CHAPTER 9: PROSPECTS FOR INSURING AGAINST DROUGHT IN AUSTRALIA

GREG HERTZLER*
School of Agricultural and Resource Economics, The University of Western Australia, 35 Stirling Highway, Crawley WA 6907, Australia

1. Introduction

For more than a century, countries around the world have implemented crop insurance programs (Hazell 1992). Most of these programs insure against multiple perils, including drought. For more than a century, these programs have failed. None has been commercially viable. All have been subsidised and many have become too expensive for governments to afford. In general, countries that continue to subsidise agriculture also continue to subsidise their crop insurance programs. Canada’s crop insurance program has loss ratios up to 3 (Sigurdson and Sin 1994). The indemnities paid out by insurers plus the administration costs of the program are three times greater than the premiums paid in by farmers. The US program has similar loss ratios (Gardner 1994) and currently subsidises 67% of the premium for farmers who insure against yields falling below 50% of average (Skees 2001). Brazil and Japan have loss ratios above 4.5 (Hazell 1992). Recently, the Europe Union investigated insurance as it reforms its Common Agriculture Policy (European Commission 1999). Almost unique among its competitors and trading partners, Australia has been unwilling to directly subsidise farm programs, including crop insurance.

In Australia three studies have investigated the viability of multi-peril crop insurance. In 1986, the Industries Assistance Commission recommended against a crop insurance program (Industries Assistance Commission 1996). In 2000, the Multi Peril Crop Insurance Project (Ernst & Young 2000) concluded that crop insurance was not feasible without government subsidy. In 2003, the Multi Peril Crop Insurance Task Force (Multi Peril Crop Insurance Task Force 2003) conducted a detailed analysis for Western Australia, the largest and most reliable wheat producing state in the country. If crop insurance is viable in Australia, it will be in the state of Western Australia. The Task Force, however, ‘saw no future for multi-peril crop insurance in the absence of significant government subsidisation of premiums or underwriting of risk’.

Are there any prospects of insuring against drought in Australia? Surprisingly, the answer is yes. Financial markets may succeed where governments have failed. Around the world, methods for financial risk management are being extended into climate risk management. Weather derivatives are offered by global financial institutions to ensure against too much or too little rain, too hot or too cold temperatures. Yield index

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contracts are based on weather derivatives as a replacement for crop insurance. Two further recommendations of the Multi Peril Crop Insurance Task Force (2003) were:

- Determine what can be done by government to assist in:
  - Setting up required infrastructure for weather derivative products;
  - Developing independent, reliable data collection; and
  - Improving grower knowledge of the products and their potential value to farmers.
- Consider how government could assist in developing a suitable model on which to base a relevant index for farmers that has a strong relationship to Western Australian crop performance.

Although pilot projects are beginning in a few developing and transitional countries (Skees 1999), Australia is a unique laboratory for experimenting with weather derivatives and yield index insurance. It has a well developed financial sector and any commercially viable scheme will not be crowded out by government subsidies. Subsidies may attract crop insurers to North America, but the benefits of diversifying their portfolios will attract them to Australia.

This chapter reviews markets for risk and why they are needed, crop insurance and why it fails, early proposals for rainfall insurance and why they were never implemented, and current proposals for weather derivatives and yield index contracts and why they might succeed. It concludes with a research agenda to fill in the gaps in our knowledge.

2. Markets for risk

With so many failures over almost a century, why is crop insurance still on the political agenda? An uncharitable answer is that farmers and insurance companies lobby governments for their own advantage at the expense of society as a whole, behaviour that economists call ‘rent seeking’ (Goodwin and Smith 1995). As subsidies are traded away in the negotiations of the World Trade Organization, other forms of subsidies are implemented. For Australian farmers, it would be hard to view the resurgence of crop insurance in the US in any other way. Although subsidised crop insurance was promoted as a replacement for *ad hoc* disaster aid, disaster aid continues as insurance subsidies increase (Skees 2001). Not surprisingly, some Australian farmers have lobbied governments to ‘level the playing field’ and introduce multi-peril crop insurance in Australia.

Another answer is that markets are failing to provide a necessary service for farmers and governments should correct the failure. Risk sharing is an essential service provided by financial and insurance markets. Effectively, the risk is transferred to people who are better placed to manage it and the risk is diversified throughout the economy. For their service, people who bear the risk are paid a risk premium. Farmers benefit by more access to available credit, more ability to be entrepreneurial and adopt new technologies and more specialisation and efficiency in production (Arrow 1996; Goodwin and Smith 1995; Skees 1999). Perhaps there is a significant demand for crop