

Drivers of growth and sustainability for organic products: The case of Australia

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Abstract

The growth of organic products around the world is incontestable. Across the globe, and especially in developed markets, consumption of organic products has been growing even during difficult times such as the global financial crisis and doing so at by almost double digits. Alongside these developments, the Australian organic industry has equally been booming over the last decades. Demand continues to outstrip supply and as such, the Australian organic industry has resorted to imports of organic products to meet this demand. Reasons for heightened consumer interest in organic products range from perceived health benefits, chemical-free, superior nutrient density, food safety, relative freedom from pesticides and chemical residues, environmental equilibrium and other 'non-economic' factors. This industry, once driven by 'lifestyle' and ideology, has adopted more mainstream measures and given rise to wider acceptance across the broader farming community. The most enduring factor is that organic production is driven by the consumer thirst for these products. In some quarters, there is a view that this growth is not sustainable due to price premiums, lower yields, competition from conventional products and the debate about the greater nutritiousness of organic products. This paper primarily explores the drivers of organic products and whether they can be economically sustainable using the case of Australia as the point of reference.

Keywords: green, demand, supply, consumer behaviour, consumers.

Introduction

Organic products around the globe have witnessed significant levels of growth in the last decade (MarketLine 2017). In Australia the organics sector has witnessed a decade of double-digit growth in terms of production as well as in consumption (AO, 2017). In 2000, the value of the industry in Australia was A\$250 million (Lockie et al., 2002) while in 2014 it reached a value of A\$1.72 billion (AO, 2014). This expenditure on organics needs to be placed in proportion and it is still only a small fragment of the \$54 billion conventional agriculture industry in Australia (Gray, 2015). Australia maintained 1.6% of the global market size (GOT, 2015). Within the Australasian region, Australia leads in terms of total sales value of organic products. Although there is strong growth for organic products, and here we mean primarily organic foods and beverages, conventional food and beverages are certainly not declining in consumption. The question one could ask is whether organic

production and consumption can continue this sustained growth level and how will it do this?

Consumer acceptance of organic products has come a long way in only a short period. Despite being more costly and not necessarily equally accessible as conventional food, growth in this segment has continued and has created what can be termed as market differential (Hidalgo-Baz et al., 2017). Many reports (AO, 2017; Euromonitor, 2017a,b; MarketLine, 2017) continue to support the proposition of continued short and medium term growth, as organic foods become more widely accepted and as organic products branch out beyond food and beverages. Previously organic products were primarily limited to fruit, vegetables and dairy but are now branching out to wider segments including wine, beef as well as non-food segments such as oils and cosmetics (McCarthy 2016).

Sub-dividing the organic industry into thirteen categories, O'Mahony & Lobo (2017) provide a clearer picture of the value-added component of the Australian organic industry. Valuable as this is, the authors fail to provide an explanation for the drivers of this growth nor do they indicate the sustainability for the double-digit growth in organic production and sales in Australia during the last decade (AO, 2017). This paper in part seeks to fill this void and provide a clearer understanding of the drivers of this growth and primarily the concern about the sustainability of organic products and especially organic food. Part of this analysis is to explore the drivers of organic products and examine the economic and consumer sustainability factors inherent within this industry.

In Australia, organic products initially emerged as a cottage and boutique industry mostly on the back of lifestyle needs by many wishing to change their location and style of living (Mascitelli 2013) and/or by those with ideological perspectives (Paull 2013). Over the last two decades, the drivers of organic food have shifted from lifestyle production towards industrial-scale production of organic foods. In some of the literature the survival and sustainability of organic food is claimed to be dependent on "whether it can be or become economically competitive with conventional agriculture" (De Ponti et al., 2012, p.1). This paper, partially utilising the recent literature, takes issue with this recurrent theme on the sustainability of organic food and whether the sustainability of organics is decided at the farm gate or in the retail stores and whether this counter position is really the best approach to understanding sustainability.

Meanings and implied meanings of organic products

The existence and understanding of organic production and consumption has very recent beginnings and Australia is as much part of this early tradition as are other markets. Paull (2013) refers to Australia as a fast follower of developments that occurred elsewhere in the organic space. The term 'organic' has a rather simplistic meaning and agreement is universal as to its meaning even from its array of different stakeholders in the organic industry. The term 'organic' is rooted in another term referred to as 'bio' which emanates from the Greek word 'bios' meaning life or way of living (Essoussi & Zahaf, 2008). The discourse relating to organic food is usually centred on farming or production practices. As such, emphasis on biological, natural, environmentally friendly and limited (or no) use of synthetic chemicals in production systems are all common terminology used when articulating the characteristics of organic food.

A holistic definition of the term is offered by the US Department of Agriculture (USDA). It states:

“Organic food is produced by farmers who emphasise the use of renewable resources and the conservation of soil and water to enhance environmental quality for future generations. Organic meat, poultry, eggs and dairy products come from animals that are given no antibiotics or growth hormones. Organic food is produced without using most conventional pesticides” (USDA, 2005).

Beyond the meaning of organic, comes another equally complex matter of certification of what is organic and whether a product meets the criteria of being ‘organic’. In providing this legal requirement, certification bodies, throughout the world, have defined the industry, created rival branding labels and also created a market which is at times misunderstood and resented. Equally important is the recognition of organic by government, agriculture and statistics entities. In Australia, the organic industry is self-regulated, with seven certifying bodies, mostly in competition with each other. The largest and most influential are Australian Organics (AO) and the National Association for Sustainable Agriculture, Australia (NASAA).

The Australian organic market – Drivers and challenges

Organic production and consumption is not a field with a strong literature presence with this more pronounced in relation to Australia. As a distinct field it has only recently received acknowledgement by the industry and in so far as scholarly research is concerned is still primarily in its infancy (Paull, 2013). Organic is also a new phenomenon to government and its various branches including Departments of Agriculture, statistics agencies and official measures. Superficially, the literature indicates that organic products are destined to become more ‘mainstream’, and will contribute to some extent to sustainable agriculture (De Ponti et al., 2012; Rigby & Caceres, 2001). Moreover, organic production will address in limited ways a perceived need for ‘safer’ food requirements desired by consumer and stakeholders alike (Makatouni, 2002).

The Australian organic market, like many other markets, has evidenced double-digit growth across most organic segments and has done so for the last decade. While it is well known that organic products come from a low base level of production and consumption, the latest survey of the organic industry specifies that organic growth between 2009 and 2014 witnessed an annual growth of 15 per cent. This is against an annual growth of 3.4 per cent in the conventional food sector (AO, 2014). Some market segments such as beef and wine are growing much faster than more established organic sectors such as dairy and vegetables. In some markets, genetically modified products (GMO) can play a disruptive role (Paull, 2015). Added to organic domestic production, which cannot meet the domestic demand, is the need for imported organic products to fill the gap. The industry in Australia calculated in all its facets has a value of \$A 1.72 billion. According to one observer (Tonkin, 2014), key external drivers of organic farming in Australia include:

- i. Level of annual rainfall;
- ii. Public concerns over environmental issues;
- iii. Health consciousness;
- iv. Real household disposable income;
- v. Downstream demand from food manufacturers.

Similar to conventional food production, weather conditions have a large effect on organic agricultural production. Likewise, water availability, pasture availability and production costs play important roles in the production bottom line. The breaking of the drought in Australia in 2010-11 was a milestone for organic primary producers but it also brought challenges of additional weeding (particularly in cereals) and diseases (grape production), which reduced some harvests. In some instances, it has seen some organic operators decertify and abandon their operations (AO, 2014). Public concerns over environmental issues are increasingly aligning with the public emphasis on climate change and environmental sustainability. In some cases, organic products have benefited from the concern over conventional farming degradation and associated environmental impacts both in situ and off-site (Treu et al., 2017). The growth is steady because many Australian consumers are after natural products of high quality and are willing to pay a higher price for these goods.

Who buys organic?

The biggest demand for organic food in Australia is concentrated in the major urban areas, within the high-income earners (McCarthy, 2016). Millennials and Generation Y are a key demographic group that actively consume organic food (AO, 2017). With online purchases as a preferred shopping method, young consumers showed the strongest confidence in specialised organic and wholefood stores (Acosta, 2017).

Using multivariate statistical analysis, Chinnici et al. (2002) identified that the purchase and sensitivity to the price are among the key factors preventing many consumers buying organic foods. Industrial food producers have many incentives to copy high quality organic production, both in terms of profits and reputation. The lack of knowledge divides food consumers into two groups of selection. Health-conscious consumers know that organic food is healthier because pesticides and other toxins are not utilised in the production of these foods (Apaolaza et al., 2018). Skeptical customers may be concerned that they could make a bad purchase from buying products mimicking the labelling utilised by organic producers (Biondo, 2014). Recent literature also evidenced that health orientation yields a positive effect in influencing organic food consumption (Chekima et al., 2017). Some customers would prefer a broader range of products to choose from, since they disapprove of modern technological farming. Some sceptical consumers think that organic is just a fad, and are unsure about its benefits (Wang et al., 2017). Non-organic consumers may consider that organic quality is the same as standard industrially and chemically produced food and they may perceive that organic-food prices are too expensive and, thus, consider such a choice not relevant for themselves (Hidalgo-Baz et al., 2017). Maigné et al (2017) have identified a territorial effect, so that where there is a greater local presence of organic produce, farms, food processors and retailers they reported that there is a greater purchase by consumers of organic products.

The location of organic production

Another indicator of organic industry penetration in a market is the amount of arable land dedicated to that form of farming. Australia, according to agricultural usage, allocates more land to organic food than any other nation in the world. This may seem somewhat logical given it is one of the biggest countries in the world, and therefore it is not surprising that it can also provide more land for organic farming (AO, 2014). The Australian organic industry is continuing to mature and the average size of organic farms

continues to increase, highlighting a trend towards professional farming on a larger scale (albeit still under conventional farm average size for most sectors). This also highlights the expansion of some long-term organic farming families who have purchased additional land and/or farm units to cater for increased demand.

While the Australian organic industry continues to be 'mainstreamed' and professionalised, it remains diverse in terms of operator types and sizes and the number of smaller-sized certified organic operations remains high. This is reflected in the data, which suggests that over 50 per cent of certified organic primary producers operate smaller-scale production farms (AO, 2014). There is a large additional section of the organic industry that is uncertified with smaller-sized farms not needing formal certification to trade (a requirement for export and for the larger retailers in Australia). Organic farm inputs continue to grow in products and businesses. In 2014, 186 businesses had formally registered organic farming inputs (fertilisers, bio-pesticides and crop management inputs) and other approved processing products (AO, 2014).

The Australian organic market future

Organically produced foods and beverages still represent only about one per cent of the total foods and beverages industry value (AO, 2017). The recent release of the Australian organic market report 2017 has highlighted some changing trends for the organic industry nationwide. Some of the key findings from the AO (2017) report include:

- Key perceived benefits of organic products are: free from chemicals and additives, environmentally friendly, free range and non-GMO production;
- Sixty three percent of Australian households purchased one organic product in 2016;
- Impact on the environment was a key motivation for Australian consumers (41%) to start buying organic products;
- Supermarket chains remain big players, though organic shopping outlets are changing, especially among young organic consumers with their preferred shopping method being online and using mobile phone technology;
- Most popular organic category is fresh fruit and vegetables, followed by dairy, home-cooking ingredients, and eggs;
- Organic certification labelling increased the confidence of two-thirds of organic shoppers;
- The top three challenges to purchase organic products are value, trust and access;
- Australian organic market growth is in line with the global growth in organics;
- By 2018, the total value of the Australian Organic market could reach \$2 billion dollars (AO, 2017);
- Shoppers in Australia are the sixteenth highest spenders per capita on organic packaged food registering \$A26 per capita (Euromonitor, 2017a).

Despite the low market share, the organic industry is unable to meet domestic demand and the double-digit growth will see this industry achieve greater levels in terms of total food supply. The challenge for the Australian organic industry is to produce consistent supply to meet growing demand.

Fruit and vegetables, dairy and home-cooking ingredients are the leading food categories for organic shoppers (AO, 2017). Dairy has for years been the most important segment of

organic production from a consumer standpoints. Australian organic production and consumption is dominated by the presence of dairy products, which make up more than 22 per cent of all organic production (AO, 2014). The dominance of dairy products among all the organic produce categories in Australia is consistent with the trend in China (O'Mahony & Chen, 2013) and other countries around the world (MarketLine, 2014).

As organic farming is subject to thorough inspections the cost of production is higher as compared to non-organic food by 20 - 50 per cent on average. Producing organic food that complies with all restrictions and norms requires a significant investment of time and resources. Surprisingly even during the economic downturn period, the Australian organic market still experienced a steady growth of 15 per cent annually on average (AO, 2014). Lack of supply is also impacted by some sectors having inconsistent or unavailable supply of raw ingredients to deliver on known organic demand. Supply variability, inconsistent product quality and the small scale of many organic farms are seen as holding the organic industry back. As the organic market is small, and fragmented in nature, some organic products can be prone to being oversupplied or undersupplied. For example, the oversupply of organic broccoli and asparagus in 2011 resulted in these two organic vegetables failing to achieve a price premium.

To address the supply issues, some organic farmers have formed regional organic farmer co-operatives to ensure supply is more consistent and to pool resources for marketing and product development. An example of such cooperatives is the Organic Dairy Farmers of Australia, a co-operative of 23 Victorian farmers, which together produce more than 23 million litres of organic milk a year, which is an estimated 75 per cent of the national organic milk supply.

Future trends: expansion beyond organic food and beverages

The original organic industry activity was mostly engaged with organic food and drink (Euromonitor, 2017a,b). Recently this concept has changed with a strong presence of other organic products in many other industries. These include organic vitamins and dietary supplements, organic cosmetics and essential oils, organic wool, cotton, textiles, organic garden and farm inputs, organic toiletries and hygiene products.

Organic vitamins and dietary supplements have been produced over many years ranging from herbs to multivitamins to complex condition-specific formulations in pharmacies and health food stores. The manufacturers of organic vitamins and dietary supplements promise purity, wholesomeness and sustainability as they are manufactured using different production methods from the conventional lines. Herbs are grown without agrochemical input, and extraction is done without conventional solvents. The entrance of Procter and Gamble, a multinational corporation into personal care products, in the organic supplement sector in 2012 reflects how mainstream organic vitamins and dietary supplements are becoming. In the Australian Organic Report for 2014, the non-food and drink segment of organic production increased by 10 per cent on the 2012 production figures (AO, 2104). Other industries, which have expanded into organic, include those, which are in contact with skin, such as cosmetics and essential oils, toiletries, tissue and hygiene products. Particularly, those manufacturers who have produced specific infant need products have much potential for growth in the organic industry. Parents' concern about their child's wellbeing increases the appeal of these organic products. Whilst

parents may cut back in terms of purchases for themselves during periods of economic difficulties, they continue to spend on their children.

The consumer view and millennials – a promising future for organics

The consumer uptake of organic products in the last decade has been extraordinary. Though coming from a lower base level, it has reached fast growing consumption levels in percentage terms as compared to consumption of conventional products. The research conducted by Mobium Group (2017) found that more Australians purchased organic products than ever before. Dairy products are the most frequently purchased organic food, according to Mobium's survey of Australian shoppers in 2016.

More than two out of three Australian households say they bought at least one organic product in 2016 (AO, 2017), reported as 65 per cent in 2012 (AO, 2014). Demand for organic products will continue to be strong as generation Y and Millennials (20 to 30 years old in 2017) are a key demographic of organic consumers for some organic retailers who offer online shopping via mobile phone. Most current organic buyers say that their initial motivation to purchase organic products was related to a positive personal health outcome. For example, 49 per cent of consumers surveyed stated that buying organic was due to "becoming more aware of the impact food, fibre or cosmetics had on personal health" (Mobium Group 2014). The marketing of organic products is not based purely on the nutritional quality of the product. Marketing may also stress the bio-diversity, environmentally friendliness and natural form of the product.

In the Mobium consumer survey, 83 per cent of consumers in 2016 (AO, 2017) indicated that the chemical free aspect was the most important feature of the organic product when deciding on purchasing organic products, up from 80 per cent in 2012 (AO, 2014). Interestingly organic purchases by those not categorised as green or sustainable shoppers, increased from 24 per cent in 2012 to 40 per cent in 2014 (AO, 2014). Most organics purchasers expend 5 per cent or less of household food expenditure on organic products. For example, 44 per cent said that this is their total estimated spend. Overall 64 per cent indicated that they spend 10 per cent or less of their total food budget on organics and over three-quarters (77 per cent) stated that they allocate 20 per cent or less.

As the literature suggests, the primary motivations for consumers purchasing organic products are not solely based on income or demographics (Tonkin, 2014; AO, 2017). Newly developed consumer values around personal, community and environmental wellbeing are equally important indicators for preferences towards organic products. Consumers who regularly purchase organic products have historically been more likely to do so from farmers' markets rather than supermarkets, though this is changing with organic private label offerings being introduced in the major supermarket outlets in Australia such as Woolworths, Coles, and ALDI (Euromonitor, 2014). In the Australian scenario, supermarkets are strengthening as the dominant channel for most current shoppers who purchase organic food products based on their nominated usual place of purchase. Fifty per cent of the respondents say that their usual place of purchase for organic bread items is from a supermarket, with 40 per cent saying that they buy from a bakery, while others indicated that they buy from markets/farmers' markets (AO, 2017). There is evidence of multi-channel participation by many current organic purchasers across all categories.

Another potential direction of development for this market is the creation of specialist shops that offer only certified organic products. This kind of shop is often run by local retailers or even the manufacturers themselves. There are also dozens of online stores of various sizes. Bearing in mind that the e-commerce market is growing at a very fast pace, it is possible to achieve synergies by trading organic food online. Most of the existing bricks and mortar stores offer their products on their web pages also.

Organic food has a close association with direct sales to the public. Relatively large quantities of organic food are sold through farmers' markets. Retailers depend heavily on the quality of their suppliers and some retailers have contracts with their suppliers. Some retailers also strive to offer locally sourced produce. However organic food faces increased competition from the increasing range of products (conventional food) claiming to meet the expectations of socially conscious consumers. For instance, the market share of organic eggs sold in supermarkets has declined as the market share of free-range eggs has grown (Gardiner, 2011). This may reflect shoppers choosing a lower price product that still addresses their animal welfare concerns.

Price premium and its effects on organic consumption

The most evident aspect of organic uptake from the consumer viewpoint is the question of price. The Mobium report (2014) recorded that 82 per cent of those questioned indicated that price was the biggest barrier to purchasing organic products (AO, 2014). What might be of concern to the organic industry is that those who were concerned with the pricing of organic products was 78 per cent reported in the 2012 report and 80 per cent in the 2014 report (AO, 2014). The industry when questioned about price premiums felt this was not a concern and that they felt that the market understood the reasons for the higher prices. According to Tonkin (2014), demand for organic products depends on the levels of household disposal income, where a decline or lower household income can be a threat to the purchase of organic products.

There is a perception that Australian consumers understand and appreciate the benefits associated with organic produce and are drawn to organic products for their chemical-free attributes. However, for some consumers the purchase of organic products is highly dependent on the state of the local economy and consumer confidence. When Australian consumer confidence is relatively strong, this aids good growth in organic products. According to the Mobium Report (2014) price is still considered a major barrier to consumers purchasing organic products and thus aspects of the organic industry are expected to remain volatile until it becomes more mainstream and prices drop closer to those of standard non-organic products. On the other hand, Nielsen reported that:

“...71 per cent of consumers in the Asia Pacific region are changing their diets to lose weight and 25 to 40 per cent are more than willing to pay a premium for foods that are free from artificial colours, flavours and gluten, low in fat and salt and higher in protein and fibre” (Nielsen, 2015).

Interestingly, during the global crisis of 2008, in Australia organic uptake was not seriously impacted and the organic market recorded a steady increase in demand for organic food and other organic products despite this global down turn. While some conventional food and beverage industries suffered declines during the global recession in 2008 and 2009, organic growth dropped from double-digit growth to around 7 per cent

growth. Between 2011 and 2012, the growth of organic produce rose to 9 per cent (AO, 2014). Global sales of organic products for babies and children are amongst the most recession proof. Food safety and chemical contamination are major factors in the consumer choice despite recessions and difficult economic times.

Organic food is more expensive than products grown in a chemical way by an average of 20-50 per cent (AO, 2017). Organic producers claim the need for a higher price because of higher production costs. Organic farming is subject to greater levels of inspection and controls, and assessment is a process that requires a significant investment of time and resources. To be certified, each organic producer and processor must comply with strict standards and norms, from the production, to preparation, through to distribution. Certification systems for organic farming are the basic guarantee that foods placed on the market and labelled as organic are produced in accordance with the applicable rules on organic farming and are free of contaminants such as pesticide residues and hormones, and no chemical fertilizers and genetically modified organisms were used during the production process. Producers and processors of organic food are required to support their products with appropriate certification.

The majority of organic products sell at a price premium compared with conventionally grown products (O'Mahony & Lobo, 2017). The size of this premium can be significant and can affect demand for organic products. For some products such as wine and grain, organic products tend to be one to two times higher than the price of chemically grown produce. Price premiums for organic foods relate to higher costs in producing and distributing organic foods and the relative level of supply and demand. This price differential is, however, understood and accepted by many consumers. The focus group study undertaken by Chang & Zepeda (2004) on consumer perceptions in Australia of organic food clearly states on the question of price premiums that:

“In terms of the price differential that exists between organic and conventionally produced foods, most participants thought it is justified because organic farming means more work and lower yields, and many felt it was also more sustainable and more ethical. Many thought price premiums are also justified because they perceived organic products to be healthier, more nutritious and more delicious. Many participants were willing to pay price premiums associated with organic food” (2004, p.164).

Other features of consumer preference for organic products

'Free from' aspects remain the key perceived benefits of organic food in the Australian community, continuing a consistent pattern from 2010. Four out of six leading benefit attributes revolve around what organic food 'does not contain'. These are 'Chemical-free' (80 per cent), 'Additive-free' (77 per cent), 'Hormone/antibiotic-free meat' (60 per cent) and 'Non-GMO' (57 per cent). There are knowledge gaps apparent in the community about the benefits of organic food. For example, 90 per cent of the respondents indicate that 'food being more nutritious' is of 'high' or 'moderate' importance to them, yet only 45 per cent currently believe this is a benefit of organic food, a gap of 45 per cent. Fresh fruit and vegetables was the segment with the highest participation rate amongst organic shoppers in 2014. In particular, 58 per cent of those who said that they bought organic in the past 12 months claimed to have purchased a fruit or vegetable item at least once (AO, 2017).

Of the 21 nominated categories, the dairy segment (milk, yoghurt, cream) recorded the highest growth in participation rate compared with 2012. Forty-one per cent of organic shoppers said that they had purchased a dairy item in the past 12 months, compared with 34 per cent in 2012. Other high growth categories included packaged meals (+7 per cent) and non-alcoholic beverages (+6 per cent) (AO, 2014).

'Fresh fruit and vegetables' is the category most likely to be purchased every month with 48 per cent of those surveyed indicating they buy every 1–30 days. Other high frequency categories were non-alcoholic beverages (47 per cent monthly), dairy (45 per cent), bread/bakery (41 per cent) and eggs (38 per cent) as per Mobium (2014, 2017) reports.

When it comes to perceptions about the organic product ranges on offer, organic/wholefoods stores are seen by current organic shoppers to provide the best selection across categories. For example, 40 per cent of current category purchasers thought organic/wholefoods stores offered a 'very good' selection of packaged goods, followed by online stores, then Woolworths and Coles. Organic/wholefoods stores were also rated highly for their selection of fresh produce, dairy and meat (Mitchell 2015).

The quest for sustainability and acceptance of organic products

Can the growing organic food production and consumption trend present in Australia survive and continue? As Lockie *et al* (2002) have indicated "it is quite clear that the future of organics will also be very much dependent on the motivations of end consumers" (2002, p.24). The growth figures over the last decade, or so, indicate that this industry growth shows no reason to feel threatened. Moreover, during the global financial crisis, organic consumption data indicates that while conventional food suffered declines, the organic food industry continued its rate of increased production and consumption (GOTG 2016). What therefore may be the threats to this organic industry growth from a non-farming standpoint?

The regulatory framework of organics in Australia has remained stable during the last decade and involves separate policies for exporting and the domestic consumption of organic products. Under the Federal Exports Control Act 1982 and Export Orders, products labelled as organic for export from Australia are 'prescribed goods', and generally must be certified in accordance with the National Standard or with another standard at the same level. The National Standard which was recently updated in 2016 has provisions for auditing and inspection of organic production and processing businesses. Certification must be performed by one of the six organisations accredited with the Australian Government (AUS-QUAL, ACO, BDRI, NCO, OFC and SFPQ). Each accredited certifier can develop and apply its own unique standard, as long as it is compliant with the National Standard (AO, 2017).

Organic products are not legally required to have certified labels to sell in Australia. Certification is not essential for domestic organic trading. However, where the relationship between producers and consumers cannot rely on trust, the National Standards and mechanisms established for the organic export, including accredited certifiers, certification, auditing and inspection, are voluntarily adopted by organic producers and operators. For example, the major supermarkets require certification under the National Standard for their organic home brands (private labels) or other organic produce sold in their stores (AO, 2017). The National Standard remains the most reliable of the

certification pathways in Australia, allowing certified organic products to be sold both internationally and domestically. Australia has high standards of conventional food and this may in the medium to long term provide a constraint on the organic industry.

The growth of organic food is a result of a number of drivers. Some relate to nutrition and health, others to food security. In some markets, like Australia, 'life style' has been a driver especially in the early development of the organic food industry though the Australian organic industry is in transition. It is moving away from the boutique and cottage industry to more economically driven processes, approaches and results. Some decades ago the organic industry was considered to be fragile, ideological, and perhaps non-sustainable. One observer noted in 2001 that "organic agriculture began as an ideology, but can it meet today's needs?" (Trewavas, 2001, p.409). The prolonged period of organic growth over more than a decade in Australia and elsewhere in the world, would indicate that this is an industry which has migrated from its fragile boutique and cottage-industry status to a developing industry.

Although the organic industry continues to attract scepticism from some, and fails to be understood by others, each year it has consolidated and achieved a profile which makes it very difficult to conceive of it somehow disappearing any time soon especially given its present A\$1.72 billion turnover (AO, 2014). By expanding to offer a wider array of products it has also consolidated its presence making organic products holistically covering most segments of the human diet and human needs. These are the hallmarks of an evolving and maturing industry.

Organics is an industry which acknowledges that its product is more costly than an equivalent in the conventional category. It justifies this differential on the basis of more certification and quality control and its production being free of the pesticides and chemicals used in conventional food production. The results from the survey from Mobium Report (2014, 2017) indicate that consumers understand the reason for this differential. The health and safety factor are the reasons for paying a little more and especially when it comes to the product destined for infants and young children (Winter & Davis, 2006). This form of differentiation is quite common with many products and attracts little concern. However the ability of conventional products to become more quality focused with retailers driving producers of food to be more 'organic' in their outlook may be a source for concern to the organic industry. The improvement of the quality of conventional food especially in some of the developed markets poses perceived threats. Supermarkets, by offering a selection of organic products, especially in markets where they have significant market share such as Australia, indicate that organic products have a future and that these powerful outlets wish to be part of this growth (AO, 2014, 2017).

A concern, which comes from the organic industry, is the fact that, demand for organic products is outstripping organic supply (AO, 2014). An inability to meet demand through domestic production creates a need for imported products. This indicates to those interested in entering the industry, that increased local supply would benefit from the strong demand from local consumers. This is another signal that the industry is being built on strong foundations.

Over the last decades, organic branding has undergone change and consolidation. Today with the certification bodies, so prominent, organic products have become accepted and better understood in all the retail outlets. Labelling has also played a role here.

Developed markets like Australia are more attuned to environmental and bio-diversity ends which are now playing a greater role in consumer choice than ever before. This is further assurance that organic products have for future sustainability.

There are many outlets for consumers, but supermarkets have a concentrated appeal (AO, 2014). There is sometimes a greater selection of organic food in supermarkets, including private-label products to entice consumers wishing to pay a smaller price premium for organics. The growing involvement of supermarkets in the organic retail market will affect organic farmers in a number of ways. Supermarkets will require consistency in quantity and quality of produce. They will also act as a sizeable buyer that may encourage greater scale and investment in the supply chain. Conversely, given their market size, they may be in a position to exert downward pressure on prices.

Future of Australian organic industry – sustaining growth

Australia has the largest area of organic farmland in the world, at an estimated 22 million hectares, and 17.5 million hectares having full organic certification (Hughes 2014). The majority of this land is comprised of large rangelands for organic cattle production. However, the industry is comprised mainly of small operators, which has contributed to challenges in providing consistency in the quantity and quality of produce. Despite some consolidation of operators over the past five years, the industry remains fragmented and organic farming techniques are sometimes not as productive as chemical farming.

The industry is expected to continue to grow strongly over the next five years, driven by strong demand in domestic and export markets. Over the five years to 2018-19, industry revenue is forecast by IBISWorld to increase by an annualised 8.4 per cent to reach \$833.5 million (Tonkin 2014). Over this period, the increasing participation of supermarket chains in the provision of organic products, downward pressure on prices from growing economies of scale in production and benefits from improvements in the certification of organic produce will drive consumer demand. While some supply issues may hamper the industry, a greater level of technology employed by farmers and innovation in products and practices will help organic farmers meet demand.

While the number of organic farmers has not significantly increased despite the rapid growth in the organic industry, it is the consumer side, which may eventually decide and confirm the growing demand for organic products. Supermarkets have responded quickly to an increasing demand for organic products by increasing organic product ranges to improve choice and accessibility. This has resulted in supermarkets accounting for around 60 per cent of all organic sales (Tonkin, 2014). It is clear that major supermarkets such as Woolworths, Coles and ALDI demand larger, more regular and higher quality consistency of organic food. Large retail outlets appear to be moving more and more to assuming that organic products in their outlets adopt a form of mainstream approach.

Over the past five years, larger organic farm businesses have emerged to meet the demands for organic product by large retailers and supermarkets. Woolworths and Coles, the two major supermarkets in Australia, are now selling greater amounts of organic private labels and wider ranges of organic branded products, increasing the customer's accessibility for purchasing organic produce. These supermarkets have private-label organic ranges that include fresh fruit and vegetables, poultry, canned products, and dairy.

Online direct sales that are home delivered to consumers are a significant market for organic products, though their market share may perhaps decline as the supermarkets continue to expand their own product ranges. Farmers' markets have increased their market share. Farmers' markets have been traditionally an informal outlet for organic growers/producers who may have been unwilling or unable to enter into supply contracts with wholesalers and retailers to market their produce (Tonkin 2014).

The growing organic sector offers more business opportunities for organic products (MarketLine 2017). This will lead to a growing evolution from a boutique industry to a more scaled and business approach while still maintaining clear organic credentials and processes (Richards 2013). Retailers, including restaurants, are selling a growing number of organic products as they attempt to attract increasingly health-conscious consumers.

Organic products are free from contamination by pesticides, which can have a big impact on their cost. Without pesticides, the average yield may be less, the produce may be of poorer visual quality, and the risk of losses may be increased. Despite the considerable amount of time and work, organic farmers may not achieve the same yield as achieved with synthetic chemical fertilisers and pesticides. This results in a product, which is healthy but the cost of its production may be significantly higher than if the crops were treated with or stimulated by synthetic chemicals.

The bulk of organic farming is still relatively small with many businesses specialising in producing single products such as raspberries, apples, honey, natural cheese, yoghurt, milk or eggs. These are often produced by hand rather than through industrial processes. The production is time-consuming, resulting in a low output. Although premium prices are charged for organic products, not all industry operators enjoy greater profit margins as their production costs may be higher than the conventionally made products. However, like all developing industries, including those in the organic sphere, the development of more efficient, effective and sustainable modes of organic production will slowly become the norm (Richards, 2013; Jolink & Niesten, 2015).

Over the five years through 2016-17, the average industry profit margin has fallen slightly as competition has increased and input costs have risen. Due to competition, some product categories (including fruit, vegetables and poultry) have been affected by price deflation, which has affected the bottom line of organic industry operators (AO, 2014, 2017).

Most organic farms are small-scale and some farmers may only have part of their acreage farmed organically. Organic farms are also often mixed operations combining livestock with crop growing or horticulture. As a result, there are fewer opportunities to reduce costs through economies of scale in production. The number of organic producers is anticipated to continue its upward trend over the five years to 2016-17, as farmers enter the market to take advantage of growth in the industry. Despite double-digit revenue growth over the five years to 2016-17, the number of enterprises has only grown at an annualised 3.8 per cent, while employment numbers have grown at an annualised 6.7 per cent (AO, 2014, 2017).

Different establishment types service varying markets. As the industry is undergoing rapid change, the type of farmers within the industry is changing. Over the past five years, larger farms have emerged to meet the demand of large retailers such as supermarkets.

However, there is still a large number of smaller farms that service small communities and farmers' markets. As farms increase in size, export capacity is expected to also grow. Exports have increased over the past five years, particularly to East Asia. Imports remain relatively low because they are generally only required to meet shortfalls in domestic supply (AO, 2014, 2017).

Conclusion

The organic industry in Australia has come a long way and from the margins, as it edges closer and closer to the mainstream. Australia's organic farming industry has grown at a robust pace over the past decade. Organic consumers continue to demonstrate that they perceive the organic product as cleaner, safer, without chemicals, and with health benefits. Production factors including origin and traceability of food are increasingly important to Australian consumers. An impact on the environment was a key motivation for shoppers to start buying organic products. The ongoing fear of unhealthy food and in the light of, for example, the Chinese milk scandals, has reinforced the view in the minds of consumers that organic is safer if more expensive including for children and infants. This is an additional stimulus for consumers to continue to purchase and consume these organic products. The awareness of organic certification continues to increase; with the majority of shoppers agreeing that an organic certification mark increases their confidence in purchasing an authentic product. Labelling and packaging was deemed the number one source for gaining product information. In the next five years, it is anticipated that supermarkets chains will remain big players in the organic space, however, the preferred shopping outlets for consumers is evolving, which has resulted in an increase of opportunities for smaller, more focused outlets and alternative retail channels.

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