Food security in Australia: Fallacies, fantasies, fancies, foibles and furphies

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Introduction

Food security in the sense of food shortages affecting a substantial proportion of the population is a non-issue in Australia, and has been since the early days of European settlement. Australia soon established itself as a significant agricultural exporter and has remained so. It could hardly be otherwise given Australia's abundant agricultural resources and limited population. The story of the blend of private and public effort to adapt European agriculture to Australian conditions is well documented (Davidson 1981). Not only that, Australian professionals trained in agriculture-related disciplines have made significant contributions to the productivity and performance of world agriculture, in developing and developed countries alike.

Australia faces many difficult issues in agricultural policy. Food security is not one of them. Food insecurity is the lot of poor nations with limited land resources relative to their populations. Australia has not suffered food shortages through blockade, invasion or defeat in war like many European countries, China and Japan. Such experiences are grist to the food self-sufficiency mill in those countries. Australia is vulnerable to natural disasters but not even bad droughts have posed a decisive threat to local food supplies. Further evidence that food security is not a pressing issue for most Australians is the share of the cost of food reflecting services provided beyond the farm gate. Australians have many opportunities to adjust to the price of food by substitution between commodities and products, up and down and across supply chains. In fact, the only significant manifestation of malnutrition in Australia is obesity, not under nourishment.

While Australian governments made their share of bad blues in agricultural policy – closer settlement and the irrigation cargo cult in earlier times, and recent stuff ups in commodity marketing for wool and wheat – none has been as damaging as the policy failures that have exacerbated famine in Africa and Asia. The Bengal famine at the end of World War 2, which was demand–induced rather than supply-induced, and the Chinese famine of the late 1950s, associated with the excesses of collective farming and the so-called Great Leap Forward, are grievous examples of the frequent folly of those in charge. Thankfully, Australian agricultural officials are not playing for big stakes.

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If food security is a non-issue nationally, the role of the Murray-Darling Basin in Australian food security is of even less concern. Public discourse on the MDB has been muddied by claims by irrigators' representatives that overstate the economic importance of irrigation. The usual trick is to treat dryland production of livestock and grains between rivers as if it were relevant to economic and environmental problems associated with irrigation. Once we correct for ubiquitous MDB 'food bowl' hype, the irrigated MDB accounts for about 10 per cent of Australian food production. Much of this is wine and cotton. Neither is listed as part of the five essential food groups, to my knowledge. Oddly, if food security were a serious objective for Australian agriculture, the self-inflicted wound of the collapse of the reserve price scheme for wool in the early 1990s, so well described by Massy (2011), has improved the situation. Crop production has expanded relative to wool in traditional wool producing areas. Sheep meat is now relatively more important than wool for the third or so of the sheep flock that remains.

International food security is a serious question. Famine is endemic in Africa. While the food supply problems of many Asian countries have been solved in aggregate in the working lives of many in the audience, rapidly increasing urban populations in those countries are vulnerable to dislocation of the supply of staple foodstuffs. Food supply is one of many threats to domestic and international order that requires more than a technical solution, as recent experience of several Asian countries in successfully raising food production attests. While Australian scientists are equipped to make a modest contribution to solving technical problems of food production elsewhere, the influence of Australia on the domestic agricultural policies of other countries is extremely limited.

Most of the fuss about food security in Australia is scaremongering, or code for other issues that worry the farming community and commentators on agricultural policy. Some of the issues are legitimate and stimulating such as farm productivity and the organisation of research and development. Policymakers have botched it to date, but reconciling economic and environmental problems of the MDB is an important and challenging analytical and empirical issue. Although often narrowly treated by emphasising sociological aspects of the family farm rather than theories of financial and industrial organisation, the way farms are organised and farming systems evolve is of enduring interest in Australia, and other countries. The same goes for questions to do with efficiency and equity of agricultural marketing, domestically and internationally – although this has often descended in Australia to demonisation of supermarkets. Most of the above questions reduce to analysing the economic efficiency of present arrangements. However, most public debate focuses on equity: in effect, the question, 'are farmers and rural people treated fairly vis-à-vis urban dwellers'? (Brett 2011)

Less legitimate, and easily dealt with, are a range of questions where crass ignorance and vulgar chauvinism are to the fore: delusions of grandeur that Australia will, or could be, the food bowl of Asia, renewed ratbag enthusiasm for irrigation development in northern Australia, and musings and ravings about food imports and foreign ownership of agricultural land that are barely disguised protectionism and prejudice.

Each of these topics is introduced in the remainder of the paper.

Productivity, Research and Development

Australian agriculture has a satisfactory productivity performance compared with most other parts of the economy (Mullen 2007). Despite the impression cultivated by farmers' organisations and relayed by gullible and ill-informed journalists, the agricultural sector is not in a state of permanent crisis. Total factor productivity or multi-factor productivity – an index of aggregate output divided by an index of aggregate inputs – ranks better than most other sectors. Obviously, there are important variations in productivity performance within and between agricultural industries, between regions and between time periods.

An abiding feature of Australian agricultural industries is the skewed distribution of output and income. Commercial farmers make good returns in most years but there is usually a tail of poor performers and regions afflicted by settlement history, climatic and industry-related factors, and plain bad luck in the timing of major investment decisions. In particular, the transfer of ownership and control of family-operated farms can jeopardise the long-term prospects of family farms, according to its timing.

The other defining feature of Australian agriculture is its international dimension. Agricultural prices are affected by world prices, directly and indirectly. Dependence on exports continues to affect the underlying economics of several important issues of agricultural policy. Nevertheless, the agricultural economy is not as important as it once was to the rest of the economy for a range of reasons: growth of the mining sector, population growth, urbanisation and greater cultural diversity, floating exchange rates – to name a few. Not all farmers and rural dwellers have caught up with these changes, or understand and appreciate the consequences for their economic and political influence.

On reflection, the satisfactory productivity of Australian agriculture is unsurprising. Unlike many parts of the Australian economy, agriculture has a competitive structure. Apart from a couple of intensive livestock industries focused on the domestic market, pig meat and poultry, where large businesses are common, the economists' ideal of large numbers of producers and consumers with no individual influence on prices received and paid more or less prevails in Australian agricultural industries. Even for large farmers in intensive livestock industries, their market power is negligible because prices are determined on export markets. Pig meat or poultry either face import competition or compete with substitutes whose prices are unambiguously determined on export markets. Consequently, the pressure is always on farmers to perform.

Australian agriculture is a chancy business with pervasive climatic and marketing risks. Farming is no place for the faint-hearted. It is well known that the Australian climate is more variable than elsewhere on the planet (Wadham, Wilson and Wood 1963). The inherent price risks of agricultural commodities associated with shifts in supply and demand are even greater for agricultural exporting countries. World markets for food are thin and unstable because they are affected by policies of self-sufficiency and widespread protectionism in major importing countries. While governments once intervened extensively in agricultural markets in Australia, much of the intervention was designed to stabilise prices or in response to the longstanding concerns of farmers

about the behaviour of firms supplying agricultural marketing services. Very little income-enhancing assistance was provided to farmers in broadacre industries – meat, grains and wool. Greater assistance was provided to farmers in industries in which Australia does not have a comparative advantage because of inherently high labour requirements, such as horticultural industries, and/or industries where economic performance was handicapped by the high proportion of small farms because of earlier policies of closer settlement. Sugar, rice and dairying were in the latter category.

Agricultural prices are high at present because of poor weather in several northern hemisphere countries. Incomes are rising rapidly in Asian countries. This is increasing the demand for food imports, although not necessarily in the ways that many Australian observers have decided. United States policies mandating ethanol production from corn have also exacerbated recent price rises. Whether recent increases in commodity prices represent a new plateau or a new precipice for Australian agriculture is an interesting and researchable question? If past experience is any guide, higher international prices will bring forth a supply response. Agricultural output has grown faster than population for most of the last two hundred years allaying fears of widespread global food shortages that have been around since the time of Malthus. The ingredients of the global food balance are many and intricate. Past successes in the translation of agricultural research into increased agricultural output are no guarantee of future success.

Not only price and climatic risks, individual farmers confront the business risks associated with their own financial arrangements and decisions. The riskiness of Australian farming means that farmers cannot easily handle debt, unless they have access to off-farm assets or off-farm income. Australian farmers therefore have much higher equity ratios than their counterparts in other small business. The turnover of farms is mostly gradual and voluntary, and often described somewhat euphemistically as 'agricultural adjustment'. Nevertheless, the process is a major contributor to the impressive productivity performance noted above. Farm financial management strategies will not always be successful. From time to time circumstances will combine to bring about a shakeout of all but the most talented, and fortunate, farmers. While individual success depends upon production skills, and ability in financial, marketing and risk management, this is something that can only be judged after the event. The cruel logic of farm financial failure for some is that other farmers lucky enough to remain in agriculture have better economic prospects.

Even when a service is profitable for the agricultural sector in aggregate, individual farmers are unable to provide some services on their own account. This is the product of the small scale of farm businesses, and the incentives they face. Some form of collective action is therefore required. Investment in research and development is the most interesting and important case. Farmers can, and do, conduct small-scale trials and observations on their farms but even when this is successful, they cannot capture the benefits exclusively. Their incentive to engage in R&D is thereby diminished. Major output increasing innovations dependent on R&D in biological disciplines and mechanisation are beyond the capacity of individual farmers.

While the benefits of agricultural R&D are well known and extensively studied, including by Australian scholars (among numerous examples, Alston 2010), institutional arrangements for R&D vary from place to place and over time. Traditionally, research, regulatory and advisory services were provided in Australia by state departments of agriculture. This was a logical consequence of state government sponsorship and administration of land settlement. Ignorance of local conditions was one reason for the difficulties that followed from closer settlement. Expenditure on R&D and advisory services was seen as a way of rectifying the situation. Further, early R&D concentrated on developing new farming systems for Australian conditions, plant breeding and plant and animal protection. These are areas where private firms have difficulty in capturing the benefits of R&D because its results cannot be embodied in a saleable product. This situation has changed in the last thirty years or so. The production pattern has changed away from grazing-based livestock industries where development of Australian approaches to farming systems that suit local conditions is key. The technology for cropping, intensive livestock and irrigation that have grown in relative importance is often available off the shelf and can be imported. This has far-reaching effects for the competitiveness of Australian agricultural industries.

The fashion for cost recovery of government-provided services, and the straitened budgets of governments brought about by the growth of transfer payments, has meant that farmers are expected to pay a higher proportion of the costs of research. In public finance terms, this is uncontroversial. As price takers, farmers are the beneficiaries of output increasing research in export industries. According to the principle of beneficiary pays, farmers should pay more for R&D. Levies on agricultural output is a logical approach to raising revenue for R&D. The rub is that only the Commonwealth Government has the constitutional power to collect such levies in Australia. This has had several consequences. Commonwealth influence on R&D has been enhanced to the detriment of state-based participation in R&D. Local concerns are neglected. The Commonwealth sought to reconcile this dilemma by ensuring farmer representation on the research and development corporations set up to administer research. To date, RDCs have had matching funds from the Commonwealth but this remains problematic because the distribution of benefits favours farmers. The Commonwealth could argue that it is funding R&D that farmers would have an incentive to fund anyway.

The performance of Commonwealth RDCs has been variable and not always benign. Grants-based funding of R&D has its limitations because many projects are long-term. Young researchers face significant risks early in their careers. Project selection based on grants-based funding is expensive compared with quality control exercised within research agencies. The staff and boards of RDCs have also often shown themselves prisoners of fashion and undisciplined in their approach to role of government issues. Thus, RDCs have often been attracted by R&D on projects concerned with marketing and downstream processing that should be the bailiwick of private firms and where Australia often has access to R&D conducted in other countries. Investment in further processing of agricultural products (‘value adding’) is seductive to those with influence in Australian R&D, without them thinking through its full consequences. Even when successful, efforts directed at value adding reward factors of production beyond the farm gate and have negligible benefits for farmers.

Economic and Environmental Issues and the MDB

The official response to the long drought of the new Millennium still dominates the water policy debate even though the drought has been over for a couple of years. Decisions were taken in the drought that will affect the MDB for years to come. Much the same applied to urban water, as witness the spate of expensive desalination plants in Australian capital cities, and other panicky reactions that left urban water consumers with greatly increased water bills. More affluent urban water consumers who responded to the blandishments of government by investing in private water storage are also left with less cash, and facilities they no longer need. Despite feeble excuses from the politicians responsible for these public, and private, decisions, this is not being wise after the event. A staged approach to desalination, eschewing total bans on investment in new dams in all circumstances and (compensated) transfers of water from irrigation would have been much cheaper ways of managing the risk of continuing shortages of urban water.

Arguably, the attention given to water policy and irrigation is out of kilter with its overall significance to Australian agriculture and the landscape, economically and environmentally. Certainly, the biodiversity of semi-arid and arid Australia is of greater interest and much easier to sustain than anything that is left in the vastly modified MDB. It turns out that the environmental debate over the MDB is as confused as the socioeconomic debate. In particular, there is confusion over what should be the base case or reference point from which to assess environmental phenomena. Surely, the challenge is to start from where we are and seek tangible improvements in measurable environmental phenomena. Put another way, the current debate usually ignores the influence of irreversible environmental changes, and the relevance of the concept of sunk costs (Cummins and Watson 2012).

Over reaction to drought should be no surprise to aficionados of the history of Australian agriculture and irrigation. As pointed out long ago by critics of irrigation in Australia, best known from the work of Bruce Davidson (1969)[2], the Australian infatuation with irrigation was encouraged by early experience with drought. The nascent Australian agricultural and pastoral industries had been afflicted by drought several times by the end of the nineteenth century. The instinctive assumption was that public investment in water storages and irrigation infrastructure would lessen the economic burden of variable rainfall and runoff.

[2] A convenient source of information of the history of irrigation in Australia is the chapter by Musgrave (2008), in the collection of essays edited by Lin Crase for Resources for the Future. Musgrave dates the turning of the tide concerning the merits of irrigation in Australia with a paper by Keith Campbell at a conference sponsored by the prime minister and UNESCO in September 1963. A lot of people have not caught up. For more evidence that expert opinion on water policy has not been the same as popular opinion for a long long time, see the 1945 report of the Rural Reconstruction Commission on *Irrigation, Water Conservation and Drainage*.

Like most intuitive responses to complex phenomena, the opposite conclusion is closer to the truth. Large-scale irrigation is not a sensible response to the risks of drought in Australia. Instead, dryland farming is better suited to Australian conditions.
The short explanation of the inherent difficulties of irrigation is based on the concept of diminishing returns from elementary production economics. Why would it make sense to concentrate the limited amount of water that is available in Australia on a small proportion of the (large) amount of land that is available?

In addition, the off-farm capital costs of irrigation in Australia are much greater than elsewhere because more water has to be stored to guarantee the same yield of water. The implicit capital costs of on-farm irrigation infrastructure are also high because variable rainfall translates to an irrigation season of variable length. Ideal conditions for irrigation, satisfied in other parts of the world, occur when land can be irrigated in a regular dry season with assured supplies of water, especially when rivers are fed from snow-covered mountainous areas.

Finally, the economists' standard critique of irrigation relies on observations on markets for irrigated produce. There are some specialised high value irrigated products that can be readily sold on the domestic market but export prospects are limited for perishable products because of harvesting, transport and handling costs. The agricultural commodities that Australia can successfully sell on world markets mostly can be produced more cheaply on dryland farms, often with the assistance of supplementary irrigation from on-farm water storage. Nevertheless, the comparative advantage of irrigation vis-à-vis dryland farming has been enhanced in recent years by the availability of cheaper pumps and engineering advances in earthmoving equipment. Within the MDB, the political balance has been altered irrevocably by private investments in water storage and on-farm infrastructure in the northern valleys in New South Wales and Queensland. These developments favour investment in private irrigation facilities rather than traditional public irrigation schemes, gravity or pumped.

Supporting evidence that large-scale irrigation is not well suited to Australian conditions is provided by the history of industry assistance. Water prices were subsidised from the early days of irrigation and barely covered operating costs let alone contributed to capital and refurbishment costs. Although badly affected by the malign influence of closer settlement on irrigation, irrigation industries were in receipt of greater price assistance than dryland farming by the 1920s and 30s. While the situation changed in a brief era of water reform and deregulation of marketing arrangements in the 1990s, there has been reversion to type in the last decade with government subsidisation of irrigation infrastructure, in the name of water saving. The intention of the Council of Australian Governments (COAG) Agreement of the early 1990s that irrigation should stand on its own feet has gone completely out the window. The COAG agreement at last recognised that irrigation had reached its physical, economic and environmental limits – described by irrigation specialists as the 'mature water economy' ([Bill] Watson and Rose 1980, Randall 1981). The COAG agreement was followed up by the (then) Murray-Darling Basin Commission with a 'cap' on total diversions for irrigation imposed in the mid-1990s. Later the cap was refined to manage water extractions in individual valleys.

Despite the strong case against past public and private investment in irrigation based on *a priori* reasoning and empirical studies, there is a vast difference between what might have been the case in the absence of ill-considered political enthusiasm for irrigation before the event than the policy problems that now have to be dealt with, after the event. Economic prospects for irrigation should always be treated as an empirical question starting from where we are, not where we might have been.

As pointed out by Cummins and Watson (2012, page 11):

> Environmental and economic policies in the Murray-Darling Basin must ultimately come together around the concept of sunk costs. Because much of our irrigation infrastructure should not have been built does not mean we should not use it; and, because more than a hundred years of irrigation has changed the environment does not mean that stopping irrigation would change the environment back to where it may otherwise have been.

Perhaps the most tangible evidence that public and political attitudes towards irrigation were at last changing was the so-called Living Murray Initiative established by the Murray-Darling Ministerial Council in 2002 in response to concern that the health of the River Murray system was in decline with adverse effects on industries, communities and natural features of the MDB. In November 2003, The Council decided on a 'First Step' for The Living Murray directed at achieving environmental benefits at six important locations. In the lingo of the day, these were called 'icon sites'. This was judged to require the recovery of up to 500 gigalitres over five years and was thought possible through irrigation modernisation projects. Water purchase was not envisaged.

Immediately following The Living Murray Initiative introduced and managed by the MDBC and the states, a National Water Initiative started in 2004. Ostensibly brokered by the Commonwealth and the states, the NWI turned out to be administered by a newly formed National Water Commission that was dominated by the Commonwealth.[3] With intensification of the drought in the next few years, and an impending federal election, even more was thought necessary.[4] Inflows to the MDB were at an all-time low. The Lower Lakes at the Murray Mouth were in a poor state. Diversions of water for irrigation were severely restricted. A National Plan for Water Security was cobbled together in January 2007. Without the benefit of advice from the Commonwealth

[3] With an existing Commonwealth-State MDBC and departments responsible for water, the NWC entered a crowded bureaucratic space. However, with the demise of the RDC responsible for land and water (variously Land and Water Resources Research and Development Corporation, LWRRDC, and Land and Water Australia, LWA), the NWC proved a valuable vehicle for research and policy analysis, for irrigation and urban water. Indeed, the constantly changing administrative arrangements for water and the environment are a sign that governments do not know what they should be doing, not just frustration for those working in these agencies, revenue for office stationery firms and solace to collectors of acronyms. The bureaucratic space is now more crowded and confused with the creation of a Commonwealth Environmental Water Holder.

[4] It would have been better if that could be written 'even more thought was necessary'.

Treasury and Department of Finance, this was a ten-point plan to spend ten billion dollars over ten years. The major planned expenditure was government support of off-farm and on-farm irrigation infrastructure with the objective of water saving, supplemented by purchases of water for environmental purposes. This was belated recognition that the market for irrigation water entitlements and allocations that had developed over the previous decade for trade amongst irrigators could be used to resolve flow-related environmental problems. Minor parts of the program included (defensible) attention to water accounting and measurement assigned to the Bureau of Meteorology, and less defensible investigations of prospects for irrigation in northern Australia based on *ad hoc* political considerations – dealt with later in the paper.

In effect, the National Plan for Water Security represented a series of compromises between the economic interests of irrigators buttressed by an entrenched political ideology, which could reasonably be called irrigationism, and less well articulated demands emanating from the conservation lobby supported to some extent by scientific information about the environmental effects of large-scale irrigation. The compromises reflected unreconciled disputes over the objectives of water policy for the MDB and, whatever those objectives were or should be, further dispute over the instruments to be used for their realisation. The upshot of these compromises was the (unanimous) passing of the (Commonwealth) Water Act 2007. While drought was the overriding influence on the genesis of the Water Act, policy had been moving in that direction for around fifteen years since recognition by the early 1990s that irrigation had reached its unreasonable limits in the MDB.

Unfortunately, the Act turned out to be badly flawed. Despite widespread public and political support for its intentions, the ambitions of the Act cannot be successfully translated into a coherent program of action for a variety of reasons. In particular, this is because the political debate between irrigators and environmental interests has degenerated into a dispute over a single, and naïve, measure of overall environmental performance – the (average) additional environmental flow required to restore the MDB to an acceptable state. Flow is only one aspect of the problem, the answer to which depends upon complex multi-attribute environmental phenomena, all with temporal and locational features. There is no simple linear relationship between the amount of water held for environmental purposes and environmental benefit (Crase, O'Keefe and Dollery 2012), just as there is no direct connection between the amount of water used in irrigation and its economic benefits. A rational solution does depend on trade-offs between agricultural and environmental interests but the answer is not cut and dried; it depends on prevailing conditions. A long planning horizon and a cooperative approach between officials and local interest groups is required. Consequently, embarking on a negotiation process that reinforced the influence of single-minded lobby groups and intransigent lobbyists was a recipe for disaster.

A linearity assumption suits the environmental movement and irrigators' organisations because they are desperately on the lookout for a hat on which to hang their narrow political campaigns. But it is an extremely poor guide to development of a program of environmental remediation and the selection of individual environmental projects where the starting position, thresholds, feedback and timing are of the essence. Project

selection is something that can only be worked out in practice by trial and error. The fundamental flaw of the Act was that it required development of a comprehensive plan for consumptive use in irrigation and for environmental purposes when adaptive management and messy gradualism, with attention to compensation, is the only sensible way of tackling the underlying issues (Cummins and Watson 2012). No wonder the sequential release of a 'Guide', a 'Draft' and 'Final' versions of the plan in the last couple of years has resulted in so much acrimony and bad behaviour on all sides.

Even worse than the bad manners and resentment that has obstructed resolution of the problems of the MDB is the inordinate expense of generating the plans and engaging in all that consultation. The entire episode has been consultants' heaven, with more reports than Carl Ditterich.

Another issue emphasised by Crase, O'Keefe and Dollery concerning the Water Act and the planning process is the centralisation of power in the hands of the Commonwealth. The Commonwealth is not in a good position to judge the details of environmental projects. Like other recent examples in Australian public administration, the Water Act 2007 is a case of significant Commonwealth Government over-reach. There is a role for the Commonwealth in coordinating management of the vast MDB shared between four states and the Australian Capital Territory. The Commonwealth is also needed to offset the bloody mindedness of state farmers' organisations and a few state officials who have appalling attitudes to the problems faced by their interstate counterparts.

Nowhere has this obduracy been more evident than the ongoing support within upstream states for removing the barrages at the Murray Mouth and flooding the Lower Lakes. Disguised as science, this is shameless advocacy for one group of irrigators (Marohasy 2010). And intellectual laziness of the worst possible sort because it relies on the criterion that the original estuarine state is somehow relevant to the vastly modified MDB of today, completely ignoring the effects on the Lower Lakes of the extraction of water for irrigation upstream. Northern irrigators are scornful of the idea that the original state of the MDB is relevant to environmental policymaking today – and rightly so – but apparently not that scornful that they are reluctant to run with similar flawed reasoning when it suits their own interests.

A key feature of modern water policy is *de facto* reversion to subsidised irrigation. This has happened by stealth because existing political and consultative processes favour advocates for the contesting parties and their representatives within government. This has sidelined the central agencies of government who supported the policies of microeconomic reform that had a brief run in the water industry during the early 1990s. The idea of cost recovery and self reliance that was intended to inform water pricing has been dispensed with in favour of major investments by governments in irrigation infrastructure, off-farm and on-farm. Not that cost recovery is a straightforward notion, especially for the treatment of capital in natural monopolies. Obviously so, because official regulatory bodies have chosen to apply different criteria to pricing of urban water and irrigation water when the underlying economics is the same (Dwyer 2006). In effect, this is political gymnastics that would trump Nadia Comaneci, shamelessly intended to collect public authority dividends from urban water consumers.

Subsidised investment in irrigation infrastructure is a public finance monstrosity and defies hydrologic logic. Farmers in other industries are expected to pay for their own capital equipment and for the off-farm infrastructure that supports their farming activities. Less obviously, there are no equitable criteria for selection of investments by government in irrigation infrastructure. Inevitably, some industries and regions are favoured at the expense of others. Pet monument building projects of politicians like the Northern Victorian Irrigation Renewal Project in the Goulburn Valley of Victoria are the order of the day. Moreover, as numerous observers have pointed out, the claimed water savings are an illusion. Most so-called water saving projects merely shift water in the landscape (Gyles 2003, Perry 2006, Crase 2010). Water that is supposed to be wasted often shows up as groundwater that can be pumped for irrigation or returns to rivers for subsequent irrigation or environmental flows. Even if investment in infrastructure saved water, the cost would be much more than the value of water in irrigation as revealed by water trading. Buyback is a better strategy but unfortunately has proceeded faster than the development of a coherent program of environmental projects.

One way of thinking about the difficulties of the Water Act 2007 is to compare and imagine its detailed prescriptions for irrigation and the environment with a Health Act that set out the number of people who suffered various ailments, and also specified the way they should be treated, ignoring the symptoms that patients presented with.

The Family Farm and Agricultural Organisation

Family farms are the most important form of agricultural organisation in lands of recent European settlement, including Australia. Separation of ownership and farm operation is common elsewhere. Common property characterises agricultural production in the developing world. Tenancy and leasing are still important in the old world. For a number of reasons, share farming with separation of ownership and operation is not common in Australia as in the United States (cropping) and New Zealand (dairying).

Corporate agriculture has grown in Australia but not as fast as in the rest of the world (Freshwater 2012). The clue to understanding the economic balance of owner-operated agriculture, share farming and corporate agriculture is to analyse how best to handle risks – risks in production, marketing and business organisation (Chavas 2008). These vary according to the seasonality of production and the timing of farm operations. Timing and attention to detail are of the essence in agricultural production. This is not easy to achieve with a paid workforce unless there is control over the production process as happens in intensive livestock farms. Cropping and grazing-based livestock production, possible given the Australian climate and abundant supply of land, lend themselves to family farming because labour is available when required.

The short explanation for the dearth of share farming in Australia is the volatility of production, prices and incomes. Either side of a contract is likely to miss out whatever the circumstances. Moreover, when government assistance is available in downturns for drought or whatever, landowners are usually favoured over share farmers.

Another way of thinking about agricultural production is to differentiate between farms with continuous operations and those with interruptible operations. Roughly, this divides into livestock and annual and perennial cropping. The balance of cropping and livestock has changed significantly in recent years in parts of Australia where mixed farming was once the order of the day. Cropping is now a more specialised activity. The catastrophe in the wool industry with a decade of disastrous prices is one component of this change (Massy 2011). Rising labour costs and their interaction with potential economies of size is another. The daily labour requirements for attention to animal health and animal welfare constrain the size of grazing-based farms. No such constraints apply to cropping that have distinctly seasonal operations using today's mechanised techniques of production. In fact, the consequences of the principle of increasing risk with debt-funded growth – that is, the effects of the gearing or leverage ratio – is a major obstacle to increasing the size of cropping farms. Fluctuating yields and prices mean that farmers can easily come unstuck financially.

Seasonal farm operations lend themselves to part-time farming, which is common in developed countries of the northern hemisphere. Labour can be fully employed in farming and other pursuits. Part-time farming also mitigates financial risks. But Australia is different from other countries because the sparsely populated countryside is not conducive to part-time employment on farms. This has interesting effects on the underlying competitiveness of Australian farming and agricultural adjustment policy.

The virtues of family farms and support for the concept of family faming are not just about economics and the subtleties of risk management, far from it. Socioeconomic advantages are attributed to family farms (Wilkinson, Barr and Hollier 2012). Largely as a reaction to traditional land tenure arrangements in Britain and the unequal status of landowners, tenants and labourers, early administrations and governments in the Australian colonies were quick to assert the primacy of owner-operated farms as a positive force for social cohesion – the so-called yeoman ideal that dominated the approach to closer settlement. This was despite – or maybe because – the earliest successful form of European farming to emerge, extensive sheep farms, employed significant amounts of labour. Somewhat ironically, trade union of coverage of labour in the pastoral industry of yore led to the strength of the Australian Workers' Union, which has a strong position in the mining industry of today. Employment in mining is a more attractive proposition than that available to workers in most branches of agriculture with its seasonality, isolation and riskiness from year-to-year.

Closer settlement, and its later variant, soldier settlement, worked on the dubious egalitarian principle of the 'home maintenance area'. Not dubious because it was egalitarian, but because its inflexible application condemned early settlers to a frugal existence with little chance of adapting to economic and technical changes. Administrators were keen to settle extra farmers and were quick to respond to any temporary upturn in prices or seasonal conditions. The consequent small farm problem persists today in places like Sunraysia and the South Australian Riverland where serious social disadvantage is entrenched (Watson and Cummins 2011).

Agricultural Marketing – Domestic and International

Discourse on agricultural marketing in Australia has turned a full circle in the last couple of years. Once, the universal gripe was the size of marketing margins throughout the food chain. Retailers and other marketing intermediaries were presumed to be disadvantaging both producers and consumers. Producer prices were thought too low and consumer prices too high because of the rapacious activities of middlemen. How physical, financial and coordinating functions necessary to move agricultural products from producers to consumers, and money in the opposite direction were supposed to be performed in the absence of a marketing system and marketing intermediaries was scarcely contemplated? Time wasting exercises were undertaken calculating indicators like the 'farmer's share of the consumer dollar'. The indicator is bogus because it says nothing about the efficiency or equity of marketing arrangements. Poor subsistence farmers in developing countries receive 100 per cent of proceeds for direct sales. The same goes for roadside sales in Australia and farmers' markets.[5]

Now the boot is on the other foot. The complaint of recent years is that retailers' margins are unreasonably low and unsustainable for farmers. The most common complaint is about low prices of fresh milk sold in supermarkets (Verrender 2012). The attitudes of consumers to low prices are seldom canvassed.

The alleged villains of the piece are Australia's two large supermarket chains who account for a high proportion of consumers' expenditure on food and groceries, much higher than in other countries. But comparisons between the duopoly of Australian supermarkets and other countries are problematic given the size of the Australian population. Modern technology available to supermarkets with coordinated computer-based logistics means that Australia will have only a couple of firms large enough to reap its cost saving advantages. Indeed, duopoly is not uncommon in Australia – airlines and brewing are other examples.[6]

Assessing the market power of supermarkets and its effects is not easy. The answer depends on where you live, and where you farm. Capital city residents have more shopping possibilities. There are small supermarket chains and independent retailers alongside wholesale outlets, municipal fresh produce markets, farmers' markets and so on. Rural dwellers are obviously not as well served for competition. The fact of the matter is that the situation would be little different for people in smaller centres if there were more firms in the supermarket business. They might still have only one business

[5] Not enough attention is given in economic and social policy to the worth of performance indicators, such as the farmer's share of the consumer dollar. For a useful introduction see Mainelli and Harris (2012), especially chapter 7 'The perverse and the reverse: measures and forecasts.' Water policy is also vulnerable to measurement problems. The remarks about environmental flows above are apposite. Then there are the doozies 'food miles' and 'virtual water', favourites of nuff nuff letter writers to newspapers and internet nut jobs.

[6] Which is why Australia regulates competition and trade practices, and governments intervene occasionally to block mergers – as in the banking industry.

operating in their town that would still be available to extract higher prices, limited by the extent of transport costs and the inconvenience of travelling to the closest centre. When the retail outlet is a part of either dominant supermarket chain, rural consumers will be advantaged for parts of their offerings that are priced nationally and marketed via Australia-wide campaigns.

Location is also relevant to the effects of monopoly (really monopsony) on farmers. In the case of milk, the price offered by supermarkets is attractive to farmers in Victoria and Tasmania whose prices are determined by world prices of manufactured dairy products. The burden falls on the few market milk specialists in New South Wales, Queensland and Western Australia. It is worth noting that following deregulation of the dairy industry a decade or so ago and breakdown of interstate barriers to trade, generous compensation was paid to dairy farmers in anticipation of all milk and milk products being priced off the world price. In fact, apart from industries focused solely on the domestic market, the market power of supermarkets, such as it is, is not that important to farmers. World prices determine most returns at the farm gate.

International marketing of Australian agricultural products has its own set of issues. As famously remarked by Keynes, a massive amount of commercial activity is required so that products harvested on one day of the year in one part of the world are available on every day of the year in another part of the world. Australian agricultural marketing was once characterised by a plethora of statutory marketing authorities. There were two reasons for this. First, farmer dissatisfaction with marketing costs and lack of competition in agricultural markets. These complaints were loudest at times of low prices. Most of the time, farmers were confusing economic factors affecting the absolute price level with the efficiency and equity of agricultural marketing.

Second, statutory marketing authorities were an artefact of Australia's preferred method of price support in the era of assistance to some agricultural industries – home consumption price schemes whereby local consumers were charged more than prices prevailing on world markets. In effect, domestic prices were raised by diverting supply to the world market taking advantage of differences in demand elasticities. Although it would be possible to operate home consumption price schemes transparently through levies on production and subsidies to exports, statutory marketing authorities had the advantage, to its beneficiaries, that the adverse effects of price discrimination on consumers were hidden from public view.

For wheat and wool, the ostensible rationale for statutory marketing arrangements was price stabilisation not industry assistance; buffer fund stabilisation in the case of wheat through transfers of revenue and buffer stock stabilisation for wool through sales and purchases of stocks. Buffer stock stabilisation kept much of the wool marketing system intact, not so the single desk operations of the former Australian Wheat Board.

Eventually, statutory marketing fell into decline, disrepair and/or bad odour. Floating exchange rates meant that assistance levels were detached from Australian prices. Not that the wool industry realised, floating exchange rates undermined the *modus operandi* of the buffer stock scheme because the nexus between stable prices for consumers and

producers was broken. The rest is history. Finally, there were issues concerning the behaviour of statutory marketing authorities and the neglect of their original purposes in favour of the internal political machinations of farmers' organisations – something Cashin (1986) described as a life cycle theory of deregulation.

Nowadays, with marketing information readily available and understood by farmers, international marketing of Australian farm products is more or less exclusively in the hands of private firms, domestic and international. This is not regarded as controversial.

Food Bowl of Asia?

We are told that our grandchildren, and children in some cases, are about to live in the Asian Century. Yet only around the middle of the last century, there were doubts about the ability of Asia to feed itself.[7] The agricultural and economic fortunes of several Asian countries improved rapidly in the last part of the twentieth century for many reasons including the Green Revolution boosting cereal production, the end of burdensome collective farming and central planning, opening up of economies to foreign trade and investment, industrialisation and, particularly by the standards of the previous half century, a period of relative peace.

Already this has brought forth economic opportunities for Australia. A construction and infrastructure boom in China has increased the demand for Australian mineral and energy resources. In turn, there has been an Australian mining boom – concentrated in Western Australia and Queensland – with higher incomes and substantial capital investment in expansion of mines and associated infrastructure. It is uncontroversial that rising incomes in Asia are beneficial to the Australian economy.[8]

Inevitably, discussion turns to the opportunities provided by economic growth in Asia to other sectors of the economy where Australia has a demonstrated comparative advantage – notably, the agricultural sector. Interest is of course greatest in those parts of the country with least mining and most manufacturing.

Unfortunately, there are problems with the way this straightforward proposition is being handled; not only due to the obnoxious term 'food bowl', which is trotted out whenever spokespersons for an industry, region, catchment or whatever have their grasping hands directed at taxpayers' pockets. The problems threaten to repeat some bad mistakes in agricultural administration made in the 1980s. Those mistakes were

[7] This is indicated by the title (reprising Adam Smith) of the trilogy written by Nobel Prize winning Swedish Economist, Gunnar Myrdal (1968), *Asian Drama: An Inquiry into the Poverty of Nations*.

[8] Even after accounting for the adverse effects of a higher exchange rate on other traded goods industries – the so-called Dutch Disease, or in local parlance, the Gregory effect (Gregory 1974). All Australian consumers benefit from cheaper imports and overseas holidays. Issues concerning the contemporary mining boom are elaborated in a special edition ('Mineral and Energy Policies') of the *Australian Journal of Agricultural and Resource Economics* in April 2012 – Volume 56, (2).

partly used as an excuse to run down agricultural R&D and services to farmers. Ill-judged commercial decisions were also made and Australian firms lost a lot of money. The key issue is the narrow way the idea of 'value adding' is treated (Watson 1993). Similar to the 1980s, it is being taken for granted that the way forward is greater domestic processing of agricultural products. It is also assumed that a higher proportion of specialised ('niche'?) agricultural products should be produced for markets anticipated in Asia to satisfy the demands of a burgeoning Asian middle class.

A few points are in order. First and foremost, adding value is also adding costs. Moreover, Asian countries might have a few things in common such as increasing incomes but there are many important economic and other differences, including within individual countries. Nor is it sensible to generalise trade prospects across Australian industries and regions. Not just adding costs, adding value through further processing is also adding marketing and financial risks. More elaborately transformed products have fewer potential markets in space and time. Processed products are also more likely to face trade barriers than agricultural raw materials.

The economics of production, marketing, risk and inventory management and financing are too intricate to make confident predictions of how trade flows in agricultural products will pan out. A few issues in natural monopoly in storage and uneven access to information aside, the long supply chains of agricultural markets with numerous marketing functions performed by specialised intermediaries represent a good example of the virtues of coordination by the price mechanism. Planning, in the usual sense of the term, should have a limited role.

The role of government should be in provision of information and supporting a flexible system of R&D for whatever the future might hold. Governments also need to engage in traditional public good activities like biosecurity, trade diplomacy and trade promotion that are beyond the capacity of most private firms. The latter two tasks are for the Commonwealth. Despite their conceits, state governments should give trade diplomacy and trade promotion a wide berth.

Some factors favour marketing and processing close to the point of production and others favour processing close to the point of consumption. Sometimes, as in the case of meat (almost) and dairying, local manufacturing is necessary given perishability of the product. Meat and dairy processing are often not recognised by farmers as part of the manufacturing sector. Wool is a different case, as ill-fated Australian experience has abundantly demonstrated. The difficulties of the Australian textile and clothing industries are well known. Eventually protection was abandoned and the industries withered away.

Less well known are the costly failures of government attempts to encourage early stage wool processing, especially in the wake of the collapse of the reserve price scheme in the early 1990s. Tens of millions of taxpayers' dollars went down the tubes because woolgrowers' organisations did not understand the basics of the world wool industry, and stubbornly ignored those who did. Wool is best processed closer to the point of consumption to accommodate subtle blending requirements. The optimal scale of

production is different for different intermediate goods in the wool industry. For textiles and clothing, frequent fashion changes require rapid delivery times. Moreover, transport costs are lower for unprocessed wool. The upshot of this unseemly encore to the reserve price debacle is a raft of abandoned early stage wool processing plants across Australia, and many disappointed residents in country towns.

A good example of the way a naïve version of value adding as greater downstream processing leads to erroneous conclusions is the trade in live animals that has successfully developed in recent decades; live sheep, and cattle for both meat and dairy production, hiccups in the administration of animal welfare notwithstanding. On the demand side, live animal trade for meat is favoured by cultural factors and the lack of domestic refrigeration in many export markets. On the supply side, fluctuations in throughput exacerbated by seasonality in production lead to increased costs for abattoirs. Export meat processing now barely exists in tropical Australia because of the cost of labour. Nevertheless, the live animal trade has been profitable for Australian producers and led to a re-organisation of production systems with improved risk management and shorter production periods, of notable significance to producers in northern Australia about which they are only too well aware because of recent disruption to the trade, related to controversies surrounding animal welfare. An ancillary industry has developed in transport and animal nutrition to support the live cattle trade.

A missing ingredient in lay discussions of Australian agricultural trade with Asia is consideration of how agriculture will evolve in Asia itself, with changing local markets and on-farm changes encouraged by substitution of capital for labour as incomes rise, and urbanisation proceeds. Although it is on the cards that the evolution of agriculture in Asia might be distorted by agricultural protectionism and the siren song of self sufficiency, as has happened for Japan, Asian agriculture could move towards producing high value niche products on its own account. In which case, economic growth in Asia would be reflected in increased demands of traditional exports like cereals and feed grains for countries like Australia. The pure economics of transport would certainly push the outcome in this direction since land transport is far more costly than sea transport for bulk commodities.

These observations are no more than musings about the fundamentals of comparative advantage and spatial economics that go back as far as the nineteenth century German economist and landowner von Thunen, who explained the logic of location, transport costs and agricultural product characteristics for urbanising Europe. In essence, his conclusion was that high value perishable products would be produced close to cities and storable bulky products more distant.

The take home message in the immediate context, however, is that no one should be too confident about prejudging the pattern of agricultural production and trade that will emerge with further integration of the Australian and Asian economies in coming years. Farmers should be on guard that a so-called Asian Food Bowl is not yet another Trojan horse for the chimera of value adding and government-supported employment in early and later stage processing of agricultural products.

Irrigation in Northern Australia – Sinkhole or Land of Promise?

The economic case for extensive irrigation in northern Australia had already been demolished by a number of scholars by the 1960s. A distinguished contributor to that debate was also Bruce Davidson (1965) whose work was especially concerned with the Ord River scheme in Western Australia.[9] Since interest in irrigation in the north of Australia has recently resurfaced, it is necessary to run through the economic arguments again for the benefit of those who missed out the first time round.

Arguments against irrigation in northern Australia are mixture of general observations about irrigation in Australia introduced earlier in this paper, and factors specific to the north. In short, labour and capital are dear in Australia and land is abundant. Obviously, labour has become dearer in northern Australia with the dramatic growth of the mining industry. Variable rainfall and runoff means that capital costs of irrigation, on-farm and off-farm, are higher than other countries. Export market prospects are poor for horticultural products, with high domestic and international transport costs. This also applies to horticultural products that could be grown under irrigation in the north. These are products that developing Asian countries can be expected to produce as their agricultural systems diversify to satisfy the evolving requirements of local markets.

General technical and economic arguments about irrigation in southern Australia are compounded in northern Australia by local agronomic considerations. Growing seasons are short and soils are poor. Rainfall is variable and there are few suitable sites for dams. In effect, the northern irrigation cargo cult is like the standard irrigation cargo cult – but on steroids. To blind faith in irrigation is added the additional powerful ingredient of romanticism, a comforting indulgence for those indifferent to wasting public money. Some people are unwilling to save their vicarious pioneering for the television screen. As was also the unfortunate case in the 1960s debate over the Ord, the current enthusiasm for irrigation in northern Australia is fuelled by grievances, real and imagined, within the Australian federation. The rich and powerful in Western Australia and Queensland are flexing their muscles for no good purpose.

The question arises whether the forensic analysis of Davidson of irrigation in general, and northern Australia in particular, stands the test of time or has been overtaken by events? The argument cuts both ways, but not symmetrically. Costs of construction of engineering works and costs of pumping have fallen because of technical advances, and tariff changes. An interesting and researchable empirical question is whether productivity improvement has been faster in irrigated industries than dryland agricultural industries. As stated, irrigation has the advantage that much of its

[9] Davidson's career and its importance to the Australian agricultural policy debate are summarised by Watson (2007). Unfortunately, Davidson's contribution has not proved to be as influential as it should have been. His work is crying out to be revisited taking due account of modern irrigation and construction technology, transport and labour costs, and market prospects.

technology is available off the shelf because it is developed overseas. The overall conclusions of Davidson are robust. Local requirements for the output of irrigation in northern Australia can be produced much cheaper elsewhere, in Australia and other countries. Australia's comparative advantage remains in agricultural industries with low labour, marketing and transport costs, large export markets, and cheap land. The live cattle industry of northern Australia meets those requirements.

A simple test can be applied to the profitability of irrigation in northern Australia. Unlike the past when gravity and pumped irrigation was encouraged by governments in irrigation districts in southern Australia, modern possibilities for earth moving and pumping mean that private irrigation is feasible on the large properties of northern Australia. Private landholders are capable of making their own calculations about water availability, production opportunities, development costs, production costs, transport costs and market prospects for irrigated commodities. Issues about restrictions associated with leasehold tenure aside, it is notable that the pressure for irrigation development in the north is from irrigation enthusiasts in the ranks of politicians, aided and abetted by local interests always on the look out for government subsidies, not landholders *per se*. Unlike boosters, landholders will think through on-farm costs and market prospects of irrigation development before risking their own money.

Then there is the example of the Ord, not fully developed after half a century. Instead, a major economic activity on the Ord is sandalwood plantations; wind assisted by the vagaries and taxation anomalies of managed investment schemes. Finally, the current push for government expenditure on irrigation development in northern Australia has nothing to do with the welfare of indigenous people.

Food Imports and Foreign Ownership of Agricultural Land

The contemporary fuss over food imports into Australia does not rest easily with those who have confidence in the overall gains from trade and concern for Australia's long-term interests. Australia is an important food-exporting nation. If others shared the negative views about world trade in food so prevalent in Australia, who would buy our agricultural exports? In any case, the concerns are not justified. Australia is self-sufficient squared in staple foods – cereals, meat whether grazing-based or dependent on local feed grains, sugar, dairy products, fresh fruit and vegetables. The exceptions are some imports of processed food and out-of-season horticultural products.

Comparative advantage in agricultural production does not extend to processed food. This is particularly so for a country with the population distribution of Australia. Differences in transport costs explain many trade flows. Inventory costs are a big part of the equation. The economic distance between Australian capital cities and many international sources of processed food is less than for Australian production centres.[10]

[10] An obvious case is New Zealand. The economic distance of many agricultural areas in New Zealand is closer to eastern Australian cities than much of Australia. Given other

Demand for out-of-season produce from other countries is a reflection of local affluence, and preferences. Often, the availability of fresh imports is the counterpoint of the access of Australian produce to other affluent countries that has been negotiated as part of bilateral trade arrangements.

Vulgar chauvinism being what it is, these observations make little difference to those of protectionist inclination. 'Produce of Australia' is a tawdry sign these days in many a retail outlet. The irony is that this prejudice is mainly directed at New Zealand after the reaction of Australian apple growers to a long running trade dispute that was eventually resolved in favour of New Zealand after years of Australian obstructionism. It must create amusement in other countries. Australia has not been reluctant to lecture others about the costs of agricultural trade restrictions. In the rest of the world, a man on a galloping horse could not tell the difference between someone from New Zealand or Australia. For all the talk of economic rationalism and neoliberalism, Australian commitment to transparent and open agricultural trade is only skin deep.

As a developing wealthy country of recent European settlement, Australia has been an importer of foreign capital, and migrants, for over two hundred years. Not dissimilar to longstanding tensions in Australian society between the established population, that is the descendants of previous migrants, and the most recent arrivals, or would be arrivals, there has been tension between existing owners of agricultural land and foreigners who wish to invest in agricultural land. In the past, foreign ownership was mainly British or American, and private ownership at that.[11] This time round the controversy is mainly concerned with ownership of land by entities with closer connections to foreign governments than previously the case. Put slightly differently, excitement over foreign ownership of agricultural land is code for Chinese and Middle Eastern ownership. While Australian land attracted a succession of foreign owners since European settlement – British, American and Japanese, not all investors made good judgements. That will be true in the future. Local knowledge counts in farm production. It is a brave or foolhardy person who relies on information mediated by the Australian real estate industry. There are cases where foreigners need protection from devious locals, not the other way round. The assumption seems to be that foreigners will always make big profits despite the frequent failures of foreign investments in the past. American investments in Esperance in Western Australia and Humpty Doo in the Northern Territory are cases in point. The land finished up back in local ownership.

A reasonable generalisation is that ownership of agricultural land is the prerogative of Australians who have been around for a few generations, especially in broadacre industries. Such are the consequences of family farming. To the extent that recent migrants enter agriculture, it is as lowly paid harvest labour and in labour-intensive industries where their industry and existing skills are most applicable. Fruit and

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advantages in climate and costs, it is unsurprising that food processing has moved across the Tasman.

[11] In the 1980s and 1990s, there was angst over Japanese ownership of real estate in Queensland tourist destinations. In the event, the Japanese had their fingers burnt. Australian sellers of the assets finished way in front, and then bought them back.

vegetable production are examples. Often, these groups have subsequently entered these industries as successful owner operators.

Foreign ownership only applies to a small proportion of Australian agriculture and is subject to the supervision of the Foreign Investment Review Board. Foreign ownership of agricultural land is less than it is in other parts of the economy. Unlike other Australian assets that cashed up foreigners can acquire, agricultural land cannot be rolled up and taken away. Sensible Australian farmers do not object when more buyers are interested in acquiring their assets and boosting their value. Few are more appreciative of foreign demand for Australian agricultural land than receivers of failed Australian ventures, and their lenders, doing their best to pick up the pieces after local recklessness. Management Investment Schemes for almonds, olives and blue gums are examples in the last couple of years. The latest is Cubbie Station (ABC Online 2012). The new owners are taking over when irrigation dams are full after a long period when northern rivers were a collection of barely connected pools. Good luck to the Chinese.

The phoney nature of the argument over foreign investment in agricultural land with low-rent dog whistling and playing to the crowd has been recognised by commentators such as Peter Costello (2012) who noted that this was a manifestation of the conflict between 'the rural populists and economic rationalists in the Coalition'. Disagreement over agricultural policy between fundamentalists and rationalists is a long-running theme on both sides of Australian politics, and society (Watson 1978).

Concluding Comments

A small industry exists preparing reports on agricultural policy in Australia. Two well-resourced quality agencies, the (now) Australian Bureau of Agricultural Resources Economics and Sciences and the Productivity Commission, have been on the case for a long time. Australian agriculture has always been well served by the Australian Bureau of Statistics. Excellent data and research reports and analysis are readily available. Unfortunately, the industry reading and absorbing the reports and interpreting the data is even smaller than the one writing them. Myths and half-truths linger forever.

Not just regular publications, there are occasional *ad hoc* policy documents in response to short-term political pressures. The latest foray is a recent Green Paper for the proposed National Food Plan (Australian Government 2012) that, apart from what seems to have been a lengthy, costly and unnecessary process of consultation, manages to cover the territory as competently as its many predecessors.[12]

Reading between the lines, it is not hard to work out the authors don't really believe that a National Food Plan, in the prescriptive sense, is called for. Government has some important tasks managing the supply of public goods necessary for a productive agriculture – R&D, biosecurity, trade diplomacy, environmental externalities and so on –

[12] Despite the extravagant claim at page 30 'This is the first time a whole-of-food-system approach has been undertaken by the Australian Government'. It is hard to decide whether anyone who actually understands what that means is lucky, or unlucky.

but what happens on farms and in the commercial sector supporting agriculture is best left to coordination by the market, as events unfold.

With respect to the ideas discussed in this paper, information at pages 62 and 73 of the Green Paper just about says it all.

- Australia produces enough food today to feed approximately 60 million people
- Over 90 per cent of fresh produce (including fresh fruit, vegetables, meat, milk, and eggs) is domestically produced
- Australia's farm sector exports more than half (55-60 per cent) of its production
- Food is affordable to most Australians. Australians spend on average 17 per cent of their total household income on food and non-alcoholic beverages, and average incomes are rising faster than food prices
- 89 per cent of agricultural land was entirely Australian owned and a further 5.5 per cent at least 50 per cent Australian owned
- 99 per cent of agricultural businesses, by number, in Australia were entirely Australian owned
- 91 per cent of water entitlement for agricultural purposes were entirely Australian owned.

As an official document, the Green Paper could not be expected to explore reasons why there is so much rural disquiet on issues of agricultural policy when the facts suggest otherwise. One explanation is that what matters in the political milieu is the declining relative position of agriculture compared with metropolitan Australia rather than the absolute situation. Empirical information on changes in relative incomes between the city and country is sparse. Comparisons are notoriously difficult because Australian farm incomes are volatile and highly skewed. Not just incomes, changes in relative wealth are also important to political attitudes. Recent changes in wealth certainly favour urban dwellers, especially in real estate.

A couple of generations ago, a common question asked was why Australia and New Zealand were different from other wealthy countries in that rural incomes matched urban incomes, and at many times more than matched urban incomes in some districts and industries? In a wide-ranging debate, the point was made that incomes needed to be higher in the remote and often inhospitable Australian countryside, contrary to conclusions based on non-pecuniary benefits of rural life in other parts of the world. The European countryside, Australia is not, despite massive improvements in social conditions, transport and communications since the early days of settlement. Australia once enjoyed high levels of employment that made it easier for labour to move to other occupations. The political situation also once favoured farmers. Governments were obliged to be sympathetic to agriculture because of agriculture's contribution to the balance-of-payments in an era of fixed exchange rates. This situation no longer prevails.

The changes that have disadvantaged the relative position of Australian agriculture reflect changes in the external economic situation, and domestic competitiveness in an economy that is becoming even more urbanised. For some, an attractive idea is that

Australia should engage in land stewardship style programs in the manner of modern Europe with farmers paid for providing rural amenity and environmental services. The idea already has currency in more densely populated parts of rural Australia. Farmers in remote areas are less enthusiastic. Apart from any doubts that they might have about the long-term commitment of governments to environmental objectives and to programs that are difficult to design, and implement, commercial farmers realise that this approach is not plausible in the long-term for an export-dependent agriculture. The situation in Europe and Australia is altogether different. There is scope for environmental remediation of agricultural land in Australia, and a case for public assistance in some instances. Whether the best way to achieve this is via employment of farmers is a separate question? There is abundant evidence that actual performance of grants-based environmental programs has not lived up to expectations.

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