

Innovate 2012

Innovation: Funding Livestock Research and Outreach in the Future

October 3 – 5, 2012

The Cliffs Resort / Shell Beach, CA

and why

How Australia changed its approach to funding (food and agricultural) research

Heather Burrow

CRC for Beef Genetic Technologies



An Australian Government Initiative



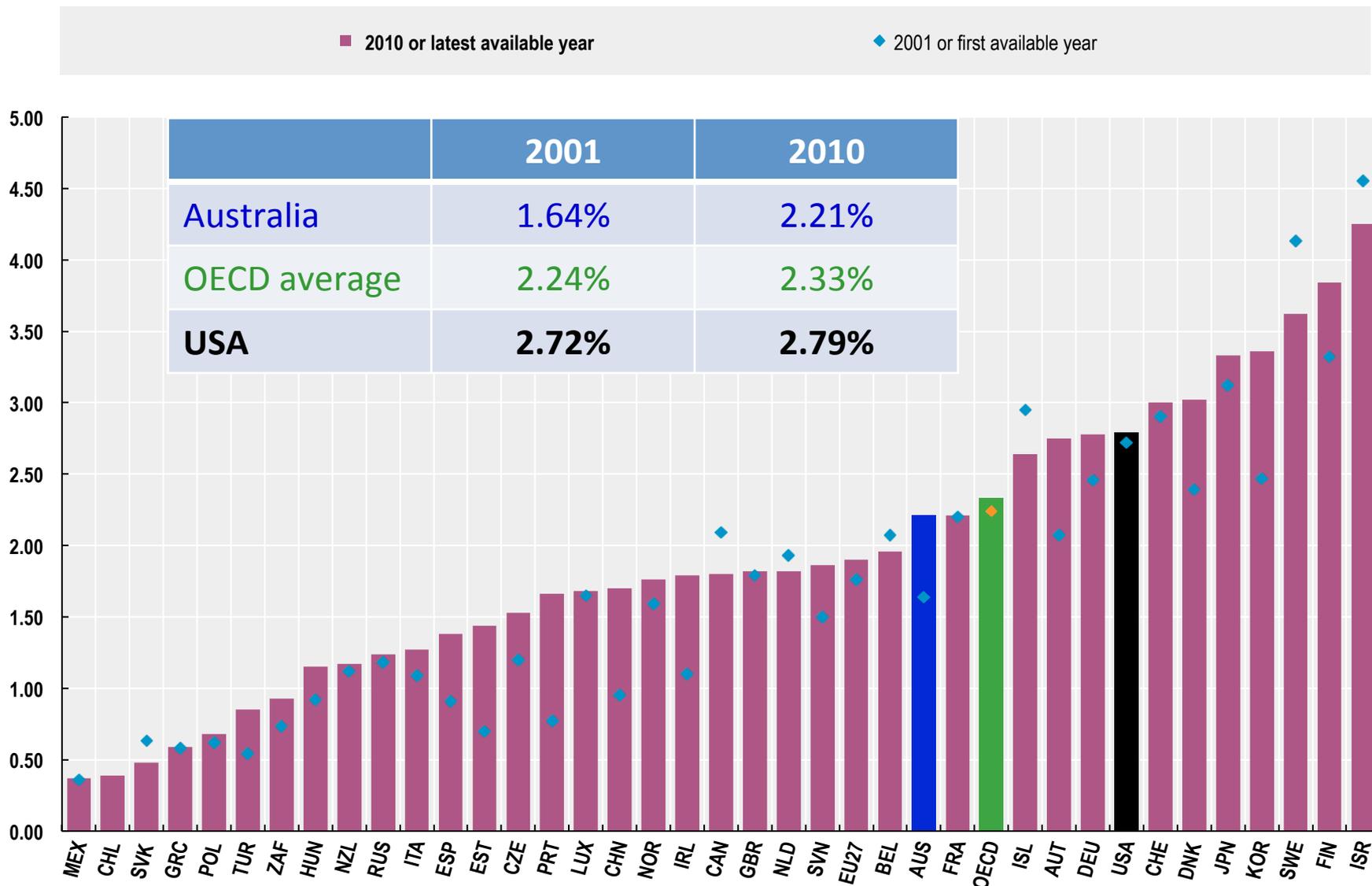
Background

Late 1980s

- Research organizations operated independently, often duplicating aspects of research & competing for scarce funds
- Universities did not always have access to latest research results / technologies
- Industry research issues often ignored (researchers drove publicly-funded R&D agenda)
- No requirement for results to be used by industry (i.e. end-users of research)
- Australia simply could not afford this to continue!

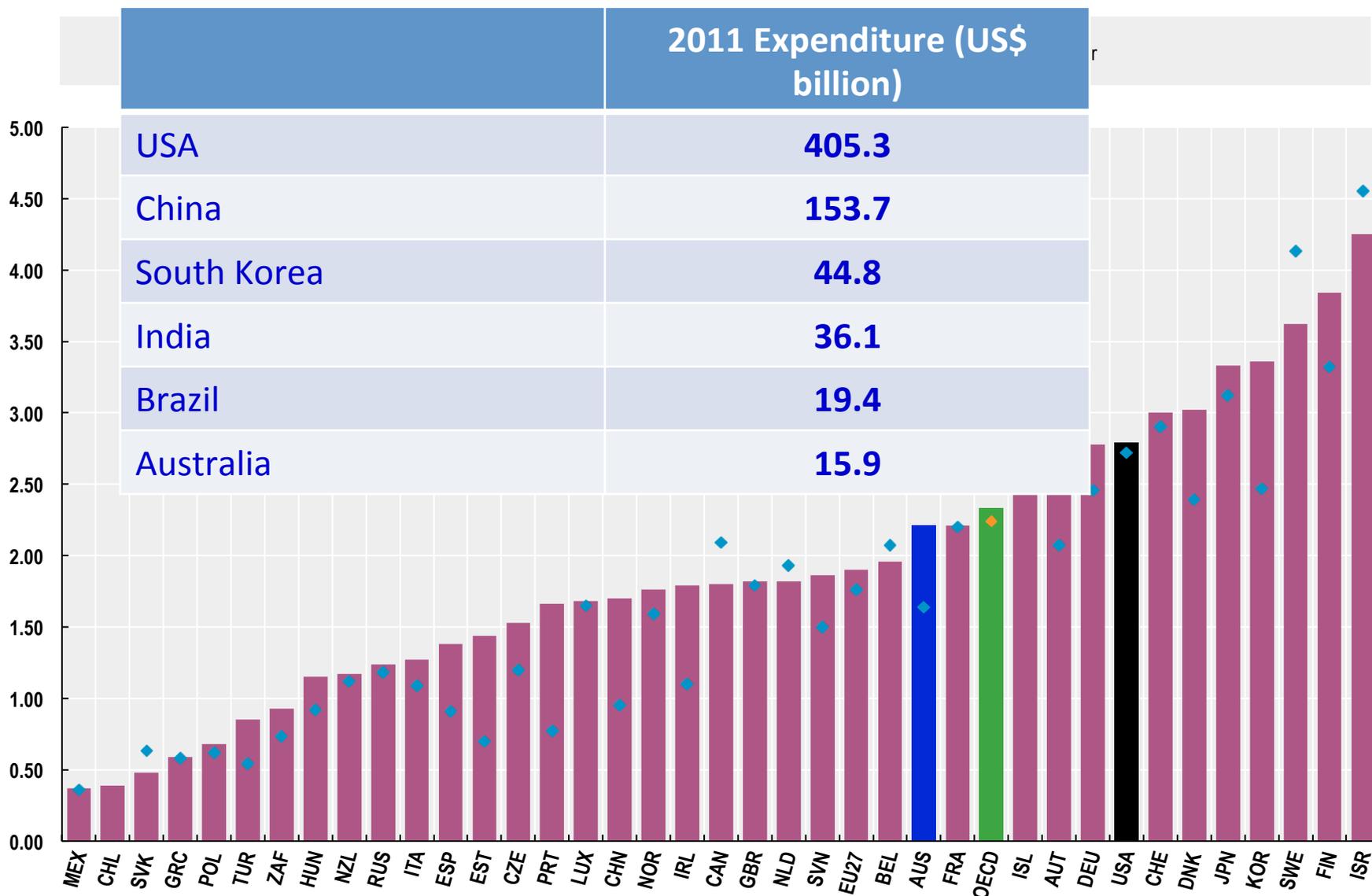
2010 gross domestic expenditure on R&D

(as a proportion of GDP; source OECD)



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Background

Cooperative Research Centres (since 1991)

- Larger & longer-term competitive funding than was previously available (for physical & life sciences & since 2008, the arts & humanities)
- CRCs must address major industry issue(s) identified & governed by industry
- Must involve at least one lead educational institution
- Success measured by economic, social & environmental benefits to industry & Australia
- In absence of other funding mechanisms, CRCs now main funder of strategic R&D for Australia's agriculture sector

Cooperative Research Centres (CRCs) ... specifically target industry outcomes

Outcomes targeted are:

- ✓ 'big-picture'
- ✓ high-impact
- ✓ measurable
- ✓ & of direct relevance to an industry

Achievement of outcomes requires multi-disciplinary, multi-organizational research teams (e.g. in beef genomics, challenge is too big for any one organization or any one country to undertake in isolation)



Long wear soft contact lens

HEARLab & cochlear implant



THE HEARING
CRC



Massive reduction in water & chemical use

Slope Stability Radar CRC for Sensor Signal & Information Processing

Monitors stability of rock walls in open-cut mines






AUSTRALIAN BEEF



PRODUCT OF AUSTRALIA
Packed for Woolworths
3 Wickham Way
Apsley Village NSW 2150
Australia
www.woolworths.com.au





**MSA AUSTRALIAN BEEF
FILLET STEAK**

Storage instructions:
Keep refrigerated at 1-4°C.

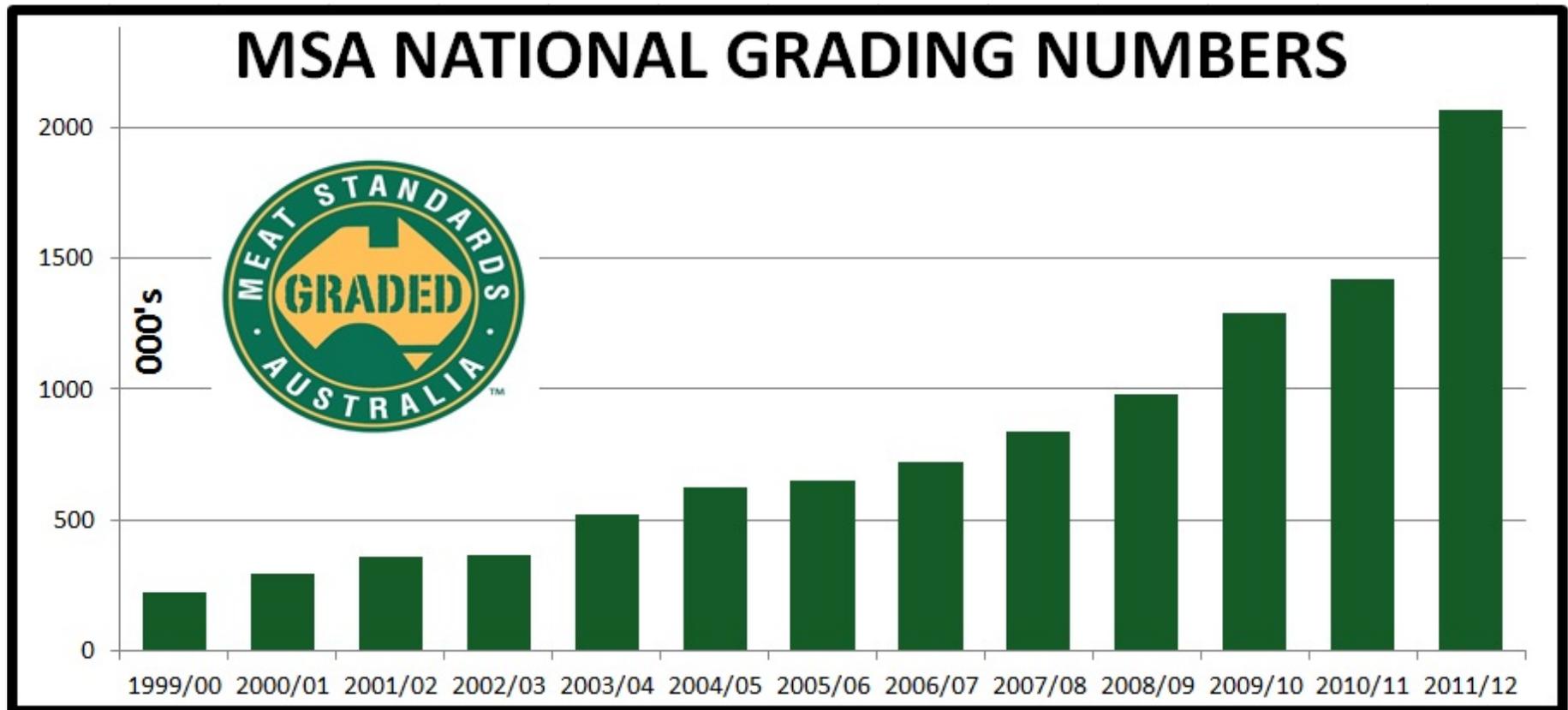


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11:14:38 06510 Line 3 9090

BEST BEFORE	15.01.12
\$/kg	WEIGHT/kg
\$ 39.99	0.544
TOTAL	\$ 21.75

Conservative realized net value-add

>\$523 million (to June 2011)



(Griffith and Thompson, 2012; Australasian Agribusiness Review, 20: 11-38)

As the sun sets on the Beef CRC,
Don't be disappointed,
Look at what we've achieved



Industry Outcomes from three Beef CRC terms 1 9 9 3 - 2 0 1 2



CRC funding *cf.* project grants

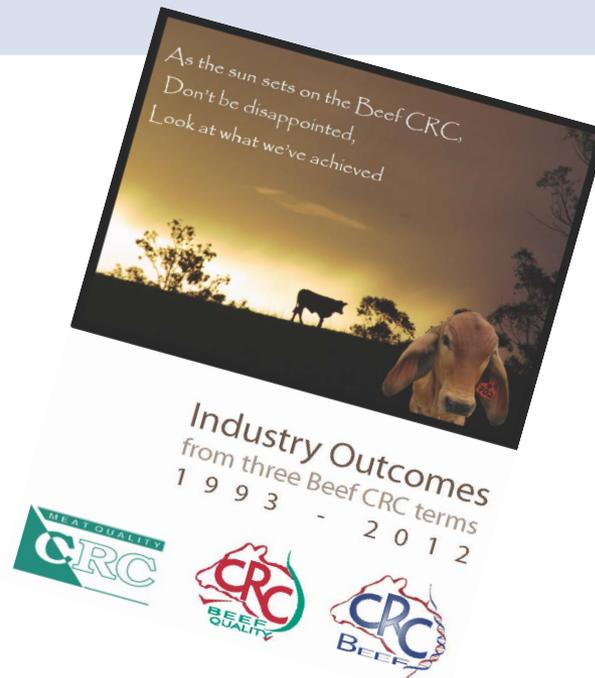
Attribute	CRCs	Project grants
Quantifiable benefits for all stakeholders (planned from the outset)	✓	X

CRC funding *cf.* project grants

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CRC funding cf. project grants

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Original Paper

**Public Health
Genomics**

Public Health Genomics 2011;14:1–8
DOI: 10.1159/000272897

Received: May 12, 2009
Accepted after revision: August 12, 2009
Published online: December 29, 2009

Translational Research in Cancer Genetics: The Road Less Traveled

S.D. Schully^a C.B. Benedicto^b E.M. Gillanders^a S.S. Wang^c M.J. Khoury^{a,d}

^aDivision of Cancer Control and Population Sciences and ^bOffice of Workforce Development, National Cancer Institute, Bethesda, Md., ^cDivision of Etiology, Department of Population Sciences, City of Hope, Duarte, Calif., and

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Need to leverage grants (application merry-go-round)	X	✓

CRC funding *cf.* project grants

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Flexible funding over life of program	✓	X

CRC funding *cf.* project grants

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Full accountability to all stakeholders	✓	X

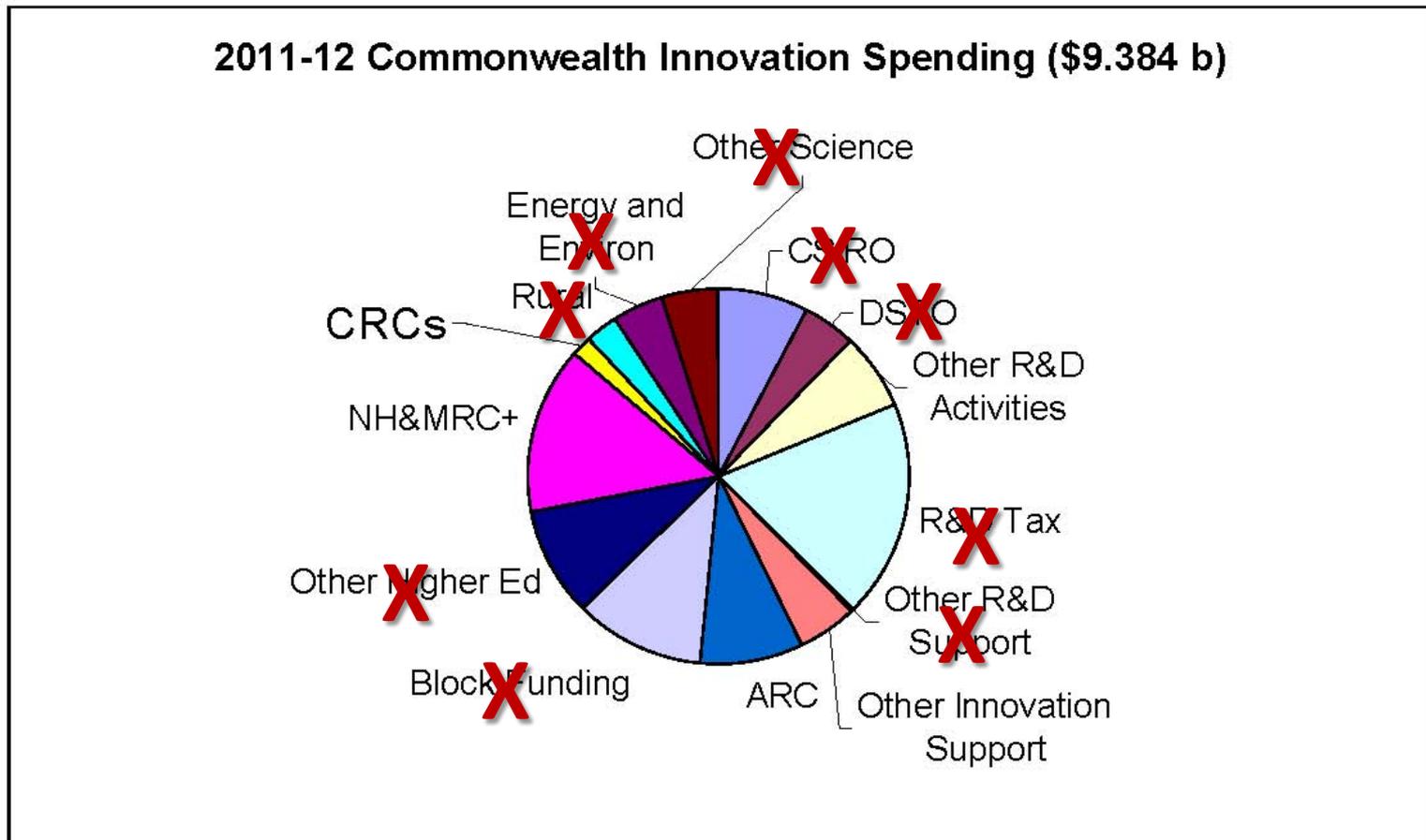
Independent Impact Assessment of CRCs

(www.crc.gov.au/HTMLDocuments/Documents/PDF/CRC%20Program%20impact%20study_FINAL.pdf)

- ✓ \$3.4 billion expended on 196 CRCs (1991 – 2012)
- ✓ 53 (27%) rural sector CRCs received ~\$1 billion (29% funds)
- ✓ >\$14.45 billion of direct economic impacts (net economic benefit of >3.1: 1)
- ✓ Greatest impact achieved in agriculture (\$6.15 billion or 43% overall; Beef CRC 20% of ag sector impact)
- ✓ These figures understate the total impact of CRC program:
 - Reflects impacts from only 117/196 (60%) of all CRCs
 - Significant additional environmental & social impacts + increased research capability
 - Does not include indirect impacts on the Australian economy or impacts that occur internationally

Weaknesses of CRC model

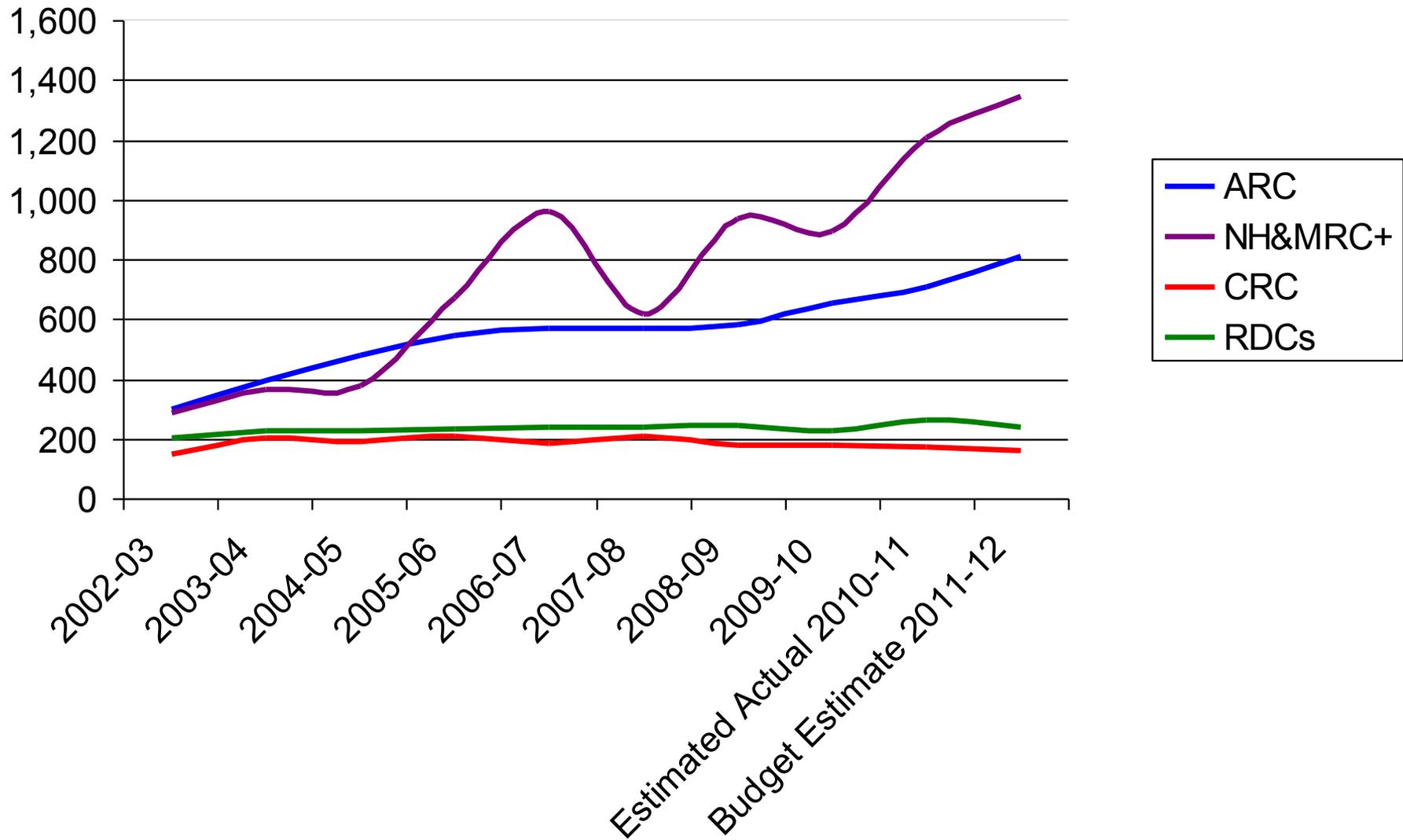
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- ✓ 'Uncommitted funds' are subject to lobbying from very powerful groups (& CRC community has relatively quiet voice ...)

Australian Research Programs



Weaknesses of CRC model

- ✓ Relatively low levels of 'uncommitted' funding (i.e. used for 'budget cuts' as required)
- ✓ 'Uncommitted funds' are subject to lobbying from very powerful groups (& CRC community has relatively quite voice ...)
- ✓ CRC economic impact assessment targeted at government(s) to demonstrate return on investment of CRC funds, with aim of increasing CRC funding & locking CRC funds into Australia's 'committed' R&D system
- ✓ Also aiming to reverse 2008 recommendation that CRCs have 15 year maximum term to encourage turn-over & transition to industry-funded centres (i.e. need a merit-based selection process)

Take-home messages

- ✓ Effective collaboration is key to achieving and delivering high-impact outcomes for industry
- ✓ Personal assessment: funding model not critical, providing collaboration is effective & researchers able to get on with the research (rather than continuously chasing funds)
- ✓ Need to identify clear goals & measures of success from the outset & continuously focus research team on those goals & Key Performance Indicators (towards uptake)
- ✓ Engage directly with industry at all phases to maximize economic, social & environmental impacts