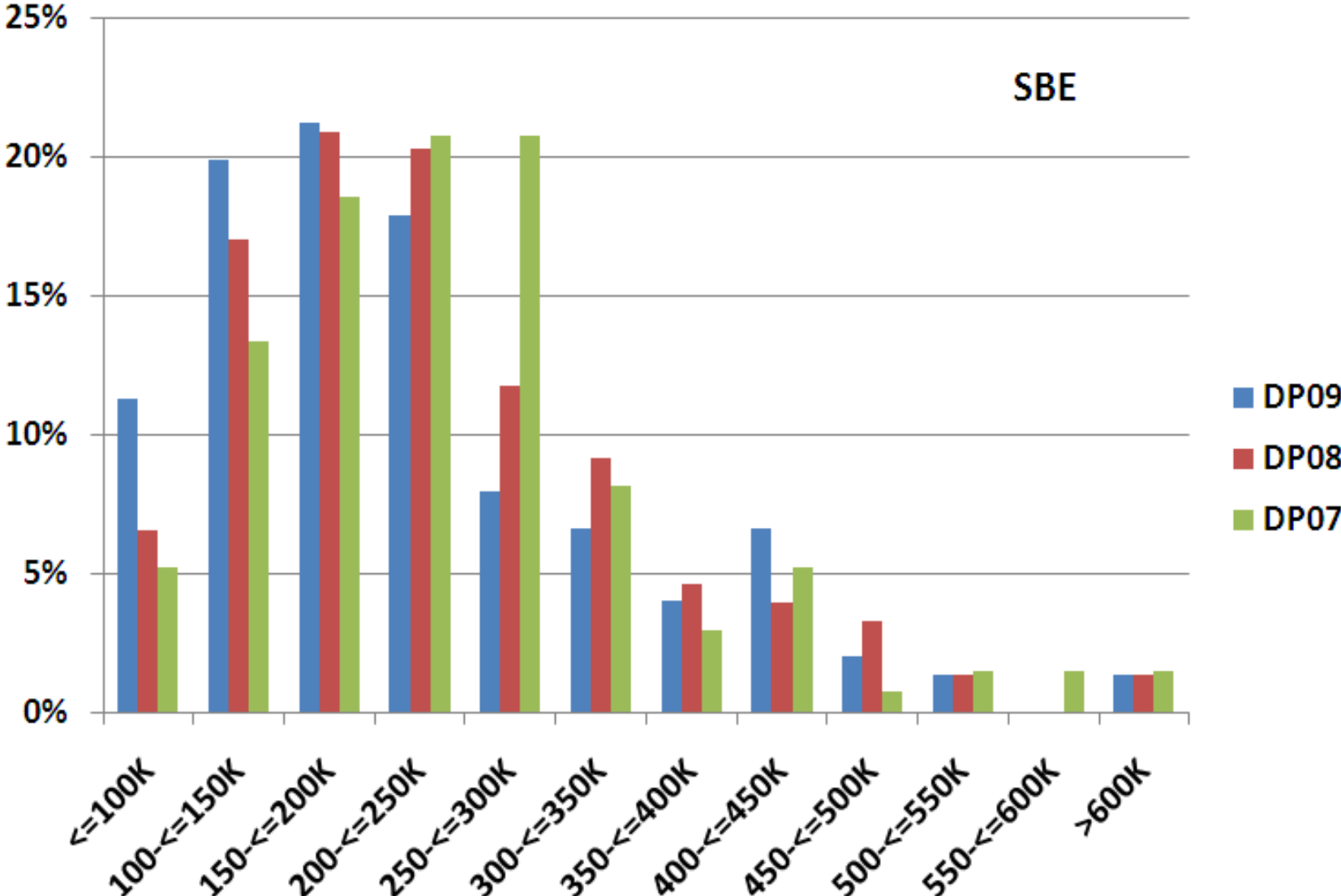


Discip -line	ECR-Only Proposals Received	ECR-Only Proposals Approved for Funding	Success rate	ECR-Only Proposals: % of Total funding
BSB	93	13	14.0%	6.8%
EE	72	8	11.1%	5.9%
HCA	154	19	12.3%	13.0%
MIC	82	19	23.2%	12.2%
PCG	151	21	13.9%	11.3%
SBE	130	26	<u>20.0%</u>	<u>12.7%</u>
<i>All</i>	682	106	<i>15.5%</i>	<i>10.2%</i>

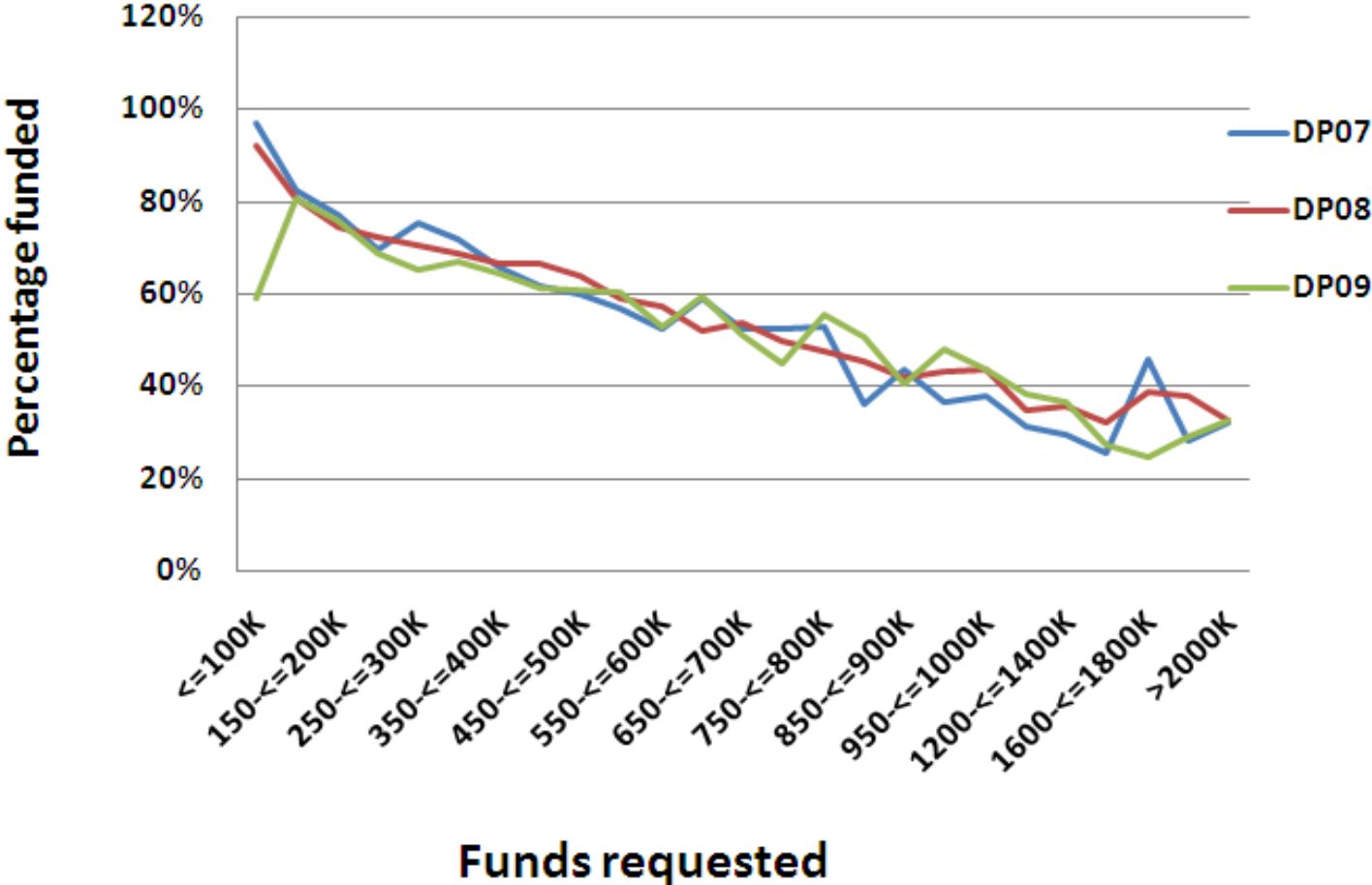
Funding Allocation to DP Proposals



Distribution of DP Proposals across Funding Bands



Funding ratio of funds requested



A Discovery Project Application

- Proposal is written like a top journal article from Introduction to the end of the Method section (include method of analysis)
- Is an academic argument on how to advance the academic field/knowledge to prove this is a significant idea(s)
- Has specific, consistent, meaningful research objectives; Research Questions/hypotheses derived from a critical literature review; RQs matched to studies proposed in the Approach
- Proposal written consistent with how selection criteria scored:
 - Track Record (eg carefully compose team), S&I (eg do a crit. lit review), Approach (eg specific & matchrd to research questions or hypotheses), & NB (application of the results)
- Do multiple drafts, get feedback, do a pilot study – needs to be written very well so it is good relative to the best
- Based on the Funding Rules & Instructions to Applicants
 - http://www.arc.gov.au/ncgp/dp/dp_fundingrules.htm



Writing a Rejoinder

1. Deal Directly with the Criticisms

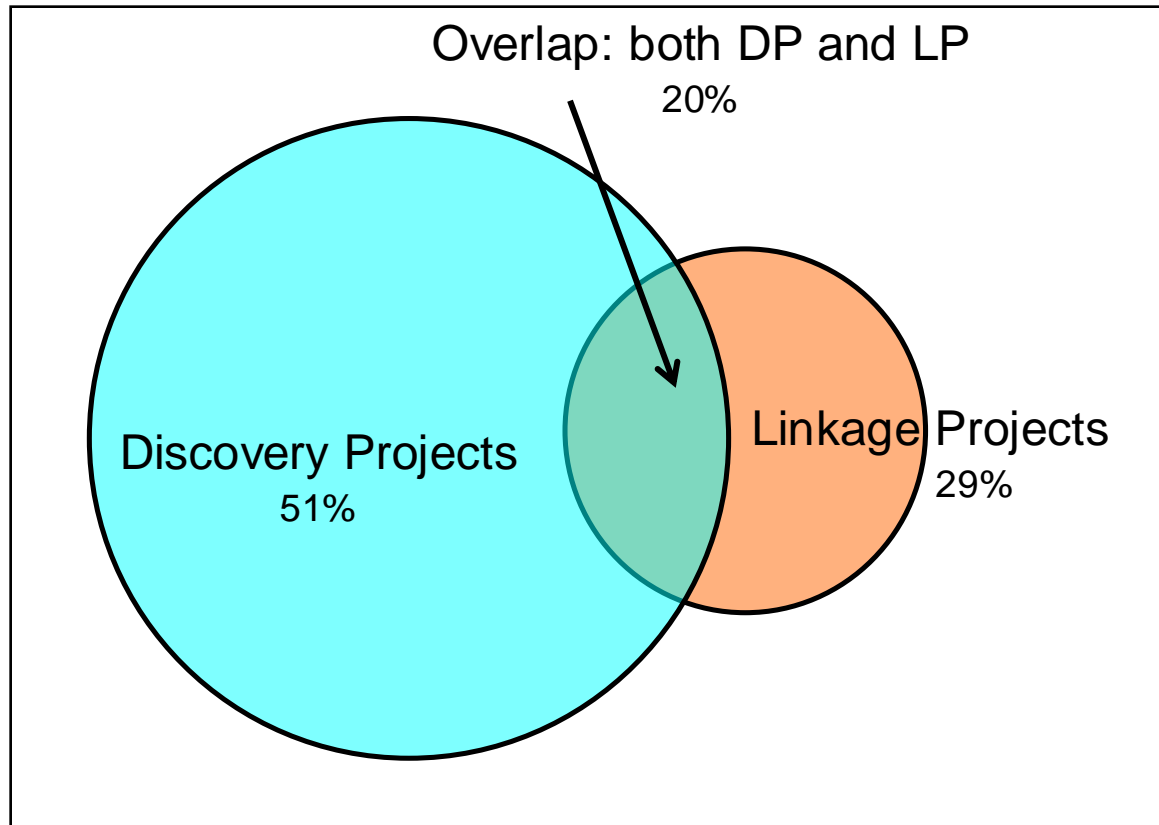
- **Derive the themes/common points from assessors' comments**
- **Anything negative, neutral, lukewarm, or middling is a criticism**
- **Structure the rejoinder by major theme(s) giving assessor numbers**
- **Directly address each theme and say how you will solve it**
- **Offer practical solutions – how you will do that**
- **Give objective evidence or citations to back up what you say or add evidence to solve a problem or overcome a deficiency**
- **If you already did that issue in the proposal, give exactly where**
- **Ignore a minor criticism given by one assessor if no space**

2. Update Your Progress on the Topic Since Submission

- **Results of pilot studies; development of measures**
- **New publications (journal articles) since submission including conference proceedings especially if on topic**

Assessors who wrote the comments do not read the rejoinder

Linkage Grants: Chief Investigator Cohort ARC Project Grants 2001-2007



2009 Linkage Projects Round 1 and Round 2): Total success rate 45%

2009 Funded Linkage Projects

Feature	All ARC	SBE
Av. duration	3.05	3.10
Av. 1 st year funds gained and % of \$ request gained	Rd1 \$110k= 71% Rd 2 \$101k= 71%	Rd1 \$95k= 71% Rd 2 \$95k= 64%
Av. funds gained for total project	Rd 1 \$329k=68% Rd 2 \$300k=68%	Rd 1 \$290k=66% Rd 2 \$291k=61%
Average no. CIs	2.9, 3.1	3.63, 3.65
APAI success rate	34%, 39%	33%, 40%
APAI _IT (quota of 50) success rate	91%, 65% (mostly MIC)	0%, 29%
Aust. Postdoctoral Fellows Industry	52%, 40%	88%, 47%
Rural & Regional success rate	46%, 43%	39%, 47%
Av. no. of collaborating organisations	2.2	2.6

▪ http://www.arc.gov.au/ncgp/lp/lp_fundingrules.htm

Linkage Projects 2009 Rounds 1 & 2

Partner Organization Contribution by sector

	<i>Rd1</i>	<i>Rd2</i>	<i>05-08</i>
■ <i>Commonwealth Government</i>	5%	2.9%	6%
■ <i>State & Local Government</i>	<u>29%</u>	<u>36%</u>	<u>27%</u>
■ <i>International government</i>	1%	2%	2%
■ <i>Nonprofit Australian</i>	<u>12%</u>	<u>15%</u>	<u>11%</u>
■ <i>Nonprofit International</i>	4%	1%	2%
■ <i>Private company Australian</i>	<u>33%</u>	<u>31%</u>	37%
■ <i>International company Australian</i>	<u>18%</u>	<u>12%</u>	<u>17%</u>

Most Frequent Partner Industry (2009 Round 2)

- **Government Administration & Defence (206); Health & Community Services (198); Education (82);**
- **Manufacturing (121); Electricity, Gas & Water (50), Mining (44), Construction (36)**
- **Cultural & Recreational Services (99); Property & Business Services (82);**
- **Agriculture, Forestry and Fishing (77)**

Linkage Projects 2009

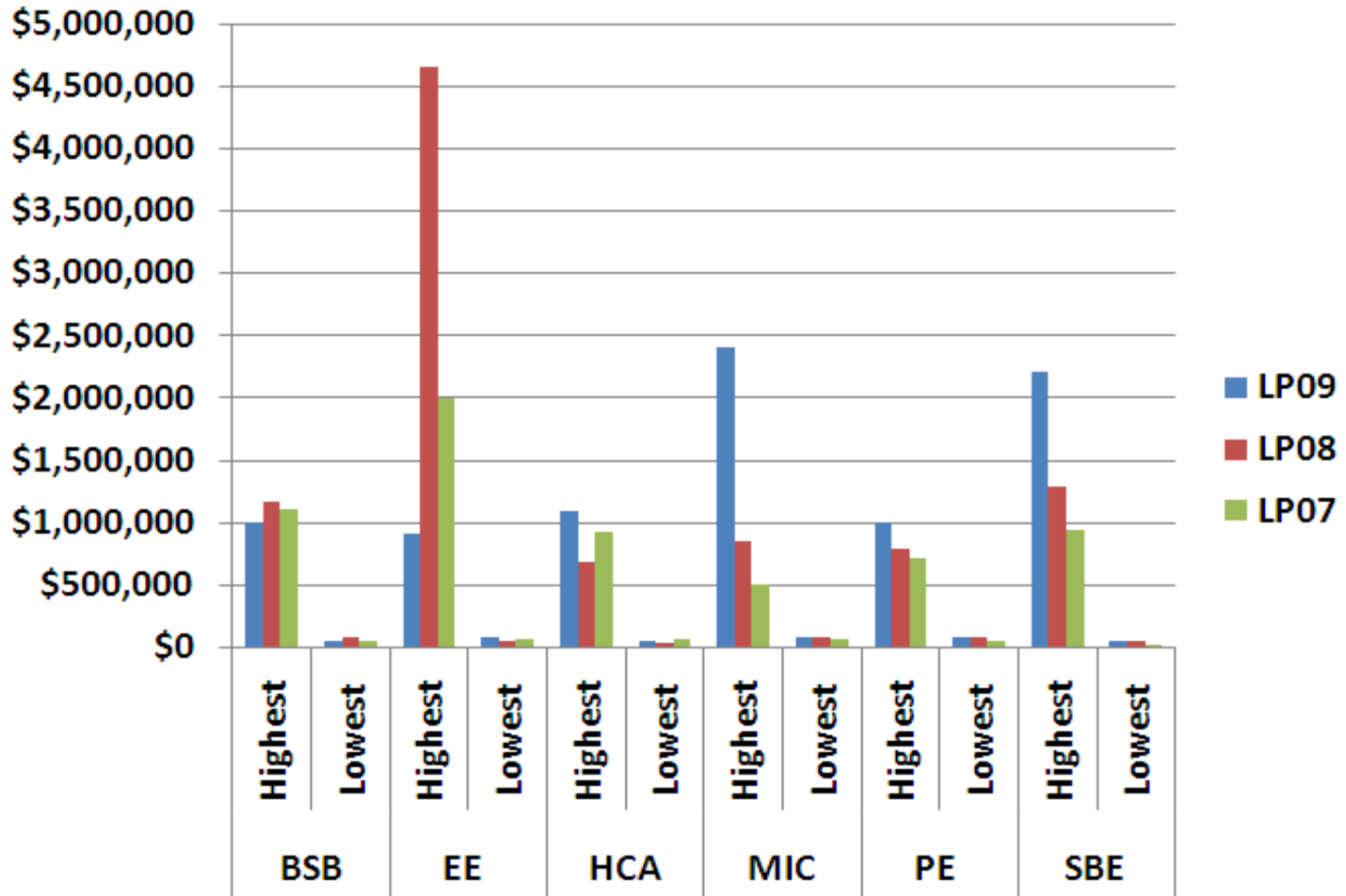
Round 2

Discipline Group	Proposals received	Success rate	Funds over project life (approved) \$ million
BSB	107	43.9%	14.00
EE	104	45.2%	13.02
HCA	58	41.4%	5.89
MIC	53	45.3%	9.80
PCG	31	54.8%	5.51
SBE	169	46.7%	23.06
<i>All</i>	<i>522</i>	<i>45.6%</i>	<i>71.28</i>

Round 1

Proposals received	Success rate %	Funds over project life (approved) \$ million
85	43.5%	14.42
100	55.0%	17.05
32	56.3%	5.31
45	53.3%	8.26
39	41%	6.92
140	48.6%	19.74
<i>441</i>	<i>49.4%</i>	<i>72.00</i>

Funding Allocation to LP Proposals



Discovery Indigenous Researchers Development Scheme (DIRD) Objectives

- **Develop the research expertise of Indigenous Researchers who have not been a Chief Investigator on an ARC project or had an ARC Fellowship;**
- **Support fundamental research and research training by Indigenous Australian individuals and teams;**
- **Provide Indigenous Researchers with experience in the preparation of research funding proposals;**
- **Attract and retain established Indigenous Researchers**
- **Expand Australia's knowledge base & research capability**

http://www.arc.gov.au/ncgp/dird/dird_fundingrules.htm



- **Research projects can:**
 - (a) Lead to understanding of a particular subject or
 - (b) Meet requirements of a postgraduate research degree
- **Applicants**
 - Australian Aboriginal or Torres Strait Islander descent
 - Need not have a PhD
 - Have not been a CI on an ARC grant or had an ARC fellowship (except ARF-I)
- **Success Rate 2006 62.5%, 2007 71.4%, 2008 39%, 2009 34.6%**
- ***Most applications are from SBE and HCA***
- **May be funded 1 to 3 years from \$10,000/year to \$200,000, or \$400,000 if includes an Australian Research Fellow-Indigenous**



1. Indigenous Researcher Fellowship (IRF) for:

- Researchers at postdoctoral level (≤ 3 years since PhD) to undertake significant research, who have no prior ARC Fellowship or Chief Investigator role (other than DIRD)
- Awards for 1 or 2 years at 100% or 50% salary

2. Australian Research Fellowships–Indigenous (ARF-I):

- Established researchers or postdoctoral researchers who have ≤ 8 years professional experience since PhD
- Can be CIs or ARC Fellowship holders but not ARF/QEIIIs or APFs in *Discovery* scheme
- Awards for 2 or 3 years at 100% salary

3. Other applications are for CIs:

- Who need not hold a PhD - must have a completed postgraduate research degree or equivalent -
- To do projects only or for currently enrolled postgraduate research degree students (need supervisor on proposal)



Comparative Success Rate and Funds For SBE

■ SBE and HCA 2005-2009 totals:

- Similar success rates in *Discovery Projects* as the other 4 panels—23%
- Similar success rates in *Linkage Projects* as the other 4 panels—44%
- Combining *DP* and *LP*, SBE (29%) and HCA (26%) have similar success rates to the other panels: 27%, 29%, 27%, 26%
- In *Discovery Projects*, SBE (59%) and HCA (61%) gain a somewhat greater % of the funds they sought than the other 4 panels—57%, 59%, 51%, 53%
- In *Linkage Projects* SBE (71%) and HCA (77%) gain a similar percentage of funds as the other 4 panels—73%, 75%, 70%, 74%
- Combining *DP* and *LP*, SBE (64%) and HCA (64%) gain a greater % of funds that they sought than the other 4 panels—61%, 65%, 55%, 55%.



Success Rates for Major SBE Research Codes for All Schemes for Submit Years 2004 to 2008



RFGD	2004	2005	2006	2007	2008
32 Medical and Health Sciences	43%	24%	32%	38%	32%
33 Education	28%	26%	24%	25%	30%
34 Economics	44%	39%	33%	34%	32%
35 Commerce, Mgt, Tourism & Services	35%	23%	24%	23%	17%
36 Policy & Political Science	31%	30%	21%	19%	25%
37 Studies in Human Society	32%	28%	26%	26%	18%
38 Behavioural & Cognitive Sciences	38%	30%	26%	29%	29%

All Currently Funded SBE Projects

RFCD	RFCD Description	Number of projects	Proportion
32	Medical and health sciences	152	16%
33	Education	125	13%
34	Economics	119	12%
35	Commerce, management, tourism and services	108	11%
36	Policy and political science	69	7%
37	Studies in human society	121	13%
38	Behavioural and cognitive sciences	227	24%
Other		42	4%
Total		963	100%



International Collaboration

- *ARC schemes are open to international applicants:*
 - (a) If apply through one of the eligible organizations
 - (b) If successful, must reside predominantly in Australia
- *Discovery Projects*
 - **Partner Investigators (PIs) can be working overseas**
 - **‘International Collaboration Awards’ available for Oz Chief Investigators (CIs), Fellows, and Overseas PIs to work together on the project overseas or in OZ**
 - **Travel support for overseas Partner or other research personnel to travel to Oz if justified against doing the project**
 - **PhD stipends and Fellowships open to international candidates**

ARC

International Collaboration

■ *Linkage Projects*

- Overseas organisations can be partners
- Overseas higher education organisations eligible to be Partner Organisations if application has at least 1 Oz Partner Organisation
- PhD scholarships can be for international candidates
- All research personnel can apply for funds for domestic & international travel justified against the project

Information on International Collaboration in ARC schemes:

http://www.arc.gov.au/general/international_collaboration.htm

Evaluation



SBE Areas of Funded *Discovery & Linkage* Projects with International Partner Investigators (PIs)

TOP FOUR

1. **Psychology**—2.5 times more often likely to have International PIs than next discipline of...
2. **Applied Economics**
3. **Archaeology and Prehistory** & 4. **Philosophy** for whom International PIs named relatively frequently

LESS FREQUENT AREAS with international collaboration:

5. **Education, Curriculum Studies & Teacher Professional Development**
 6. **Performing Arts**
 7. **Historical Studies**
 8. **Cultural Studies**
 9. **Public Health and Health Services**
 10. **Social Work**
 11. **Business and Management**
 12. **Law and Law Enforcement**
 13. **Econometrics**
5. **OTHER DISCIPLINES** — None or Very Few with International PIs

Research



Funded ARC SBE Projects with International PIs: 2002 to 2008

- **With which countries are there the most frequent collaborations?**
 - *United States (24%), Canada (6%)*
 - *United Kingdom (15%)*
 - *Germany (8%), Italy (3%), Netherlands (2.5%), Sweden & Switzerland (2% each)*
 - *Japan (5%), China (4%)*
 - *New Zealand (3%)*

- **Which schemes have the most frequent collaborations?**
 - *Discovery Projects (43% of \$)*
 - *ARC Centres of Excellence (43% of \$)*



Where are the International Collaborators?

- **Varies enormously**
- **For *Discovery Projects*, PI scholars residing in university departments rather than in Institutes or Centres**
- **Very few overseas universities with more than 1 ARC international collaboration:**
 - **A few have collaborations on 3 or more separate projects:**
 - **U. of Bristol, U. of London, U. of Cardiff, York University, Oxford University**
 - **U. of Victoria,**
 - **U. of British Columbia, U. of Pennsylvania**

Innovation



Conclusion: Opportunities

- ***Linkage Project* scheme - highest success rates**
 - Partners are State & Local Governments, Australian & International Private companies
- **Career opportunities for researchers:**
 - *DIRD, Discovery, Linkage* - PhD scholarships
 - *DIRD Fellows* – early (postdocs) and mid career
 - *Discovery Project Fellows* – early, mid, and later career scholars
 - *Linkage Project Fellows* – early and mid career scholars
 - *Future Fellows* – mid career scholars
 - *Australian Laureate Fellows* – mid and later career scholars
- **Indigenous researchers and indigenous research**
- **Early career researchers – sole or with other CIs on *Discovery Projects***
- **International collaboration – *DP & LP Projects, Future Fellows***
- **For top groups, new *Centres* round now out**