
Exceptional Persistence: Drought and Drought Policy^[1]

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Abstract

Drought policy in Australia has a long history of being criticized for muddling means and ends, and for being inefficient and inequitable. The broad proposition of this paper is that analysing agricultural policy, such as drought policy, is likely to be more productive if analysts went further than the common approach of describing the situation as failure of markets, with the implication that once recognising this, government will implement efficiency-oriented policy. Better can be done. Rather, defining the genuine benefits, costs and transfers, using a few simple figurings to estimate the magnitudes of benefits, costs and transfers, where possible, and making the results of the policy benefit-cost analysis approach transparent and widely known, should not be a 'step too far' to contribute to forming policy. Taking this step would add significantly to public debate and, maybe, edge policy further towards better-defined ends and means, improving efficiency and equity.

Prologue

...economic policy making often hinges on simple figuring of the key economic magnitudes involved (Edwards and Watson 1978 p.192).

Introduction

Farming in Australia has always been a battle against unreliable rainfall. Prolonged dry periods when the expected seasonal rains do not come are common. The Bureau of Meteorology defines a drought as being when rainfall for a region has been at or below the level of the lowest 10 per cent of rainfalls known in history for a period of three or more months. Following every two decades since European settlement, roughly, farmers in Australia have had to contend with a decade of serious shortfalls of rain. Major droughts in the eastern states of Australia were in 1838-40, 1864-66, 1880-86, 1895-1903, 1911-16, 1939-45, 1963-68, 1972-73, 1982-83, 1991-95, 2002-200?. Each of the last three major droughts cost the economy about one per cent of Gross Domestic Product (Burdon 1995, National Drought Review Panel 2004), with direct assistance given to farmers running to billions of current dollars. In 2008 alone, the public paid \$1.5 billion to farmers whose businesses were beset by drought (Productivity Commission 2009). In the seven years from 2001-02 to 2007-08, under the various guises of drought policy designated as Exceptional Circumstances, the public has contributed upwards of \$4.5 billion in aid

to people running businesses affected by drought (Productivity Commission 2009). Most of this financial support was made as either direct payments to households suffering serious decline in net cash flow or subsidies of interest payments on farm debt.

Despite the extent of public assistance, the majority of farmers manage the risk of drought, in various ways, without help from the public – though the farm businesses that do not receive assistance are affected by those that do. The consequences of risky and uncertain events affecting people running businesses in agriculture are managed in three ways:

- By the private entrepreneur internalising the costs into the way they run their farm system;
- By private entrepreneurs selling the risk (not the uncertainty) to risk takers in the economy through insurances and price risk management mechanisms;
- By the public, as in the case of natural disaster relief arrangements. Or, by the public using its powers of coercion and taxation to protect activities from competition, or to subsidise inputs or outputs or provide direct income payments or tax relief to farmers.

The complication is that of these three categories of actions to manage risk affects the other. What is done on farms is directly a function of things the public does that affect private opportunities and choices on the farm and in the risk markets. In assessing the benefits and costs of public provision of risk management services, the opportunity losses—the benefits of private activity from managing risk and grasping opportunities that are created by drought which are missed because of the public intervention—have to be counted as a direct cost of the public intervention in drought risk management. This will give a more comprehensive picture of the efficiency impacts on the economy of proposed policies, than does standard market failure analysis, albeit, sometimes accompanied by financial, not economic, analysis of drought assistance.

It is not possible to understand risk and its management in farming in Australia without appreciating the nature and structure of agriculture, and the role of the structure of the farm business population in harnessing the involvement and support of the public sector to ameliorate the consequences of risks in agriculture. A large proportion of Australia's farm population produce a small proportion of the total value of production. Around 50 per cent of farmers produce 10 per cent of the value of output, or 30 per cent of farmers produce more than 80 per cent of value of output (Productivity Commission 2009). Even then, most drought assistance measures provide nothing to 70 per cent of farm businesses and disadvantage the best of these, to the advantage of those operators of the 30 per cent of farm businesses that receive drought assistance and are arguably least well-suited to operating in the risky environment that characterizes agriculture in Australia (Productivity Commission 2009).

Underwriting some of the risk of drought in farming in Australia by the public is consistent with the declining importance of agriculture as a proportion of Australia's GDP and a corresponding declining concern in public policy formation with efficiency objectives. Arguably, agricultural policy through history has mostly been about income redistribution. The redistributive, welfare-based drought policy, where income is redistributed to farmers in drought despite them having considerable assets, and in

complete disregard for and counter to efficiency concerns, is consistent with this change in Australian public life to providing welfare to people with middling levels of net worth (this happens in non-agricultural areas of Australian life too). If equity concerns were put aside, as appears to be the case, pursuing welfare aims by using direct income payments instead of distorting input subsidies, to the extent that direct welfare payments are likely to be less distortionary than interest and other input subsidies, would be seen from an efficiency perspective as progress, of a sort.

The proposition put in this paper is that analysing and informing debate about drought policy by noting the absence of any failures in markets for risk and finance and hoping that public-spirited governments wedded to the neo-classical economic paradigm will respond accordingly, is not an approach that has made much headway when it comes to changing drought policy to make it more effective, efficient and equitable. Emphasizing all of the efficiency effects by identifying all of the benefits and costs of specific policy measures, and identifying and making known the directions and size of the redistributions, who gains and who loses, will do more to improve policy debate and possibly even improve policy than just starting and finishing with market failure arguments.

This type of analysis, including a comprehensive benefit cost analysis and review of distribution implications is not undertaken usually. Note: 'comprehensive' benefit cost analysis means considering all benefits and costs; often, financial costs to governments and transfers to beneficiaries are identified and this is treated as though it has something to do with the economic analysis known as benefit cost analysis.

Exceptional Circumstances Drought Policy

Eastern Australia suffered drought in 1994-95 with rainfall in the lowest 5 per cent of recorded rainfall for some places. Pasture supply and yields of crops were the lowest or second lowest in the 100-year record. Under political pressure, the government brought in an Exceptional Circumstances approach for drought policy. The principles setting out and conditions justifying help being given to farmers were defined in the Drought Exceptional Circumstances 1994-95. This provided business and welfare support for farmers. Under these arrangements, farmers experiencing exceptional adverse events could be eligible for subsidies on interest on their debts and various other forms of financial assistance. For example, eligibility for the equivalent of unemployment benefits, with concessional assets tests allowances and annual earnings allowances.

The criteria for exceptional circumstances were that the drought circumstances prevailing had to be rare and severe events: rare being a 1 in 20 year event, and severe being either more than 12 months or at least 3 consecutive failed seasons, depending on the nature of the production system being considered. The National Drought Policy defined the economic circumstances in terms of the following criteria: meteorological conditions; agronomic and stock conditions; water supplies; environmental impacts; farm income levels; and scale of the event. The event also had the criteria that it could not be planned for as part of a farmers normal risk management strategies and it must not be part of a long-term structural adjustment. When these criteria constituted a rare and severe state of affairs, the exceptional

circumstances provisions could be utilized and continued until the climatic and agronomic conditions returned to 'normal'.

Exceptional Circumstances (EC) in 1997 brought other risks into consideration - pests, disease, frosts, and waterlogging became part of the EC evaluation. Next came the Commonwealth Government's Agriculture—Advancing Australia package. In this set of arrangements, exceptional circumstances were defined as being beyond the scope of normal risk management in which the government should provide assistance. In 1999, the Commonwealth and States agreed:

- the event, or events, must be rare and severe;
- the effects of the event, or events, must result in a severe downturn in farm income over a prolonged period; and
- the event must not be predictable or part of a process of structural adjustment.

The main forms of assistance to farmers affected by drought under the EC program are:

- income support; unemployment benefits with concessional assets test and annual earnings allowances of up to \$20,000 per year
- interest rate subsidies (50 per cent in the first year and 80 per cent in subsequent years, up to \$500,000 over five years)
- support for irrigators and dryland farmers in the Murray-Darling Basin affected by reduced water allocations.

Operationally, 'Exceptional Circumstance' provisions became so widely applied that it is aptly described as applying to normal commercial drought risk, despite stated policy intent to the contrary. Consider the following :

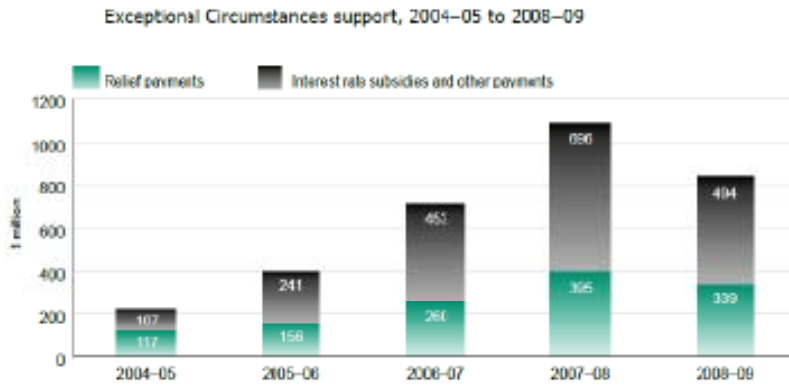
Over the 17 years of the National Drought Policy some areas have been EC declared for 14 years, and many areas of Victoria, Queensland and New South Wales have been drought declared under an EC declaration for at least 8 years.

- Between 2003-2008, around 50 per cent of all agricultural land was EC drought declared.
- Between 1992-1997, 30 per cent of all agricultural land was EC declared.
- Between 1998-2002, 5 per cent of all agricultural land was EC declared.

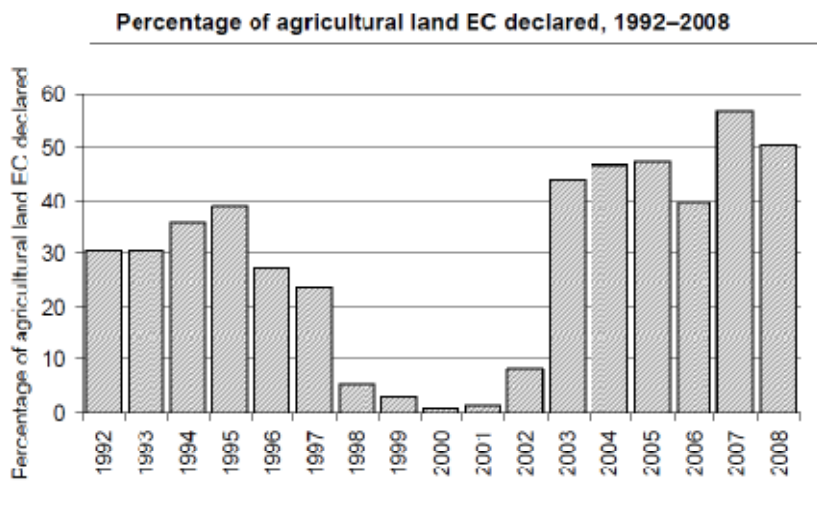
All the above results eventuated despite:

- The average area of agricultural land experiencing exceptionally low rainfall or exceptionally low soil moisture (exceptional being in the bottom 5th percentile of historical records) ranging from 3-14 per cent for rainfall and 3-12 per cent for soil moisture.

- 70-80 per cent of farmers managing without drought assistance from the public (Productivity Commission 2009).



Source: DAFF 2009



Data source: BRS (2008 unpublished).

Imagine if it had been known in the early 1990’s that the EC policy would have had the above results and further, that by 2009, the Productivity Commission and the National Farmers Federation would both be advocating that the two main provisions of EC policy—the lines on maps demarking the existence of administrative drought or not, and interest rate subsidies—should be done away with, whilst endorsing the continuation of some welfare based components of drought assistance for a defined limited time.

Analysis for Policy Advice

Paretian welfare economics dictates that efficient resource allocation requires perfect competition. In practice, the first-best solutions are something only to be imagined, with only significantly 'lesser-best' solutions attainable. As Lipsey and Lancaster (1956) established (Blaug 1970, p.609):

If there are at least two markets in which the optimum conditions are not satisfied, then a policy change designed to break down the imperfections in one of these two markets cannot be justified on Paretion welfare grounds.

Recognizing that all acceptable policy solutions are practical compromises puts policy interventions about farm risk a long way down the list from first-best.

The standard economic efficiency critique of drought policy focuses on:

- (i) whether market failures exist that require government intervention
- (ii) on the costs of resource misallocations that are caused by the misrepresentation of risk-signals and the distortions of risk management incentives
- (iii) on the opportunity cost of the public resources used to help bear the private cost of drought risk.

In what follows, the focus of the discussion is on the use of market failure, or more precisely, the absence of market failure, arguments to make the case the public should not underwrite private drought risks.

Market failure

There are several well known and major sources of market failure, such as the cases of public goods, externalities and asymmetric information. Identifying whether or not there is a market failure is the usual first step taken in considering policy responses to an economic question, such as the role of public drought policy. For example, the concessional loans and interest subsidies of drought policy has long been criticized because it is a case of government intervening in financial markets when there is not a financial market failure that justifies the government intervention (for instance Freebairn 1983).

The 'identify a market failure'—or lack of it—approach to policy is a place to start when thinking about policy, but if that is all that is done then this does not take us far enough. The essence of the criticism by Seiper (1979) of the Green Paper on Rural Policy (Harris *et al* 1974), and other policy analyses, can be paraphrased:

To identify to government that the market is not working well, in the hope that this will provide sufficient motivation for corrective policy action to be embraced and pursued, because it is considered

that governments are primarily motivated to pursue social welfare aims which can be brought about by the efficiency models of pure and perfect competition, is noble but naïve, and alone, is likely to add less to the case for policy change than would benefit-cost analysis and distributional analysis.

Markets failing to produce some goods is a necessary condition for government intervention, but this alone is not sufficient to justify intervention. The standard market failure representation describes situations where markets without public intervention may not produce optimal results, with no insight about whether or not the problem would be worth fixing; or, if it was fixed, who would gain and who would lose. Conventional economic reasoning holds that the decision to intervene has to be based on the expectation that the benefits of intervening are likely to exceed the cost, including the opportunity cost of public funds. The way the costs and benefits are shared is a question of equity – something to be sorted out in the democratic processes. However, this democratic ‘sorting out’ ought to be as fully informed as possible; this should mean voters being supplied with information about how changed policy can enhance efficiency (market failure and imperfection cases) plus information about benefits, costs and transfers, and gainers and losers.

Sometimes, market failure is defined to encompass not only the transaction costs cases such as externalities, public goods, and asymmetric information, but also what are more accurately violations of the theoretical conditions of pure or perfect competition (Godden 1997). The pure competition case holds that the activities of producers and consumers are small relative to the size of the market and cannot influence price of goods and services. Perfect competition requires that all factors must be perfectly mobile so that supernormal profits are eliminated, returns to scale must be constant, and all economic agents have perfect knowledge of available alternatives (Blaug, 1970, p.600).

Hence it can be useful to distinguish different forms of market failure. There is market failure that relates directly to transactions costs such as public goods, externalities and asymmetric information, where the desired situation does not exist because the benefits are less than the costs of making this outcome happen. There are also situations that violate the theoretical conditions of perfect competition and result in markets producing undesirable outcomes because of imperfect competition, such as natural monopoly, barriers to entry preventing competition, and factor immobility. These latter imperfections leading to poor efficiency outcomes are a different type of market inadequacy to the sub-optimal outcomes that are caused by transaction costs causing costs to exceed benefits (Godden 1995, p.35), and require different analyses and policy responses.

There is school of thought that criticizes the way the market failure framework has evolved from a positive analytical tool to a justification of government intervention to a normative diagnostic tool for determining when a government should intervene in a market (Zerbe 1999). An alternative view, the transactions cost school, is that categories of type of market failure - externalities, monopoly, public goods, asymmetric information - are not the best ways of representing the adequacy or otherwise of the performance of markets with a view to informing decisions about the public intervening or not (Zerbe 1999). Externalities exist whenever the costs of doing something about something that is undesirable exceed the benefits of doing it. In such a situation, the desirable situation (no externality) remains unattainable and the undesirable state of affairs (with externality) is best left to continue. The result of

this view of things is that describing a situation in which there is or is not market failure, and leaving it at that, does not inform policy a great deal nor take policy debate very far. Assessing costs and benefits of rectifying an unsatisfactory situation is always needed. Highlighting the directions and magnitudes of distributions of benefits and costs wouldn't hurt either.

Distributive Approach

If the real reason for most agricultural risk related interventions by the public in markets is not to do with reducing risk, but instead is about redistributing income (Newbery 1993), then advocacy of policy change based on violations of efficiency imperatives alone and which does not recognize the real redistributive objectives of a policy, will not be all that helpful in achieving the desired changes to policies. Other policies, specifically designed to redistribute income, and that do not distort production decisions of fellow farmers, will be better at this in any case.

Seiper (1979) demonstrated the value of thinking about agricultural policy measures using a 'distributive' approach. The rationale for this approach was that seeing policy in terms of well-meaning government correcting market failures and pursuing economic efficiency, allied to public interest theory, was inadequate. The processes of getting to the adoption and implementation of policy matter and help determine outcomes. Understanding what is done and how it is done is helped considerably by starting with the questions 'Who stands to benefit?' 'Who loses?' The result is a transparent and potentially better-informed public debate about the proposed policy.

Transparency and better information creates the possibility of better policy. What Seiper (1979) dubbed the distributive approach developed over time through works by Stigler (1971), Posner (1974) and Peltzman (1976). It arose as a backlash to the traditional 'public interest' theory of government regulation (Seiper 1979). Distributive approaches posit that policy makers have their own welfare maximising interests in mind (Seiper 1979). Stigler (1971, p.3) suggests that 'regulation is acquired by the industry and is designed and operated primarily for its benefit'.

Seiper (1979) used the distributive approach to great effect as a framework by examining import protection, production subsidies, export subsidies and other government interventions in agriculture. Seiper analysed government interventions that make little sense from a public interest perspective and found that these interventions can be understood from distributive theory perspective—those who benefit most from the interventions were often the staunchest proponents of the intervention (1979).

A similar emphasis to that of Seiper (1971) would enhance drought policy debate and possibly improve drought policies. After assessing whether there are net benefits from a potential policy a transparent assessment of who wins and who loses from the policy, and by how much, would be an illuminating, valuable contribution to processes of forming and implementing policy^[3].

What an approach including an emphasis on benefits, costs and distribution might look like: the case of Exceptional Circumstances Drought Policy

An example of the type of work being advocated is the analysis of the efficiency and welfare losses and transfers to dairy farmers as a consequence of the regulated dairy policies that were in place (Freebairn 1992). This analysis indicated not only the size of the transfers from one group to another, but also in the dairy case, the relative unimportance of the efficiency losses resulting from the inelasticity of domestic supply and demand for dairy production. Dairy policy up until deregulation in 2000 is a good example where the imposition of the policy had little to do with any market failure and a lot to do with income redistribution.

An approach to making the case for or against public actions, informed by distributive theory—would be as follows:

1. What is the problem?
2. Why is this a problem— for instance: what are the costs imposed? On whom? By whom?
3. What has been done about the problem? By whom- private or public?
4. What is the expected cost of doing something about the problem?
5. Who gains from this and who loses?
6. How big are the transfers between groups? From whom to whom?

The determination of benefits and costs of an innovation, such as a set of drought policy measures, depends on the counterfactual situation that would apply without the particular drought policy. In the case of drought policy, the counterfactual is that all farmers would have had to manage their businesses and bear the risk of drought without public assistance. The only drought aid would be help to farmers experiencing genuine hardship akin to the hardship of others in the community who are doing it tough and with similar means. A guide to the counterfactual for the case of farmers who received drought aid is the behaviour of the 70 per cent of farmers in any drought who do not receive such aid, plus some speculation about the additional private opportunities to manage risk that would be available and would be undertaken.

Benefits and costs of public investment can be classified as primary or secondary benefits and costs. Using the benefit cost framework is useful in ensuring that all costs and benefits are identified and only genuine costs and benefits are counted. By way of example, a brief discussion of a possible *ex ante* analysis of a proposed policy such as Exceptional Circumstances is given below.

Primary (Direct) benefits

There are no primary benefits from the household support or interest subsidies. These payments to farmers are a transfer from the public, not a genuine addition to economic output.

There may be some tangible effects at farm level that are beneficial and arise from the inflow of cash from the drought assistance? Examples could be adverse effects avoided in particular cases, such as human or animal welfare problems, or adverse environmental effects that could otherwise have occurred. Regarding human welfare costs of drought, these can be significant, and in some cases tragic for farm families. However, society has existing welfare safety net arrangements to help people in trouble for any of a range of reasons, quite apart from drought-related measures.

Secondary (Indirect) benefits

Claimed secondary benefits are usually spurious, for instance, claimed regional multiplier effects on local economic activity of the initial cash payments (Sinden and Thampapillai 1995).

Primary (Direct) costs

Primary costs of drought assistance to farmers are:

- benefits foregone from the alternative uses of resources used in drought assistance, both household assistance and business support such as interest subsidies and other measures. The expected primary cost of resources used for Exceptional Circumstances sum could be estimated, based on expectations about dispersion, frequency, severity and duration of droughts, and an opportunity cost applied to this sum.
- loss of economic surplus that would have resulted from successful managers of risk being able to increase the efficiency of their businesses if drought assistance was not paid to their less successful competitors. For example, farmers who prepare for and manage drought lose opportunities to expand their businesses and to raise the return on the capital that as a result of drought aid continues to be controlled by farmers who manage risk and drought less successfully, less profitably.
- subsidies on inputs such as freight costs and fodder go largely to suppliers of these services, not farmers. Though a transfer, such payments also distort incentives and misdirect resources
- costs related to the absence of beneficial private investment that would occur if the drought assistance system was not in place and private management of risk was not distorted by public interventions.

Secondary (Indirect) costs

- the risk management instruments that could arise if drought risk was not subsidized, and which if they developed would increase efficiency of risk management for farmers.

- Drought aid regarded as a direct subsidy to agriculture in international assessments and contributing to adverse trade outcomes

In practice

Without putting precise numbers on all of the different categories of benefits and costs, some conclusions are clear. The primary cost would be able to be estimated, based on experience. These costs would be highly likely to be large relative to the potential benefits, which are few in number and highly likely to be small in value.

In distributive terms, the public at large (including successful and tax-paying farmers) lose the opportunity cost of capital used for drought aid and a small proportion of farmers are likely to gain considerably at the expense of the public and other farmers who do not receive help.

A benefit-cost framework and distributional analysis approach to policy, as presented above, begins with a properly done, comprehensive benefit-cost analysis to determine if government intervention in a situation will be beneficial in a national efficiency sense. Obviously, benefit-cost analysis has limits. Some components can be identified but are difficult to value. Additionally, components are susceptible to manipulation, especially in the assumptions that go into it. Proper testing of assumptions and their implications is necessary. Burgman (2005) writing about incorporating consideration of risk in decision analysis advocated an 'honest, transparent and complete' approach. The same applies to the benefit cost analysis of policy proposals: all aspects of proposal included in the benefit cost analysis is the key. The distribution of benefits and costs is also needed to identify the parties who stand to gain and lose from a policy. This information has direct relevance to policy that is predicated on redistributing income.

Further, using a benefit-cost analysis in the first instance may avoid common fallacies about market failure and government involvement. It is sometimes assumed that if the private sector is doing something, then it must be doing enough and that the amount supplied must be the efficient quantity. Second, if there is no obvious market failure in an area of the economy then it may be thought there could not be any net social benefits from government investment in that area.

A common reaction to suggestions that there are few genuine benefits from drought assistance policy goes along the lines that there are benefits to rural economic activity and benefits to the 'social fabric' from assistance to manage drought risk. The first answer to these types of responses is straight-forward: one objective, one policy. If the aim is to promote economic activity in rural regions then policy instruments should directly tackle this aim. Pursuing aims of rural development through drought policy that assists one third of farmers at the expense of the rest is an inefficient way of promoting regional development.

Making reasonable estimates about expected benefits and costs and the distribution of them would be a useful contribution to debate about drought policy. Even so, there remains the conundrum about potential versus actual Pareto gains; the distribution of net benefits and the intractable issues about the effects on individual utility social welfare of gains to the gainers and losses to the losers and the issues deriving from the impossibility of comparisons of interpersonal utility, for example, the utility gain of

extra income to someone who 'started out with nothing and still has most of it' compared with the utility gain of extra income for someone situated at the opposite end of the wealth spectrum. Though these issues remain unresolved, making transparent in a democracy the distributive effects of policies such as drought policy, and highlighting the distributional motives for governments favouring one policy over another, ought to result in a voting public that is informed better with the chance to endorse or oppose actions with particular results for the real reasons that the policies are being put forward.

Changing Drought Policy

The core of the economic argument against the various forms of drought policy is that all risk has a cost and this cost will be incurred somewhere by someone in the economy. The costs of drought policies are more than the direct taxpayer costs of government responses to drought. The typical public policy responses impose further costs in the form of 'hidden' opportunity costs of resource misallocation; denied opportunities for farm businesses best equipped to manage and exploit the risks of farming; and the misdirection of incentives and the subsequent costs that result from perversely distorting incentives, including effects on the values of assets.

It is seldom ever true that drought *alone* breaks businesses, nor is it true that if a farmer stops farming he or she takes the land and plant and stock with them. Entry follows exit. In popular representations, farmers and their resources are supposedly somehow lost to the economy. In reality, the farm resources remain in agriculture, generally in better hands and better managed, and contribute more to national welfare, than was the case previously. When considering what can be done about drought policy, the natural, social and economic environment in which things are done, matters. Sensible policy for dry years has the best chance of being formulated and implemented in wet years.^[4]

The Commonwealth government review of social aspects of drought argued for a new national approach to 'living with dryness' (DAFF 2008). The focus of future drought policy, argued the members of the panel conducting the inquiry into the social effects of drought, ought to be on 'facilitating the social wellbeing of farm families, rural businesses and communities to improve their capacity to live with dryness'. This approach would have the effect of improving economic and environmental outcomes, they argued. Hence it was proposed that 'future policy be about people: changing perspectives on dryness'. How or why the social welfare effects of 'dryness' in policy 'about people' should be analysed other than in an economic framework, or farm poverty distinguished from any other causes of similar poverty, hardship and suffering in society, was not made clear in this report.

The Productivity Commission (2009) Final Report about drought policy recommended, *inter alia*, that the exceptional circumstances interest rate subsidies be terminated; transactions based subsidies be ended; and exceptional circumstances relief payments and small business income support and financial planning grants be ended. The 'lines on a map' approach to drought was to be replaced by a focus on individual businesses and their financial status. Transitional arrangements were advocated, and a 'new policy framework for self-reliance and preparedness' should be implemented (Productivity Commission 2009, pp.xlix-liii). In essence, a welfare-based system is recommended, to be determined on a case by case basis.

In recent years the National Farmers' Federation (NFF) has advocated that 'drought policy should place greater emphasis on supporting farm businesses to improve their preparedness for severe drought events' (NFF 2006). The National Farmers Federation is supportive of the Productivity Commission (2009) approach of doing away with the EC interest subsidy and emphasizing a case by case approach of assisting farm businesses in financial difficulty because of drought. Although the NFF has differences with the Productivity Commission about the detail of the duration and frequency of eligibility for welfare support, the NFF approach reflects concern for the 70-80 per cent of farmers who do not receive drought financial aid in any year.

What could be done in the future if a government was inclined to treat seriously economic concerns about drought policy? Identifying and valuing all the benefits and costs of public interventions to manage farm risk, and identifying the distributive outcomes of such interventions, followed by genuine commitment to no longer use the current policy measures that do not work or that make things worse, in efficiency or equity senses, would be a good starting point. This would immediately rule out the use of exceptional circumstances, interest subsidies, transactions subsidies and special access to short term finance and welfare payments. Multi-peril insurance cover requiring subsidy by the public too would be ruled out. Not subsidizing drought risk would give substance to the aim of farmers being 'self-reliant', as the national drought policy was first formulated in 1992. Government could have a role in discovering and disseminating information about the following:

- the effects of risk on the structure of Australian agriculture;
- the realistic prospects for profit in farming and the medium-term imperatives faced by farm businesses to survive, increase productivity and grow;
- the distribution of sizes of farm businesses and their relative contributions to the Gross Domestic Product (only a small proportion of farms in any industry really matter in this regard); detail about disbursement of publicly-provided drought aid – who gets how much and why – or why not?;
- the role and use of market instruments for managing farm financial and business risks; the role and use of alternative risk management strategies, in the whole farm context; trade-offs in consumption of capital and goals of intergenerational transfer of capital; and
- welfare provisions that are available to farmers suffering hardship.

Central to any commitment to reform public approaches to drought policy would be re-assessment of institutional arrangements for deciding and implementing drought policies, and concerted effort to ensure Commonwealth-State financial arrangements for funding drought policies are compatible with good policy being developed and implemented.

Sound policies do not reduce incentives on the part of individuals to make rational decisions to manage the risk of drought. Certainty in advance about the application of policy is essential so that this certainty becomes an integral part of the individual decision processes. Sound drought policies should not be tied

to factors of production. The aim of government policy interventions ought to be to help with catastrophic risk that does not crowd-out private sector insurance, and does not discourage farm managers from acting to manage their risks efficiently

Accompanying a public commitment to efficiency and equity would be clear understanding and recognition that the farm businesses best equipped to farm in Australia, and by definition the farm businesses best equipped to manage drought, are medium to large-sized operations that manage their risks effectively from a whole farm perspective. A minority of medium to large businesses account for the majority of farm output and gross value of agricultural product. A sound goal would be to avoid creating perverse incentives that impede the scope for these businesses to do what they do best – farm well, manage all of their risk well, and grow steadily despite intermittent serious drought.

Conclusion

Drought policy in Australia has a long history of being criticized for muddling means and ends, and for being inefficient and inequitable. The broad proposition of this paper is that analysing agricultural policy, such as drought policy, is likely to be more productive if analysts went further than the common approach of describing the situation as failure of markets, with the implication that once recognising this, government will implement efficiency-oriented policy. Better can be done. Defining the genuine benefits, costs and transfers, using a few simple figurings to estimate the magnitudes of benefits, costs and transfers where possible, and making the results of the policy benefit-cost analysis approach transparent and widely known should not be a 'step too far' to contribute to forming policy. Taking this step would add significantly to public debate and, maybe, edge policy further towards better-defined ends and means, improving efficiency and equity.

References

Blaug, M 1970, *Economic theory in retrospect*, Heinemann, London

Burdon, A 1995, *Dry paddocks, damp policies: Drought assistance policies and their effectiveness*, Research Paper No. 6, 1995–96, Parliamentary Research Service, Canberra.

DAFF 2008, *It's about people: Perspectives on Drought*, Report to the Government by an expert social panel, Canberra. http://www.daff.gov.au/agriculturefood/drought/national_review_of_drought_policy

DAFF 2009, Draft risk management questionnaire regarding Australia to the OECD, unpublished.

Edwards, G and Watson, A 1978, 'Agricultural Policy', in Gruen, FH (ed.), *Surveys of Australian Economics, Vol. 1*, Allen and Unwin, Sydney.

Freebairn, JW 1983, 'Drought assistance policy', *Australian Journal of Agricultural Economics*, vol. 27, no. 3, pp. 185-199.

Freebairn, J 1992, 'Dairy industry policy', *Review of Marketing and Agricultural Economics*, vol. 60, no. 1, pp. 23-41.

Godden, D 1997, *Agricultural and resource policy: Principles and practice*, Oxford University Press, Melbourne.

Harris, S, Crawford, JG, Gruen, FH and Honan, ND 1974, *The principles of rural policy in Australia: A discussion paper*, Rural Green Paper, AGPS, Canberra.

Hennessy, K, Fawcett, R, Kironoa, D, Mpelasoka, F, Jones, F, Bathols, J, Whetton, P, Stafford-Smith M, Howden, M, Mitchell, C and Plummer, N 2008, *An assessment of the impact of climate change on the nature and frequency of exceptional climatic events*, CSIRO/Bureau of Meteorology, Canberra.
www.bom.gov.au/climate/droughtec.

Lipsey, RG and Lancaster, K 1956, 'The general theory of second best', *The Review of Economic Studies*, Vol. 24, No. 1, pp. 11-32.

National Drought Policy Review Panel 2004, *Consultations on national drought policy: Preparing for the future*, Drought Panel Review Report, Canberra.

National Farmers Federation 2006, *National drought policy priorities*, National Farmers Federation, Canberra.

Newbery, D (1993), 'Implications of Imperfect Risk Markets for Agricultural Taxation', chapter 21 in K. Hoff, A. Braverman and J. Stiglitz (eds), *The Economics of Rural Organization: Theory, Practice and Policy*, Oxford University Press for the World Bank.

Posner, RA 1974, 'Theories of economic regulation', *The Bell Journal of Economics and Management Science*, vol. 5, no. 2, pp. 335-358

Productivity Commission 2005, *Trends in Australian agriculture*, Final Report, Commonwealth of Australia, Canberra.

Productivity Commission 2009, *Government drought support*, Final Report, Commonwealth of Australia, Canberra.

Seiper, E 1979, *Rationalising rustic regulation*, The Centre for Independent Studies, St. Leonards, NSW.

Sinden, JA and Thampapillai, DJ 1995, *Introduction to benefit-cost analysis*, Longman, Melbourne.

Stigler, GJ 1974, 'The theory of economic regulation', *The Bell Journal of Economics and Management Science*, vol. 2, no. 1, pp. 3-21.

Zerbe, RO and McCurdy, HE 1999, 'The failure of market failure', *Journal of Policy Analysis and Management*, vol. 18, no. 4, pp. 558-578.

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^[3] Kenneth Boulding's 'grants economy' probably warrants a guernsey in this discussion but has not been investigated.

^[4] The Australian Government has recently conducted a comprehensive three-part national review of drought policy. Part of this review concerns the implications of future climate change for the current exceptional circumstances (EC) standard of a one in 20-25 year event (Hennessy *et al* 2008). The other two components of this review were economic and social aspects of drought (www.daff.gov.au/agriculturefood/drought/national_review_of_drought_policy).