

White Paper on the Competitiveness of the Agriculture Sector: Submission by the UNE Business School, University of New England¹

Setting the context

The key focus of the White Paper is how government might play its part in optimising capacity for competitiveness. It needs to be set in the broader context of a whole-of-government framework for achieving sustainable rural development in Australia and should not be developed solely in the narrow institutional setting of the Department of Agriculture.

Increasing capacity for competitiveness

“Competitiveness” is primarily about productivity. In commercial contexts the word relates to serving markets and gaining customers. In policy contexts it relates to dynamic and sustainable income generation for economic sectors, regions and sections of society. None of these definitions justifies a role for the Federal Government in deciding the mix of markets the sector should target, the business structures adopted in the industry, or the production systems used. So long as businesses comply with environmental, social and animal ethics requirements, their unhindered operation is the best path to competitiveness. This is true for the whole value chain from farms and input providers to processors and exporters.

The determinants of the capacity of Australian agriculture to express and advance such competitiveness include:

1. A well-educated and skilled agricultural workforce that can manage change.
2. A well-resourced rural research, development and extension (RD&E) program that can discover, develop and deliver new technologies.
3. Well-maintained and relevant rural infrastructure that can transmit products, information and opportunities.
4. Incentives and mechanisms for innovation.
5. Highly efficient and profitable supply chains.
6. Maintaining and enhancing the natural resource base.

Our approach in preparing this submission was to review past policies as well as trends in the Australian agricultural sector in recent decades. By looking at trends throughout the value chain, from farms to processors retailers and exporters, we have been able to identify the most pressing needs and areas where government intervention is justified on the basis of public good provision and other forms of market failure. To back our arguments we have prepared a document containing figures, analyses and evidence from the literature that is available on request.

The role of government includes *interventions to assist* and *interventions to enable capacity*. The former type tends to take precedence during extended periods of drought where emergency assistance is required, but policies such as farm management deposits to allow income averaging

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and programs to assist struggling farmers to leave the industry also fit the description. Enabling interventions are those that remove impediments to capacity formation or application. They include pro-competition policy and various forms of information provision. RD&E contributes to both types of intervention.

Agriculture in high-income countries, including Australia, is being displaced as the main provider of food to the world by China, India and Brazil. This transition, however, is not a clearcut process as global markets continue to differentiate between high and low incomes against a background of developing country populations that are growing and becoming more urbanised. Moreover, food production is just one aspect of world food supply and experienced exporters such as Australia have much to offer across the range of primary industry management and marketing. We recognise that some casualties are bound to occur in this displacement process, but it would be unfortunate if the Federal Government were to intervene in the agricultural economy to prevent or slow this evolution.

Trends

Australian agriculture has experienced long-running trends of declining investment in RD&E by Federal and State governments despite clear evidence of substantial and continuing high public returns from such investment. This has contributed to declines in productivity growth of the farm sector from an average of over 2% until the early 1990s to less than 0.2% during the past decade, with consensus that current productivity gains, even after adjusting for the adverse effects of recent droughts, are no longer sufficient to overcome major global challenges such as climate change and global food security. At a national level, the decline in productivity growth is exacerbated by an ageing rural workforce (although other forces such as scale economies can potentially offset this process) and a need for greater skills in the agrifood industries to meet the sector's economic and strategic potential. In addition, increased variability in productivity indices points to the need for farmers to adapt to less predictable climatic conditions.

The reduced capacity and research investments are particularly evident in longer-term strategic research areas that yielded very significant R&D impacts for Australia from the 1940s to the 1980s. Since the 1990s, Cooperative Research Centres (CRCs) have picked up on some of those declining longer-term investments, but the current CRC guidelines make the long-term viability of successful R&D programs unlikely. Other funding sources such as the Australian Research Council (ARC) tend not to fund R&D in agriculture, and the current Excellence of Research in Australia (ERA) policy tends to discourage universities' contribution to agricultural R&D.

The productivity of manufacturing grew the slowest of all Australia's industrial sectors since 1990. Although food manufacturing has maintained a large and constant share of manufacturing value added, it struggles to raise its competitiveness. From the limited available data, innovation is reported for food industry firms but the factors enabling or restricting it are not clear and urgently need addressing in research and subsequent policy.

Consolidation is evident in the food industry with both beneficial and burdensome consequences. Consolidation achieves the scale necessary for the investment in R&D and the scale and breadth of operation necessary for competitiveness. But it also reduces choice and contestability within the agrifood sector, and may reduce information flow and sharing. Available data suggest strong linkages exist between firm size and survival, innovation and firms' capacity to respond to a range of challenges. This is another area of food industry research that is urgently needed, to inform industry and policy makers.

Support systems

The government needs to avoid undertaking interventions where it is in the financial interest of value chain members themselves to take joint action for mutual support. The literature on club goods and strategic alliances indicates there is scope for agrifood value chain members to benefit from such action with little need for the Federal Government to become involved.

We have perhaps the wrong kind of mutual support systems in Australia. They operate in times of financial adversity under drought and low commodity prices, not in revving up new ideas and new projects based upon them.

The wide range of current drought and rural assistance measures are well-intentioned, and some contribute towards the creation of a resilient farm sector that has capacity to remain competitive in a changing environment. The Farm Management Deposits Scheme is a useful risk-management tool for farmers to use, but its relatively low uptake suggests it is not sufficiently attractive in its current form and may benefit from the intention to increase the non-primary production income threshold.

However, the rural adjustment measures are still inequitable and create perverse incentives. They are overly skewed towards keeping struggling farm families in the sector, with all the attendant potential for moral hazard. Rural adjustment policies need to be oriented much more towards easing the exit of these struggling farmers out of agriculture. A drought policy is necessary that deals explicitly with government responses to revenue crises on farms but which can be perceived as fair and which is not abandoned every time variability strikes hard. That policy may have an emphasis on adjustment out of agriculture as net equity declines.

Drought policy also needs to shift focus from emergency response to assisting farmers and other participants in the value chain to develop adaptive capacity and resilience in response to change.

Determinants of capacity for competitiveness

A summary of the determinants of capacity for competitiveness and the role of government is presented below. Supporting evidence and further arguments are in a detailed document that is available on request.

1. A well-educated and skilled agricultural workforce that can manage change

A focus on skills development is needed for a business-oriented agriculture, which is likely increasingly to hire in professional and production skills, the composition of which is rapidly changing. Agriculture needs people with the skills and power to negotiate contracts with suppliers to deliver the appropriate packages. The Federal Government should commission a review of agriculture/rural skill development needs and capacity, and base policy on that review. Before heading down this route, however, it needs to identify the source of this “public good” form of market failure to identify areas where intervention is needed and where it would better be provided by private enterprise.

Beyond education and training, speedy adoption of innovations by farmers of R&D outcomes will require a re-investment in the much-diminished extension capability across the States and Territories. It may be necessary for the Federal Government to act to remove the current fragility of this capability to budgetary pressures faced by the States and Territories. Making more effective use of innovations in information technology may also enhance extension efforts to get innovations into the field. The form of market failure that has caused the diminution of extension capability needs to be investigated.

2. A well-resourced rural research, development and extension (RD&E) program that can discover, develop and deliver new technologies

Declining productivity growth implies that the agricultural sectors are not adapting to current challenges rapidly enough. It is therefore critical that, in future, the Rural R&D system focuses very strongly on improving productivity across all industry sectors, with measurable R&D deliverables required in line with that focus. There are already sufficient organisations in place: the challenge is in rewarding people for working across institutional boundaries. Productivity can be enhanced through multi-disciplinary, cross-sectoral R&D as well as through international research collaborations, with the proviso that industry identifies the key researchable issues and oversees the R&D process to ensure delivery of industry-relevant outputs and outcomes.

A positive aspect of Australia's R&D system is that the current scheme of compulsory industry levy funds matched by Federal Government funding ensures hundreds of thousands of small-to-medium enterprises (SMEs) across the range of rural industries contribute directly to an integrated R&D program that directly benefits their industries. This provides the oversight mentioned above. However, there needs to be greater recognition that the direct beneficiaries of Rural R&D are not only producers and agribusinesses associated with the food production sectors. A high proportion of direct financial benefits of agricultural R&D accrue to food consumers. This underpins a legitimate expectation that taxpayer funds should continue to be available for investment in Rural R&D to directly benefit food consumers. In addition, other industrial sectors such as food services, chemicals, tourism and medicine receive direct inputs from the rural sector that are little recognised. The current matching funds solution is a satisfactory arrangement given the difficulty in accurately tracing the flows of benefits to beneficiaries within and outside agrifood value chains.

Formal international collaboration to directly benefit Australia (as well as the international partners) is *ad hoc* and under-represented in Australia's Rural R&D system, as there are no significant funding mechanisms to encourage such collaboration. Despite significant Australian initiative in international food security and development assistance, Australian leadership and competitiveness is not encouraged by funded programs. The International Science Linkage program provides relatively small amounts of funding that are sufficient to scope the international linkages, but insufficient to actually undertake serious collaborative R&D, and cannot support public-private initiatives at home.

3. Well-maintained and relevant rural infrastructure that can transmit products, information and opportunities

The pressing need in the sector for investment in rural infrastructure was brought into sharp relief with the aborted takeover bid for GrainCorp Limited by US agribusiness firm Archer Daniels Midlands (ADM). ADM was prepared to commit capital investments totalling AUD500 million, reflecting the serious underinvestment in local infrastructure in the grains industries in recent decades.

Aside from foreign investment in Australian corporations that can capture the benefits for themselves by investing in rural infrastructure (which should be vigorously pursued), the two main options facing the Federal Government in financing rural infrastructure development are public private partnerships (PPPs) and debt financing. The latter is falling out of favour with banks and innovative funding methods have been suggested to fill the gap. These involve the development of financial instruments linked to infrastructure that could be attractive to investors.

Much depends on the availability of suitable infrastructure projects. This nexus highlights the key role to be played by an independent and well-resourced agency to undertake infrastructure project

appraisals. Australia has competent public servants with the authority and skills to design a pipeline of viable infrastructure deals and standardise procurement procedures to get projects completed. The current system based on an independent agency (Infrastructure Australia) is under threat, with the potential for a return to widespread pork-barrelling, in light of the intention of the Federal Government to overhaul Infrastructure Australia and undermine its independence.

The return to a preoccupation with water supply infrastructure investment, along with the politicisation of its planning process, is indicative of a worrying trend. The Federal Government runs the risk of populist but economically irrational investments in infrastructure projects that appeal to politicians, investors and the construction industry because of their scale.

Telecommunications infrastructure is becoming increasingly important to farmers. There is an urgent need for improved telecommunication infrastructure, including the availability and reliability of both high-speed Internet access and cellular services. This will improve farmers' access to markets and other services as well as enable the use of remote technologies that save labour and fuel as well as helping improve management efficiency. Rural communities will be perceived as better places to live and work where good mobile telephone service is available.

4. Incentives and mechanisms for innovation

Australian agriculture owes a large debt to key visionaries, from Macarthur at Camden onwards. Taking productivity through to market requires dynamic agrifood industries beyond the farm gate, as well as collaboration along the entire value chain. At the individual enterprise, the profit motive provides incentive to innovate in the absence of market failure. At the whole-of-industry level, as mentioned above, members of a value chain can take joint action to innovate where they can capture enough benefits to make this action collectively profitable. The role of government here is an enabling one, providing the institutional framework for chain participants to undertake this joint action. There are already good examples where this works effectively, such as export inspection services.

The main task for the Federal Government is to intervene where investment in public goods is socially desirable due to large spillover effects. It can begin by removing barriers to imagination and creativity by all players. Obviously points 1 and 2 above would go some of the way, sending the message that support mechanisms that *assist* farms will be scaled back, motivating farmers to upgrade their future analysis, take more of the necessary investment risks, and collaborate in a way that government can *enable*. Risk acceptance and mutual support systems are two key traits of success in innovation.

Maintaining innovation requires specific skills of imagination and creativity. Research is needed to assist firms in identifying and managing these skills, and to inform policy as to how best to produce them and benefit from them. Investment, including foreign investment, is the primary fuel for adoption of innovations. However, the required form of investment is specific to certain contexts, and observations on shortages of such investment and the dangers associated with its origins and purposes require clarification from research.

5. Highly efficient and profitable supply chains

The emergence of a few dominant players among grocery retailers has been a world-wide trend. In Australia, concentration in food and fibre value chains is not restricted to the grocery retail sector. Laws addressing market power imbalances should be generic. It is not advisable to focus these laws on the agricultural sector because treating agricultural industries as a special case of power

imbalance risks taking action that reduces the benefits of scale in food processing and retailing. Of more significance is an investigation of how best to mobilise the scale and information flows inherent in a concentrated retail and processing sector, particularly in a way that enables innovation to exploit the opportunities faced in a diverse and rapidly changing production and marketing environment. Recent studies in USA show that different types of research-induced technical change can have positive or negative effects depending on the exercise of market power by agribusiness firms. Proper policy formulation in this area will require some detailed research of the Australian situation.

There is evidence that efficiency losses from dominant firms exercising market power can be offset by contracts, which are commonly used by large firms in food value chains in Australia. Contracts are especially common in situations of vertical coordination and product differentiation, which are areas of growing importance in agrifood markets.

Information is the lubricant of properly functioning markets, and hence poor pricing efficiency imposes a cost. The “withholding” of information is arguably the most important impediment to innovation, and is based on market power. There is a clear need for government to repair, rather than remove, the red tape to do with product description and food quality assurance. As these requirements currently stand, regulators are complicit in misrepresentation. This does not suit increasingly value-added target markets.

6. Maintaining and enhancing the natural resource base

The Issues Paper notes both the importance of maintaining and enhancing the natural resource base on which our rural industries rely, and the competition for prime agricultural land. In recent years there has been intensifying conflict between the mining and gas extraction industries and the farm sector in numerous locations over land-use and security of access to and quality of water. Legal and taxation regimes tilt the balance of rights and rewards in favour of the mining and gas industries. Important issues relating to the sustainability of agriculture’s natural resource base include the long-term disruption to agricultural production, the potential irreversibility of land-use change resulting from mining and gas extraction, and the threat to the sustainability of water resources from the mining and gas extraction.

An important step in assessing and managing the threat to water resources was the passage of the ‘water trigger’ amendment to the *Environment Protection and Biodiversity Conservation Act 1999* in 2013. This amendment allows the impacts of proposed coal seam gas and large coal mining developments on water resources to be comprehensively and scientifically assessed at a national level. The legislation needs to be retained if the objectives of the Issues Paper are to be met.

Any plans for the further development of water resources, especially in previously undeveloped regions, must pay careful heed to the chequered history of water development in Australia, which has generated chronic economic adjustment problems for irrigators and their communities, policy dilemmas for governments, and environmental impacts such as salinity with significant economic costs.

It is also crucial that policy and planning for further development in northern Australia be based on thorough scientific and economic assessment of the capacity of land and water resources to support sustainable agriculture, taking into account already evident shifts in climatic patterns. Development of water resources in northern Australia must avoid repeating the mistakes and entrench the same

inflexibilities of land settlement and infrastructure that have made adjustment to economic and environmental change so difficult in the Murray Darling Basin.

Policy and planning for further development of water resources should also be consistent with the National Water Initiative, and draw on the experience and knowledge gained from the work of the National Water Commission.

Australian agriculture and food security

There is a trade-off between Australia's role in expanding agricultural production to ensure Australian and global food security and gearing the domestic agricultural sector to be competitive. Maximising agricultural output is seldom consistent with optimising the capacity for competitiveness. Australia's most useful contributions to future global food security are likely to be in foreign uptake of its resilient and adaptable systems. These systems comprise production and management elements such as genetics and crop-livestock integration, as well as market-led industry-relevant research practice that could transform partner countries' futures. A practical example of how Australian expertise can make a difference in research into global food security is the establishment and operations of the Australian International Food Security Research Centre.

Another positive (albeit modest) impact that the Australian agricultural sector can have on global food security is an ability to respond quickly in increasing output when large spikes occur in global food prices. In the short term, Australia should ensure that it is well positioned to respond to conditions threatening supplies and affordability of food.

To double food production in Australia by 2050 in the face of increasing competition for inputs such as land, water, grain and labour and significant new challenges created by climate change will require that Australia's food producers have a strong focus on improving on-farm productivity. However, Australia's agricultural sector is dominated by tens of thousands of SMEs for which maximising output is not their main goal and increasing productivity is constrained by an inability to conduct their own research and development. For Australian food producers and agricultural business to maintain productivity growth, there is a need for the Federal Government to develop the right balance of policies based on research and significantly increased innovation and management of risk that does not discourage structural changes across the agricultural sector.

Practical recommendations

Although the White Paper should look at needs for additional investment, here we place emphasis on identifying eight policy interventions that would increase the net economic welfare of the nation with little or no additional government expenditure.

1. Better policy coordination should be a priority that could achieve significant efficiencies at little additional cost. The Federal Government has no business trying to influence the structure of farms or the age structure of the farmer population through agricultural policy. If farming is profitable and the services available in rural areas are adequate, young people will be attracted there. This is related to policies in rural development and local government that go beyond agricultural policy.
2. More emphasis should be placed on adaptation rather than emergency response to drought. The capacity to adapt to change will become increasingly important as climate becomes more variable and unpredictable, with repercussions throughout the supply chain. To date, much of the cost of adaptation and emergency response has fallen on local government. A national strategy to support the development of adaptation strategies and their adoption

will result in savings in the long term by reducing the impact of drought and other natural disasters.

3. Policies that provide risk-management strategies (such as farm management deposits) should be reinforced and coordinated with policies that provide adjustment out of the industry for struggling farmers. This should be part of the adaptation packages advocated above.
4. Better coordination of rural R&D and training strategies in collaboration with industry could be achieved by learning from public-private partnerships. The Federal Government could also investigate new opportunities for supporting rural R&D beyond 'traditional' agricultural R&D by adopting a whole-of-government approach to determining and funding different aspects of agricultural research.
5. An essential ingredient in designing policies and evaluating their potential impact is access to good data. Australian agencies such as ABS and ABARES make much of the required data available online, but generally only at the aggregate level. Large amounts of firm-level data exist in government repositories that could contribute to efficiency gains if they were available to analysts. This means that investing in better information systems that make data available while addressing privacy concerns could have high payoffs.
6. Retain Infrastructure Australia in its current form, and ensure it is well-resourced to do an effective job in getting the infrastructure to serve rural regions that yields highest net present values.
7. Retain the 'water trigger' amendment to the *Environment Protection and Biodiversity Conservation Act 1999* in 2013.
8. The transaction costs of applying for R&D funds are high and the processes used to select winners are variable and not always satisfactory. Funding tends to focus on short-term goals and fast payoffs, losing sight of important strategic priorities. Significant gains could be achieved by coordinating and standardising the application and selection process, with focus on mission-oriented research that leads to sustainable improvements in agricultural profitability.