The Allen Consulting Group

Measuring research impacts: The contribution of the CRC Program

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Overview

About our study

Previous studies and how our study differs

Methodology

Mapping activities to impacts

Defining the counterfactual

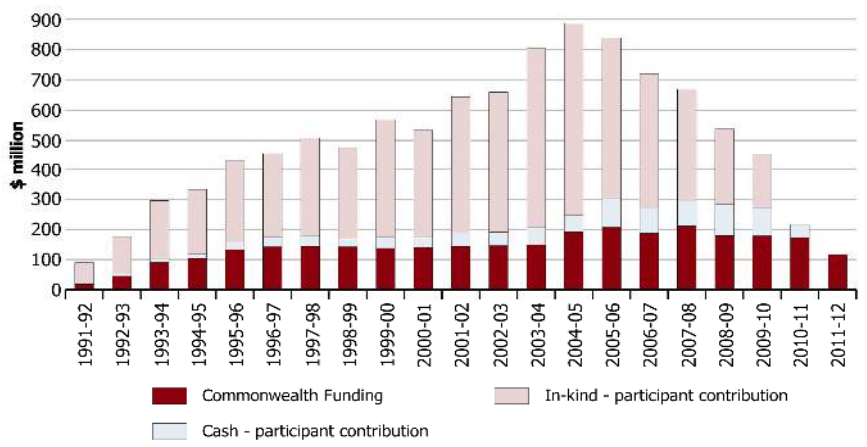
Preliminary findings

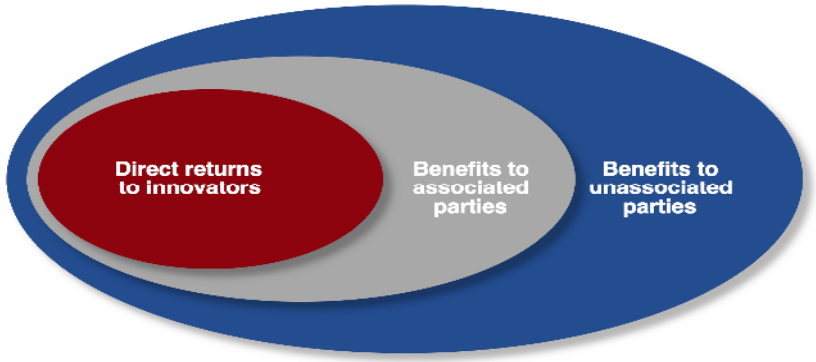
Lessons

About our study

How has the CRC Program impacted on the community since 1991?

- Over $10bn cash and in-kind invested
- Widespread economywide returns
- Diverse range of CRCs
- Commissioned by DIISRTE





Previous studies and how our study differs

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Impact Economics

- Key finding – return of $1.16

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- Economic, **social and environmental** impacts
- What is the CRC Program's unique value add

Methodology

- Stocktake of recorded impacts
- Update with new impacts
  - Survey of CRCs
  - Annual reports
  - Exit reports
  - Management Data Questionnaires
  - Consultations
- CGE modelling

Mapping activities to impacts

Activities

- R&D
- Collaboration

CRC outputs

- CRC products
- Collaborative products
- Imminent products
- Preparedness

Economic, environmental and social impacts

- Direct
- Indirect
- Preparedness

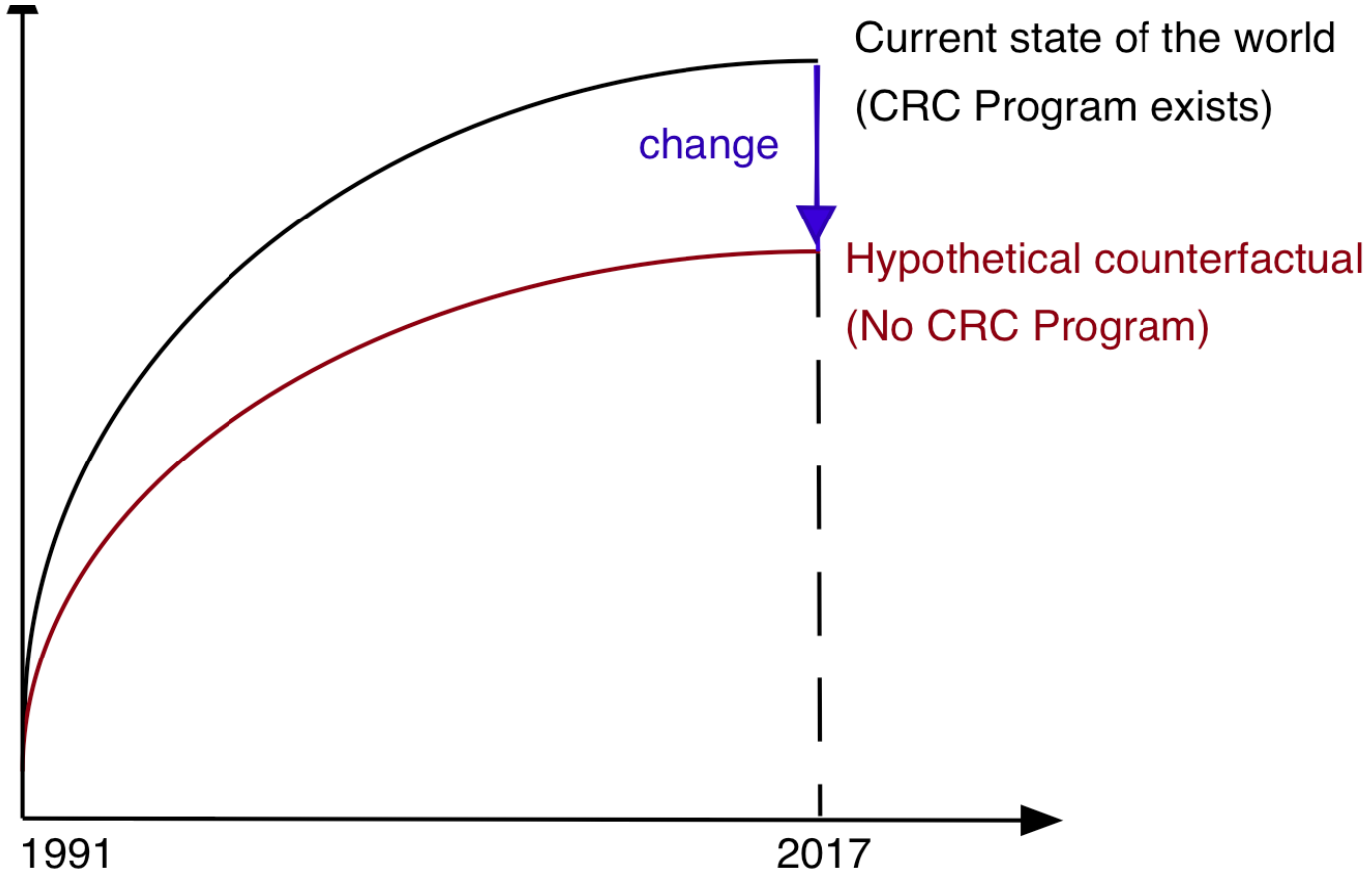
CRC outputs

CRC products	Collaborative products	Imminent products	Preparedness
Those outputs which have been delivered and quantified	Those outputs where part of an outcome is attributable to the CRC Program (with an appropriate attribution rate applied)	Those outputs which are anticipated to occur over the next five years where technology or output has been	Those outputs which involve forewarning or mitigating risks

CRC impacts

Direct	Indirect	Preparedness
These relate to the specific impact on an industry as a result of CRC funding	These are flow-on impacts to other areas of the community that are not be captured by the reporting of only direct impacts	Transpire only in the event that certain circumstances occur

Defining the counterfactual



Defining the counterfactual cont.

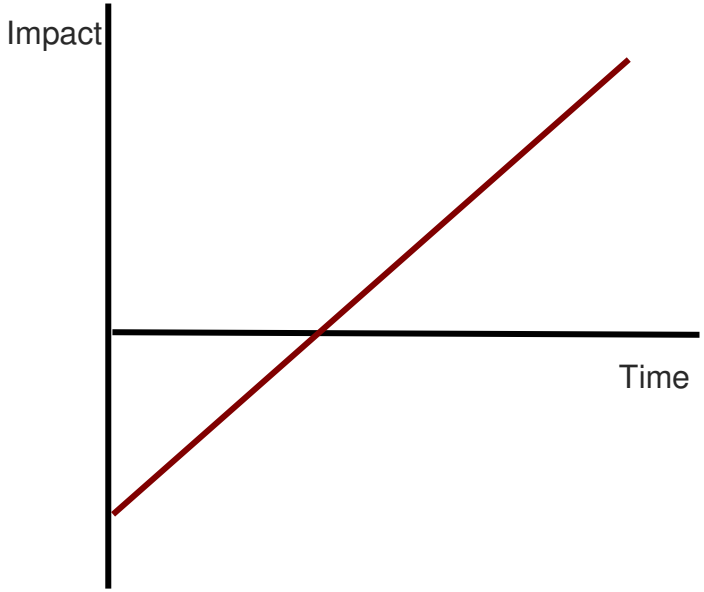
Parameter	Assumption
Economic, social and environmental products	
Economic, social and environmental collaborative impacts	
Imminent economic, social and environmental impacts	Do not materialise in the counterfactual scenario
Economic, social and environmental preparedness	
CRC Program funding from the Commonwealth Government	Returned in full to the economy as a reduction in income taxes

Defining the counterfactual cont.

Parameter	Assumption
Industry direct and in-kind funding	50 per cent of expenditure on CRC activities returned to the economy on a sectoral basis as a reduction in costs — the remainder is redirected to other R&D activities
State and Territory Government direct and in-kind funding	50 per cent of expenditure on CRC activities returned to the economy on a sectoral basis as a reduction in costs — the remainder is redirected to other R&D activities
CSIRO direct and in-kind funding	0 per cent of expenditure on CRC activities returned to the economy
University direct and in-kind funding	0 per cent of expenditure on CRC activities returned to the economy

PRELIMINARY FINDINGS

The overall picture



- Generally reflects the nature of investment in R&D – delayed return

- Growing sample size
- Constraints on available data
- CRCs are articulating impacts better
- CRC Program maturing

PRELIMINARY FINDINGS

Economic (direct)

Cost savings •$40m/yr from lower feed usage and greater flock uniformity	**Productivity gains** •$87m/yr increase for cotton growers as the result of imporved pest management
New products •$90m in royalities from the sale of Vision CRC patents	**New technology** •CRC for Polymers developed new technologies worth $25m
Up-skilling •4400 degrees completed through CRCs ($163m of added value)	**Increased sales and revenues** •$34m of direct contract income Mining CRC
Spin-off companies •$120m company formed out of the CRC for Biomarker Transaltion	

PRELIMINARY FINDINGS

Economic (indirect)

- Indirect impacts captured by the MMRF model
  - CGE model of the Australian economy
  - Working with Prof Philip Adams at COPS
- Model captures the economy's sectoral interconnectedness and dependencies
  - 58 sectors and 63 commodities
- Can test the economy's current state against an alternative CRC free scenario

PRELIMINARY FINDINGS

Environmental

Reduced GHG emissions •61,000 tCO2-e saved through improved manufacturing processes	**Reduced energy consumption** •Seafood CRC target 40% increase in stock density will reduce fuel use by 39%
Avoidance of the emission of pollutants •Low emission research on gold, nickel, alumina and uranium extraction	**Reduced water consumption** •Cotton CRC research provided savings of 24,000 ML/yr
Protection of endangered species •Rabbit Haemorrhagic Disease Boost expected to impact on 156 threatened species	**Protection of areas of environment** •CRC for Natural Plant Biosecurity's work at Barrow Island

PRELIMINARY FINDINGS

Social

Establishment of international collaborations	Business diversity	Improved health and wellbeing
Provision of education and training	Participation in community services	Improved safety
Labour force participation	Change in character of local communities	Social costs saved or avoided

Identifying CRC impacts – lessons learned

- Think broadly / comprehensively
  - Unexpected impacts – environmental/social
- Close interaction with end users
- Additionality is important
- Evidence!

Summary

- The study has illustrated the economic, social and environmental impacts of the CRC Program
- Investment is delivering in all of these fronts
- A single measure of the Program's impacts understates the Program's true contribution

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