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# Antipodean agricultural and resource economics at 60: farm management

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From the beginning Agricultural economics in the Antipodes has encompassed farm management in various guises, from the farm economics of firms to the farm management economics of a firm to farm management research. Theoretical advances in the inter-disciplinary task of farm management analysis, built on economics as the core discipline, make a sound foundation for farm management to be enriched by related disciplinary areas, which will further enhance analytical and problem-solving capacities. Nowadays though, as in the past, the potential outstrips the application, meaning farmer advice, policy analysis and research investment evaluation are much the poorer.

**Key words:** farm management, farm economics, farm management economics, farm management research.

## 1. Introduction

Farming, a hard way to make a living, keeps getting harder, and more complex, particularly in Australia (Kingwell 2011).<sup>1</sup> Farm businesses operate in a broadening range of contexts, with little control over production or price, with implications for management in each case. The bulk of farms are small-scale enterprises that continue to struggle under what is effectively perfectly competitive economic conditions. The 10–20 per cent of farms that produce 70–80 per cent of gross value of agricultural product are mostly medium- to large-sized family owned operations, along with a small number of non-family corporations. Some farms are internationally competitive, orientated strongly to export markets, while others are sellers into imperfectly competitive domestic markets or to quasi-monopsonic or super-competitive supermarkets, with and without strategic relationships. Some farms are

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<sup>1</sup> In some ways, this paper is a companion piece to an earlier history of farm management in Australia, 'Fifty Years of Farm Management in Australia: Survey and Review' by Malcolm (1990). Many significant contributions to farm management economics that are identified in the 1990 article are not reiterated here; contributions not covered adequately or neglected in previous retrospectives have been emphasized in this current paper.

vertically integrated, operating in a controlled environment and able to sell branded products with benefits of scale and for managing risk. Increasingly many farm businesses are viable only with off-farm income, and the number and types of part-time farmers continues to grow.

As farm operations move among perfect competition, imperfect competition and oligopoly, the implications for decision-making change fundamentally. Different contexts, and farmer responses to them, mean different determinants of profit, capacities to forecast, control over profit, time horizons and focus of strategy. Characteristics of farm businesses and their environments are linked intrinsically to the decisions farmers make about what to produce and for whom, and to the implications these decisions have for the competitive position of the farm. Strategic management and marketing options provide insights into effective competitive structures and behaviours within them. Whatever the competitive context, the two most salient, persistent characteristics of agriculture compared to secondary and tertiary industry are the limited control management has over output and the extent and dimensions of uncertainty.

Past and future is in the present. Change affecting farm businesses creates opportunities for growth for some and exit for others. A small proportion of total farm firms account for a large proportion of total gross value of farm production, though the farm businesses comprising this cohort change with seasons and prices. Framing and managing uncertainty will continue to be a daunting and often insurmountable challenge for the bulk of Australian farmers, limiting their chances of remaining viable. In the future, as in the past, growth and success will only be achieved by a minority of farmers with the necessary attributes of adequate capital, entrepreneurial flair and management skill to cope with and capitalise on the changes they will confront – along with the necessary condition of moderate good luck. Analysing the present and potential performance of individual farm businesses for decision-making, or in aggregate for policy performances, draws on the discipline of economics. More specifically, the sub-disciplines of agricultural and farm economics, and farm management economics, are central.

## 2. Change and progress in the discipline

### 2.1 The discipline

If the first imperative for a discipline to make progress is for practitioners to look ahead, the second imperative is to look back. The literature about the real-world jigsaw known variously as farm economics, farm management, farm management economics, farm business management, farm economics research, even farming systems research, is replete with researchers explaining the jigsaw, adding pieces and identifying missing pieces.

Australia's farm and agricultural economists have long been enthusiastically introspective, rarely missing the opportunity to survey the scene. Focusing on economics applied in its various ways to farming and agriculture, they have been assiduous in identifying the considerable and wide-ranging progress made, as well as the 'blind alleys' (Candler 1962), 'fruitless excursions along sidetracks and distractions by the wayside' (Lewis 1958, p. 1) and 'widdershins' (Malcolm 1988). Or, as Heilbroner (1996, p. 269) put it, 'familiarizing ourselves with the territory that must be left behind'. With additional pieces of the jigsaw fitted as time passed, the domain has kept expanding.

Definitions have implications for conclusions, and there is inevitable ambiguity about what observers had in mind when talking of 'farm economics' and 'farm management' or 'farm management economics' and what readers interpreting such commentary may think constitutes these activities. Australia's first Professor of Farm Management, John Dillon, defining farm management (McConnell and Dillon 1997, p. 327), said that we ought to be more useful than saying farm management is what farmers do, having earlier noted that farm management is undoubtedly a professional discipline (Dillon 1965). Dillon settled on 'Farm management is the process by which resources and situations are manipulated by farm managers in trying, with less than full information, to achieve their goals' (Dillon 1980, p. 257–8; McConnell and Dillon 1997, p. 327).

Nevertheless, conclusions about the state of the field(s) referred to as 'farm management' warrant treating with care. It is never easy to be sure what exactly the person drawing conclusions was drawing conclusions about. One set of definitions is as follows: *Farm management or farm business management* involves, as part of farming, the process of making decisions about choices under risk and uncertainty. These decisions are informed by results from the analytical activity called *farm management economics* (farm benefit cost analysis) in real cases, or *farm management research* of representative farm cases. While *farm management economics* draws on knowledge from many disciplines, it has as its core discipline *farm economics*, a sub-discipline of agricultural economics which is a sub-discipline of economics. In addition, the broader term *farm economics* means microeconomic analysis of the behaviour of farm firms as a group for policy purposes.

## 2.2 Received history

John Dillon led the introduction of farm management economics in Australia in the 1940s: a period he termed 'Enter Economics'. Earlier times he labelled the 'Pre-economics age' (Dillon 1965). A significant injection of production economics theory followed publication of Heady's (1952) influential textbook 'Economics of Agricultural Production and Resource Use'. Dillon acknowledged the immense impetus given farm economics and farm management economics by the advances made by the leading US researchers and

practitioners, notably Schultz, Heady and their colleagues from the late 1930s. The Australian economics, agricultural economics and agricultural science literature from the 1930s through the 1960s included many articles about policy and farm economics by Australian researchers in agricultural and farm economics freshly returned from postgraduate training in the United States (e.g. K.O. Keith Campbell).

While writings of significance about farming and managing farms go back to the Ancients, a well credentialed if arbitrary starting point for modern farm management economics is Schultz (1939) writing about (US) farm management research (p. 574):

If... (a)... pending change involves in addition an element of uncertainty, which is usually the case, the firm also assumes the additional function of uncertainty bearing. In the real world the production processes of the firm are being altered continuously. Routine procedure will not suffice. Change born out of dynamic circumstances, is ever present. Adjustments are called for. It is the entrepreneur who decides what must be done. The decisions of the entrepreneur are carried out within the framework of the firm. Two interrelated decisions must be made, (a) the amount of adjustment that is necessary, (b) the method for making the adjustment; that is, what to do and how to do it.

Another view of its origins has farm economics as the original focus of agricultural economics, followed by an interest in the organised marketing of farm produce (Runge 2006): farm economics developing as the applied microeconomics of farm firms for the purposes of helping form, and analyse and critique, agricultural policy. This tension between the production economics of the firm, and the micro-economics of firms comprising the industry, remains. Declining agricultural share of the GDP and reduced interventionist agricultural policy, plus declining public sector employment of farm economists, partly explains the reduced activity in farm economics and farm management economics in academia and professional research identified by Malcolm (1990) and McCown *et al.* (2006), McCown and Parton (2006), among others. The absence of a 'micro-micro' theory of the firm (Leibenstein 1979) has not helped, either.

As fields of professional research and publication, farm economics as well as farm management economics were discussed relatively early in Australia's history. The report by Bigge (1823) on 'The State of Agriculture and Trade in the Colony of New South Wales' included detailed budgets for improving the new-found land. Davidson's (1981) 'European Farming in Australia' documents early farm management analyses. In the 1920s, academics and public servants who understood microeconomics in general, and production economics in particular, entered the field to work alongside the dominant agricultural scientists and farm accountants. In 1928, the

Economic Record had an article on diminishing marginal returns in agricultural experiments (Prescott 1928). The University of Melbourne's Professor of Agriculture, Sir Samuel Wadham, wrote in 1930 about the boundaries of arable cultivation. Responding to criticism from the United Kingdom about failure to make the most of the 'potentialities of the land' for arable cultivation, Wadham noted such assertion 'is made by persons who are probably not in touch with the climatic and economic factors of the situation' (p. 2).

Australia's first distinctly agricultural economics journal, the *Review of Marketing and Agricultural Economics*, in pre-journal form, was published in 1932 by the New South Wales, Division of Marketing and Agricultural Economics (later the New South Wales Department of Agriculture, Division of Marketing and Economics). Concern about individual firm and sectoral consequences of the post-WWI policy of closer settlement, prominent in the 1930s, resurfaced in the Rural Reconstruction Reports of the 1940s and continued through to the days of the first Rural Adjustment Schemes of the late 1960s (Makeham *et al.* 1979). Throughout these times, well-constructed budgets of representative farms had a role informing policy.

Post-Depression policy imperatives to increase farm productivity and financial stability saw John Crawford (later Sir John) instigate surveying farmers to establish average costs of production for the purposes of setting farm prices. In 1944, Keith Campbell demolished the notion that 'Average Cost of Production' is in any way useful to anyone, be they policy makers or farm decision makers.

In 1947, the Commonwealth of Australia's Department of the Interior published the first specialist textbook (called Rural Training Notes) about 'Farm Management and Elementary Agricultural Economics'. This was a series of 25 lecture chapters written by McMillan and Campbell (1947). They covered all the major topics in farm economics and farm management economics. The content is directly relevant 70 years later, though the book was overlooked in the various histories written about the development of the discipline in Australia. This work advocated the whole farm approach to farm management with Campbell (1957) explaining the folly of looking at parts of the whole separately. Compartmentalising the system precludes proper understanding of how the parts combined determine the performance of the rest.

At a wider scale, Merton (1949, p. 178) made the point that social scientists can contribute prominently to solving practical problems, transforming them by 'introducing concepts which refer to variables overlooked in the common sense view of the policymaker'. One significant instance of this contribution to practical policy, he argued, is the concept of a social system where, otherwise, naive common sense construes a series of isolated events. While this may have long been apparent to farmers and their immediate advisors, it has not always been true of public policy makers and public policy analysis.

Considering the state of economics applied to agriculture in Australia, Campbell (1957, p. 24) famously lamented:

If I were asked to diagnose the major deficiency of agricultural economics research in Australia in the past decade, I would say that it lacked analytical orientation.

Not lacking any analytical orientation himself, Campbell in his AAES Presidential Address of 1958 about the challenge of production instability in Australia agriculture (Campbell 1958) put the key distinguishing element of the farmer's lot in Australia – uncertainty – front and centre, where it belonged then and belongs now, even more so.

Supporting Campbell, Jack Lewis's 1958 Inaugural Professorial Lecture at the UNE, 'Confessions of a Farm Economist' (Lewis 1958), aimed 'to indicate the kind of problems with which the farm economist is concerned and to show the usefulness of economic principles and methods of analysis in decision-making on the individual farm, in the industry, and in the affairs of the nation' (p. 1). He noted that agricultural economics was relatively new in Australia but had a history of more than 60 years as a specialist field of study in some overseas countries (p. 1). Tellingly, Lewis said 'Without doubt we still have a long way to go before farm economics is as meaningful to the man [sic] on the land and has the same acknowledged application in his [sic] everyday affairs as the physical and biological sciences' (p. 2). Lewis bewailed the unscientific approach of agricultural scientists who were either oblivious to, or rejected, economic theory, economists who were too preoccupied with aggregate economic theory to concern themselves with the refinement and application of their principles to the problems of individual farms, and the 'naïve empiricism' that underlay the fruitless search of records for empirical 'laws of successful farming'. The folly of comparative analysis was noted, along with the inappropriateness of inferences drawn from average cost of production findings. He concluded with a contention – 'confession if you like – ..that much of what passes for farm management work is little better than a placebo – a medicine to humour the patient rather than cure the illness' (p. 11). Further, 'Farmers are so conscious of the economic nature of their problem and remain so hopeful of receiving useful information that they often tolerate this treatment for surprisingly long periods' (p. 11). Lewis extolled the virtues of the whole farm approach, budgeting and the need for knowledge of input–output relationships, while pointing out that farm economics has a 'vital role at the individual farm level or industry level' (p. 18). The fact that Lewis in 1958, with Campbell in 1957, could have been describing the farm economics/farm management economics situation of Australia in 2016 is a worry.

New Zealand's Wilfred Candler started with the economics of the farm, branching out to the University of New England and the Australian and international literature, then in distinguished ways in wider economic directions. Candler and Sargent (1962) demolished the anti-economic but still common

'Farm standards/comparative analysis approach to farm management' (nowadays called benchmarking) – the antithesis of the whole farm approach. Candler (1964) explained the whole farm approach as clearly as have any:

Let me first define what I mean by the Whole Farm Approach to management advice. This merely 'refers to advice which has been budgeted to ensure that it really does result in an improved farm plan, from the farmer's point of view'.

Budgeting allows the best proposal from a number of alternatives to be selected. Unbudgeted advice, on the other hand, is simply bad advice. A soil test alone cannot, repeat cannot, tell you whether it would be profitable for a farmer to put more or less fertilizer, since profitability depends, *inter alia*, upon the number of stock run.

Thus, the Whole Farm Approach is obviously an integral part of a farm management training. Occasionally one hears a rather peculiar phrase 'the whole farm approach to farm management'. I say peculiar because this statement implies there is another approach to farm management. (p. 3).

In 1958, Candler, consistent with the plea by Schultz (1939) that farm management research agendas should be about change, had written about 'the philosophy that technical change should be the prime concern of farm management research workers....The research worker interested in adjustment to changing technology will attempt to foresee a new farming practice which will be profitable and have a major impact on farm organization' (p. 5). Later, the inadequacy of the narrow focus on production economics to answer whole farm questions prompted a notably insightful contribution about activity analysis in the late 1970s by Longworth and Menz (1980). They explained that activity analysis and production functions were both able to describe the changes between inputs and outputs where technology was moving farmers onto new production functions.

Pioneer farm management consultant and UNE academic Jack Makeham writing in his foundation text 'Farm Management Economics' embodied the whole farm perspective focussed on change (Makeham 1971):

There are two major challenges facing today's farmer:

- how to incorporate new technology profitably into the existing business organisation
- how to be sufficiently flexible, mentally and financially, to adjust resource management to meet both changed economic circumstances and widely varying climatic conditions.

From these foundations, farm economics for policy analysis and farm management economics built on the farm economics discipline and continued evolving in the 1970s, motivated by rapid, at times turbulent, economic change (Makeham *et al.* 1979; Makeham and Malcolm 1981). Not surprisingly, risk and uncertainty, always present in agriculture, became an important focus of farm management research. Formal methods of analysing risky agricultural decisions, bringing probability theory to bear on decisions about farm choices, developed apace in Australia, notably through the efforts of Anderson *et al.* (1977). This work fitted into the wider body of work about utility and decision theory. Critics focussed on the inability to operationalise these insights and the narrow focus on individual component risks (e.g. activity price, yield) at the expense of a focus on the rare, uncertain events with big consequences and on the whole of the business, including finance and financial risk. McInerney observed that more pre-decision analysis will not help much – better to make the decision, adapt as the unknowables eventuate and make it work (McInerney 1996). Incorporating farmer attitude to risk in the decision analysis is less important to achieving goals than the ability to analyse and act on tactical and strategic decisions (Pannell *et al.* 2000). The recent development of Stochastic Efficiency with Respect to a Function (Hardaker *et al.* 2004; Hardaker and Lien 2010) makes utility analysis operational at a research/representative firm level for a discrete range of attitudes to risk – and this could be useful for sectoral policy analysis.

The terms risk and uncertainty are nearly always used together, often interchangeably. Separating them has value. Putting risk and uncertainty into perspective, Arrow (1993) wrote of the future coming to us in ‘clouds of vagueness’. About the future, Bernstein (1996) declared ‘We simply do not know’. Wright had long championed the same insight, describing farming as ‘a game of chance with unknown odds’ (Murray-Prior and Wright 2001; Malcolm *et al.* 2006), echoing Campbell’s (1958) concerns about uncertainty and re-asserting the enduring insight about farming in Australia that rare events and combinations of those events which baffle probability, are trumps.

Systems theory was initiated by von Bertalanffy (1951) and developed by Boulding (1956). Showing a lack of regard for the dictum that ‘interdisciplinary’ can at times mean no discipline, or at other times not enough disciplines, agricultural systems approaches came on apace the 1970s. The agricultural systems theorists, like their narrow production economics-focussed farm economic counterparts (Johnson 1963), generally failed to embrace Boulding’s ‘optimum degree of generality’, the necessary *and* sufficient requirement for solving actual problems. John Dillon acknowledged that the world does not come to us in disciplines, and *en route* to Damascus, declared that farming was ‘too human’ a process for a narrow focus on economics to be ‘the answer for farm management’ (Dillon 1976). ‘Systems’ approaches were needed. As happens, practitioners solving problems on farms had little choice in the matter: solutions to parts of problems were not solutions to the whole. To solve problems, advisors had to start with the

people and their goals and then apply the 'right' balance of disciplinary knowledge to help decide (after Schultz) What to do and How to do it! In the ensuing decades, farm management economics remained 'systems' but 'agricultural systems' was not farm management economics.

Significant advances in computer modelling capacity in the 1980s made it possible to pursue the dreams of systems simulators dating back to the 1960s. Modelling whole farm systems increased as a research method. Notable was the biophysical and economic optimising model of a crop and livestock farm (MIDAS) developed in the Western Australia Department of Agriculture, led by Pannell, Kingwell and Morrison (Kingwell and Pannell 1987). Reflecting on a decade of whole farm modelling, Pannell (1996) noted that farmers make their whole farm planning decisions well enough generally, but information from simulation models can have a direct role in research and extension.

In the 1970s, a sizeable coterie of academics and consultants discovered that farm management economic analysis had much to offer farmers and agricultural science researchers in developing countries. This domain appealed, being more challenging and rewarding than focusing solely on relatively better-off farmers in Australia, or working in unresponsive domestic agricultural policy or research, development and extension environments. McConnell and Dillon (1997) brought farm economics and farm systems together in the context of developing country agriculture in the FAO text 'Farm Management in Asia: A Systems Approach'. Dillon, having helped entrench Heady's farm economics firmly in the Australian agricultural economics profession in the 1950s and 1960s, then helped bring systems approaches to practical fruition in Australia around the mid-1970s. Possibly alarmed by the deluge of partial technical systems that followed and were passed off as farm management economics, he unambiguously re-asserted the principle: Economics is the core discipline of farm management analysis.

By the 1980s, farm management started stretching into the disciplines of management and marketing. Changes occurred in the operating environments of Australian businesses related to agriculture (farmers, input suppliers, output processors and distributors) following deregulation of commodity and capital markets. Increased exposure to greater competition, and the vagaries of input and output markets increased interest in analysing agricultural-related economic activity beyond the farm boundary, that is the ugly neologism, 'agribusiness'.

As a result, a new area of inquiry emerged: behaviour of firms in 'agribusiness systems' or subsets called 'supply chains'. This incorporated components of agricultural economic theory and business management; the latter being an area that often encompassed everything except economics. This dichotomy is evolving from initial uneasy coexistence to improved shared understanding of farm management in all its complex and interacting dimensions. The common starting point is that foundation farm production and management decisions (what, when and how to produce) are simultaneously foundation marketing decisions. Similarly, agricultural marketing and business marketing traditions are coalescing in value chain analyses.

Professional introspection about farm economics in a range of guises flourished in the new Millennium, (e.g. Malcolm 2000; Mullen 2002; McGregor *et al.* 2003; McCown *et al.* 2006; McCown and Parton (2006)). A two part article published in 2006 by McCown, Parton and Brennan was contemplative, arguing that agricultural economists working in the field ‘variously called farm management research or farm management’ (p. 143) inevitably encountered ‘crisis of relevance’ and demise. They reminded devotees of the alternative approach that emerged – ‘farming systems research’ – that while economics was not playing the same dominant role in directly linking farming and research about farming, a reinvented form of farm management research, that brought economists from the background to the foreground, would have something to offer.

Mullen (2002) also pondered farm management in the 21st century. He focused on farm productivity and new technology, emphasising the impact of innovations on farmer welfare. Regarding environmental research he said: ‘it is difficult to see how effective mechanisms of either a regulatory or market nature can be devised without some understanding of farm level impacts, or in other words, without an understanding of the incentives facing farmers’. Sound policy needs sound farm economics. For good measure, and related to the debate that was emerging about the appropriate role of government in agricultural extension and use of funds contributed by farmers and taxpayers for research, development and extension purposes, Mullen (2002, p. 13) noted:

State and federal departments and RDCs were getting their investment portfolios out of kilter by investing scarce resources in business skills, benchmarking and decision support systems. Much better would be to ‘actually demonstrate to farmers the profitability of some... important technologies directly’ (p.). These types of flawed investments by bodies with access to precious research funds have worsened markedly in the intervening years.

McGregor *et al.* (2003), displayed prescience, pointing a way forward for farm management in a direction previously only categorised in general terms as ‘beyond the farm boundary’: farming involved new and evolving ‘value chains’ of changing length and direction in deregulated and international markets. This meant the boundaries of the firm were re-definable where opportunity offered profit. Coping with change, traditionally the farm management economic emphasis on change within the farm becomes ‘coping with change in the farm value chain’.

### 3. Next?

Doubts about the value of the ‘old’ (after Heady) farm economics and farm management economics have no real-world foundation. Farm economics and farm management economics remain relevant as a conceptual framework for

analysing issues in the farm sector and solving farm problems. They contribute to a genuinely interdisciplinary field of research into how to solve farm problems and they can be a source of practical advice to managers of farms solving problems. The established methods of farm economics and farm management economics for analysing changes and challenges in farming remain useful. Simply, they lead to more rigorous identification of the questions to be resolved and the analysis of situations, problems and choices, better thought-through and more informed solutions and decisions than otherwise, both on the farm and beyond (Malcolm *et al.* 2005).

The traditional focus of farm economics in Australia was productive efficiency while accommodating uncertainty in price and yield. Control over key elements of production and management and firm performance vary with the context for each farm. The preponderance of perfectly competitive contexts means that moving the production possibilities outwards by moving onto new production functions remains the main game for all farmers. Farmers pursuing it simply to cope with declining terms of trade may inevitably become new entrants to differentiated submarkets on the basis of price competitiveness.

The outside world intrudes increasingly across the business boundaries of farms; consequently interest in, and analysis of, firms operating beyond the farm boundary by farm economists has followed. Changes in the business environment of Australian businesses, such as deregulation of commodity and capital markets, are imposing inevitable changes on farms and farm input and output businesses. Generally, these businesses are exposed to more competition and greater risk and uncertainty – and thus also more opportunity – than has hitherto been the case. Simultaneously, the anonymity and footloose-exchange character of atomistic markets are diminishing with enhanced information technology.

Newish steps in the evolving disciplinary area of farm management economics flow from a significant number of medium- and large-scale firms taking issues seriously beyond the traditional view of the farm boundary, redefining the whole farm approach and extending the boundaries of the farm firm for some, where appropriate. If not a 'whole value chain approach', this evolving view of farm economics encompasses those segments of the whole value chain that the decisions and outputs of farms directly affect and are affected by directly.

Integration and relationships along value chains in pursuit of increasingly wealthy domestic consumers are mostly conducted better by concentrated hands closer to the consumer. Whatever the cause, imperfect competition along the value chain makes disciplines such as marketing and strategy relevant in addition to micro-economics. This does not diminish the central role of economics. Indeed, farm firms with a wider and longer focus along the value chain are potentially beset by more uncertainty than those with a narrower and shorter focus within the farm. At the same time, redefining the boundaries of the firm is often a response to uncertainty and a means of maybe making it bearable.

The redefinition of current distributions of input values that changing climate may bring will increase attention on farm resilience, control and cumulative performance over time. This will not always be consistent with the relentless pursuit of productive efficiency. Relying on static and aggregate analysis of the farm sector for policy purposes will not suffice, and the boundary between industry and welfare policy further frays as control by farmers over performance diminishes.

Changes relevant for farm management analysis and advice are occurring in modelling and risk analysis, with results informing better farm management decision-making. Improved mapping of physical processes and incorporating interrelationships into economic analysis, as well as developments enabling analysis of stochasticity and facilitating risk management, draw increasing attention to the complexity and constraints of making decisions on family farms. This is leading to increasing focus on the implications of competitive intensity for managing the boundary of the farm system. These developments make economics important and more valuable to a wider range of managerial decisions. Moreover, this interaction between economics and management will continue to strengthen in the future.

The developments in related, involved disciplines (systems theory, strategic and general management, operations research, business marketing and psychology) expand the scope of salient knowledge while demanding the knowledge be integrated. Knowing what is not useful is also useful. For example, the oligopolistic management context of business marketing makes it largely irrelevant to farmers producing homogeneous products in a competitive market. Notwithstanding popular imagery, even in relatively benign competitive contexts, business disciplines, collectively, routinely fail to enable businesses – including farm firms – to be going concerns for several generations (Davis 2014).

Following early naive policy making that included statutory marketing boards and land settlement schemes there has been a long, sustained move to less protected, freer markets, but the uncertainty and natural challenges of farming has meant policies continue to shield many operators of low-return farm businesses from the reality of their situation. At the same time these policies ‘hold back’ the efficient farm businesses. Government has abandoned interventions that previously exercised agricultural economists and has likewise treated the physical environment (despite Campbell 1958) as basically knowable, if probabilistically. Farmers continue to seek some control of price, or at least stabilisation, with limited awareness of the prerequisites and thus risks. There is a mix of (often implicit, often optimistic) farmer perceptions about the determinants of their farm financial performance that is able to be controlled within a given context. Moving from drought policies that subsidise the costs of risk (all risk has a cost) and undermine world trade credibility while inflating land values and hindering needed adjustment, to ‘rational’ drought policy, seems politically impossible. Most farmers operate under nearly perfect competitive conditions. If meeting

goals is the criterion and building wealth is a means to that end, and with a normal distribution of entrepreneurial and management skills and capital bases, then many and maybe the majority of farm businesses are not sustainably viable and in an 'unmanageable' condition. This argument is not made explicitly in agricultural policy discussion (yet) but this phenomenon underlies the continual calls for systematic government intervention and the reason farmers and governments pursue seemingly inconsistently rational (consistently irrational?) economic policy. Equally flawed is the notion that more training in 'management' is meaningful for owners of structurally unsound farm firms.

Knowledge developed over the past 60 years of developments in the discipline of farm economics and farm management economic analysis hardly exists in many critical parts of agriculture including agricultural consulting, policy development, and the prognostications of agricultural research, development and extension (R,D&E) institutions. The situation is aptly characterised as widespread agricultural economic illiteracy. This has seriously adverse implications for efficient use of private and public resources, as well as reinforcing the trend of agricultural economists to move their attention away from local farm management economics and agribusiness issues. Farm management economics and agribusiness economics is a shadow of its earlier prominence in the work of members of the Australia Agricultural and Resource Economics Society. Meanwhile, farmers remain as tolerant as ever of the poor quality service and, often, simply wrong advice that they are inevitably provided.

This state of affairs has potential to reverse as new pieces of the farm management economics and agribusiness jigsaw are constructed in ways that enrich understanding and create better models of farm businesses and their relations with firms beyond the farm, and agribusiness firms. To this end, the 'bad advice' so evident in what passes currently for farm management economic 'analysis' in private farm management advice, or for farm economics in public policy formation, or for both farm management economics and farm economics in evaluating investments in rural research, will need to be recognised for what it is and the methods of developing that advice rejected by the long-suffering, increasingly short-changed, farmers and taxpayers.

Judicial integration of elements of the relevant disciplines remains the basis for renewed farm management economics continuing to inform farm management processes and help solve problems. At the same time, analyses of the farm sector enriched by farm economics would serve well the means and ends of policy.

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