What does economics have to offer bushfire management & policy decision-makers?

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Calls are increasing for price-based assessment of bushfires, but are these enough to address the complexity of emerging management and policy challenges?


Gamba grass fire, near Batchelor, NT, October 2010 (Photo: G.Cary)

Our research team is assessing the value, diversity and limitations of economics for informing public bushfire management and policy.

The research targets a non-economic audience and is a response to increasing calls for economic analysis of bushfires, emerging in the context of the so-called megafire phenomena (Williams & Hamilton 2005), and potential for increased bushfire frequency and intensity under climate change (Cary, Bradstock *et al.* 2012).

Proposing a broader platform for economic inquiry

Price-based approaches such as benefit-cost analysis are often identified as the central economic contribution for addressing bushfire management and policy challenges.

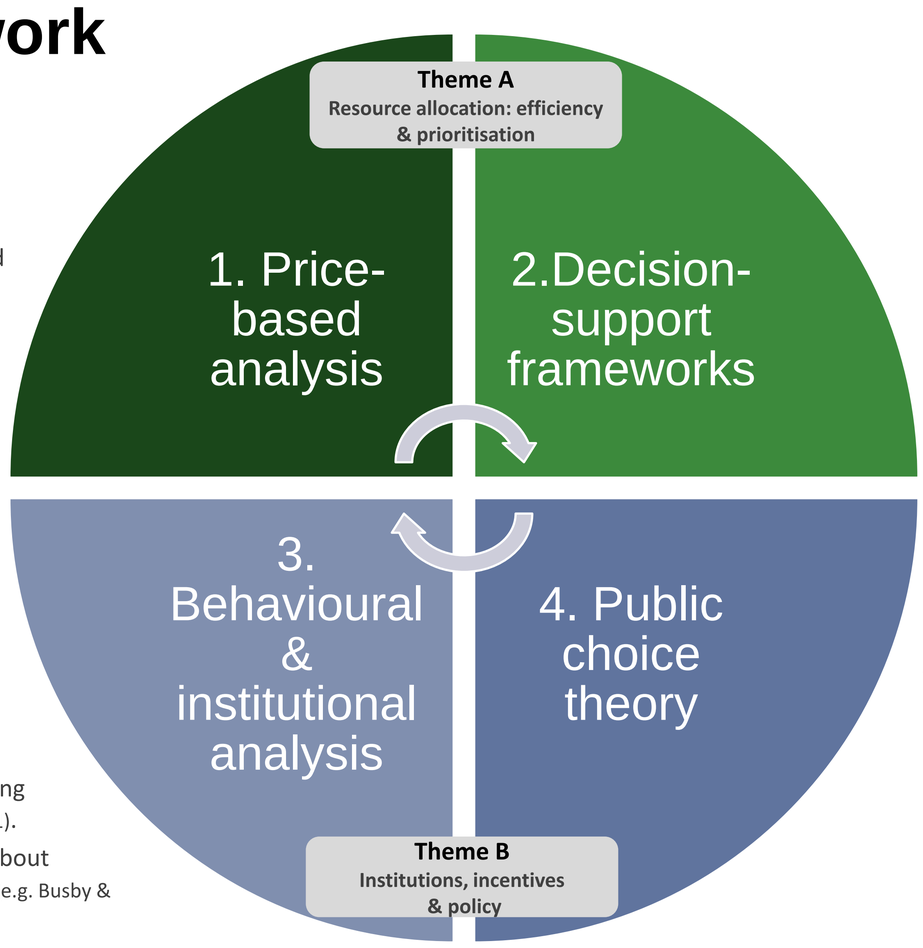
We suggest other areas of economic inquiry also warrant consideration (see framework below) to address increasingly complex issues, such as: heterogeneous acceptance and behavioural response to bushfire risk and public policy; urbanisation of the rural interface; and multiple tradeoffs from bushfires and their management.

Four key areas of economic inquiry, under two overarching themes, have been identified from the literature and are proposed as the structure to guide the review. The literature is dominated by Theme A, and particularly by research in Area 1.

The review framework

1. Price-based analysis

- Focus on identifying economically efficient investment (links with Area 2).
- Involves estimation of total cost of bushfires and social benefit-cost analyses of fire programs, alternative management responses,or fire-fighting technologies.
- Includes application of non-market valuation techniques (e.g. Venn & Calkin 2011).



2. Decision-support frameworks

- Focus on risk-informed decision-support to guide socially optimal public investment (links with Area 1).
- Involves application of integrated, flexible decision frameworks that account for multiple objectives and tradeoffs.
- Has strong focus in U.S. federal fire management policy (e.g Noonan-Wright, Opperman *et al. in press*).

3. Behavioural & institutional analysis

- Focus on understanding the influence of institutions on people's preferences and behaviour, and on fire management decisions (links with Area 4)
- Involves investigation of free-riding and distorting effects of public policy (e.g. Prante, Little et al. 2011).
- Increasing relevance for addressing questions about public/private responsibility for risk mitigation (e.g. Busby & Albers 2010).

4. Public choice theory

- Focus on evaluating incentives and inefficiencies within political and governmental systems.
- Includes investigation of suboptimal risk aversion within fire agency decisions and creation of incentives to account for benefits of fire in fire suppression policies (Donovan, Brown, *et al.* 2008).

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