

Producer Check-Offs

Julian M. Alston

Department of Agricultural and Resource Economics
University of California, Davis

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Main Points

- Economics of check-offs in principle
- California experience
- Australian experience
- Lessons

Financing Options for

- Research and extension
- Promotion
- Other (commodity) collective goods

Include

- State or national government
- Private funds
- Commodity levies (or check-offs)

Two Criteria

- Efficiency

- Equity

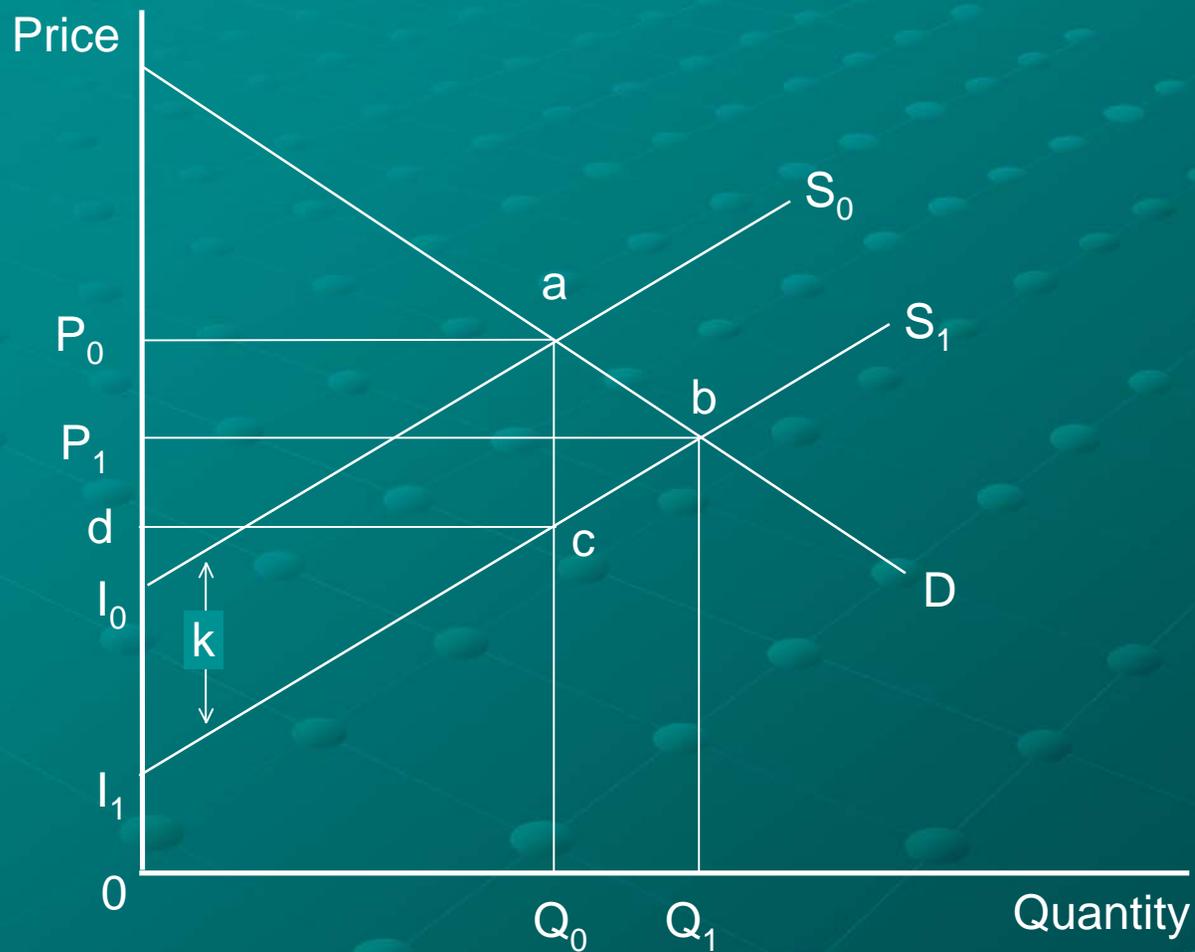
Efficiency

- Greatest total net benefits for the
 - Nation?
 - Industry?
 - Farmers?
- Elements of efficiency
 - Least-cost funds
 - Total budget
 - Mix of projects and programs
 - Management of resources

Equity

- Vertical distribution of research benefits
 - Input suppliers
 - Farmers
 - Processors, manufacturers, retailers
 - Consumers
- Horizontal distribution of research benefits
 - Adopters vs non-adopters
- Different types of R&D
- Distribution of costs of levy

A Commodity-Market Model with a Parallel Shift



“Vertical” Dimensions of Equity

- 100 % levy funding is fair and efficient if costs are distributed in proportion to benefits
- Might not hold if . . .
 - Levy and research apply to different points in the production chain and variable factor proportions
 - Nature of technological change means the supply shift is non-parallel
 - Imperfect competition or other market distortions

“Horizontal” Dimensions of Equity

- Costs of levy are borne by producers according to their production
- This does not depend on whether they adopt technology
- If prices go down, non-adopters are worse off
- Research lags => intergenerational inequity
 - Current producers pay levy
 - Future producers benefit, 10-20 years later?
- Mismatch arises when research has
 - Narrowly defined group of beneficiaries, say by region or farm types
 - Benefits accruing outside the industry (e.g. environmental research)

Horizontal or Vertical Inequity

- Inefficient outcomes in terms of
 - Under-funding overall
 - Distortions in the mix (sacrifice of efficiency for equity)
 - Under-funding of research with
 - Benefits narrowly confined within the industry
 - Benefits only partially confined within the industry
- Gives basis for
 - Multiple levies collected at different points to fund different lines of research (for equity and efficiency)
 - Matching government grants (for efficiency)

More-Practical Ideas

- Transaction costs, information costs, economies of size, scale, and scope, etc. mean we have to
 - Accept some inequities and inefficiencies
 - Aggregate across regions and stages of production
 - Limit the number of levy-based funds
- Rules of thumb based on simple criteria
 - Industry share of total benefits
 - Odds that benefits are privately appropriable
 - Odds that the private sector will invest
 - Odds that overseas governments will invest

California Check-Off Programs

- 61 active programs in 2003-04
- Covered 50 percent of CA agricultural production value
- Collectively spent \$208 million on
 - Advertising & promotion \$146 million
 - Research \$ 21 million
 - Other (incl. admin.) \$ 41 million
- Research share varies, generally small; not clear what is included as “research”

California Programs

- \$20 million from check-off funds for agricultural R&D is small relative to
 - California's agricultural production
 - less than 0.1 percent of \$30 billion
 - California's public agricultural R&D
 - around 7 percent of \$300 million
- Evidence of general under-funding
- Why have producer groups not opted for extensive use of levy-funded research?

Australia – Kerin reforms

● R&D Corporation (RDC) model

- Precursor “Councils” introduced in 1985
- “Corporate” structure introduced in 1989 legislation, with further revisions in 1991

● Key Features

- Enabled industries to establish levy-based R&D funds (like U.S marketing orders)
- Committed the government to provide a dollar-for-dollar matching grant up to 0.5 percent of output value
- Substantial autonomy, major producer representation on boards with say over research priorities and so on
- Created several non-commodity RDCs

RDC	Industry Contribution	Government Contribution	R&D Expenditure
<i>Statutory RDCs</i>		A\$ million in 2004-05	
Cotton	4.6	4.3	12.6
Fisheries	11.2	16.9	29.1
Forest and Wood Products	3.8	3.0	8.2
Grains	64.2	35.7	119.5
Grape and Wine	9.7	8.1	16.9
Land and Water Australia	--	12.5	26.3
Rural Industries Research Fund	2.7	14.7	21.1
Sugar	5.1	4.6	8.7
<i>Industry Owned Corporations</i>			
Australian Egg Corporation	0.8	0.8	1.7
Australian Pork Limited	3.8	4.2	7.7
Australian Wool Innovation	42.8	13.5	78.5
Dairy Australia	14.5	14.5	36.1
Horticulture Australia Limited	31.6	32.9	66.9
Meat and Livestock Australia	39.0	39.0	78.1
Total	233.8	204.7	511.3

RDC Spending in Perspective

- Total public spending on agricultural R&D in Australia is close to A\$1 billion per year
- RDCs spend about half this amount, financed
 - ~half from levies
 - ~half from the government
- In spending their half, RDCs significantly influence the other half
- Issues arise about the effects on the research agenda, whether the rate of matching grant is appropriate, etc.

RDC Funding Over Time

	1985	1989	1995	2004/5
	<i>Millions of Australian Dollars</i>			
Levy Receipts	26.5	48.5	102.6	233.8
Commonwealth Contribution	23.7	68.5	126.2	204.7
Total Expenditure	47.5	121.2	239.2	511.3

Key Points on RDCs

- Total spending by RDCs was
 - less than A\$50 million in 1985
 - rose to A\$240 million in 1995, and
 - over A\$500 million by 2005
- Levy funds matched one-to-one by the Commonwealth up to 0.5 percent of the GVP, not always binding
- Average levy to government funding ratio in 2004-05
 - Overall ~ 1.1 : 1
 - Australian Wool Innovation ~ 3.2 : 1
 - GRDC ratio ~ 1.8 : 1
 - Dairy, meat & livestock, eggs ~ 1.0 : 1
 - Horticulture, pork, fisheries < 1.0 : 1

Industry Commission, 1995

- Concluded that the
 - ceiling on matching was arbitrary
 - government share of funding was too high
- Recommended amending the matching arrangements, with the Commonwealth government to provide
 - one dollar per dollar of levy funds up to 0.25 percent of GVP of the commodity (rather than 0.50 percent)
 - one dollar per two dollars thereafter with no ceiling

Productivity Commission, 2007

- There are strong grounds for significant public co-funding of RDCs that provide spillover benefits beyond industry members where that research would not proceed in the absence of support.
- But the present substantial co-funding of some industry-centred RDCs should be scaled back.
- The extent to which public spending is reduced should be determined by an independent assessment of the induced spillovers associated with that support.

Conclusion

- Check-off funds can provide an efficient and fair source of funding for commodity collective goods, including certain types of R&D
- In practice, around the world check-offs are used much more extensively for commodity promotion than R&D
- Theoretical analysis suggests that matching government grants may be necessary to overcome incentive problems in R&D funding using check-offs, but the appropriate rate of matching is not clear

Conclusion (continued)

- Australia's experience shows that check-off funded research programs can be very successful so long as
 - the government provides matching support
 - the industry has significant say over the research agenda
- Even with the matching support from the government, the successful introduction of the Australian policy required strong and intelligent leadership from industry and the government
- In spite of strong reasons for favoring the approach in principle, and tangible evidence of its success in practice, the Australian structure is vulnerable and may not survive for long in its present form