

HARVARD UNIVERSITY

The South Australian Wine Cluster

Microeconomics of Competitiveness

**Andrew Nipe
Anna York
Dennis Hogan
Jonathan Faull
Yasser Baki**

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Executive Summary

Australia has historically benefitted from economic growth premised on its rich natural endowments, despite its relative isolation from Old World markets. While service-related sectors have emerged as growing portions of the economy, commodities continue to comprise a disproportionate fraction of the economy relative to OECD averages.

A series of economic reforms enacted between 1983-96 opened a comparatively protected economy to international competition, with significant gains to labour productivity and international trade. Despite attempts to revive structural reforms, political impasse and continued economic growth premised on endowments, have thwarted further reform. It is argued that Australia must address its consistently inflexible labour markets, declining labour productivity, comparatively low rates of innovation, and an increasing skills misalignment relative to demand to lift the country onto higher development path.

South Australia is Australia's fifth largest economy, correlated with its fifth largest population. Through the course of the twentieth century, the state's economy transitioned from one premised on agriculture and extraction, to manufacturing. While the state remains the national breadbasket, this report argues that the state must address labour productivity rates below that of the national average, a skills misalignment, the lack of collaboration across the value chain, and the potentially devastating effects on agriculture on the part of climate change, to mitigate weaknesses and improve regional competitiveness.

The South Australian wine cluster constitutes the largest producer and exporter of wines in Australia. The cluster experienced tremendous, export-driven growth from the early 1990s to the contemporary period. However, in recent years the cluster has seen a decline in the value of its product overseas and now faces a number of challenges to its long-term viability in the global wine market. If the South Australia Wine Cluster is to remain competitive, it must deepen collaboration across the value chain to address an oversupply of uneconomic grapes and an over reliance on low cost, low quality wine which has undermined 'Brand Australia' in key export markets. Finally, the cluster must take steps to tackle threats to its terroir posed by climate change.

Australia

Introduction

An island continent located between the Indian and South Pacific Oceans, Australia has an advanced and stable economy while situated in a relatively remote region of the world. With an approximate land mass of 7.7 million sq km, 20% of which is desert; Australia is sixth largest and the driest country in the world. It has a comparatively affluent population of approximately 22.3 million. The country is comprised of six states and two territories, each of which former British colonies prior to Australian federation in 1901. Since the initial wave of European settlement in the late 1700s up through to the twentieth century, agricultural commodities, minerals and energy resources have helped shape and drive the Australian economy.

Australia has enjoyed substantial economic growth and prosperity. Gross domestic product (GDP) per capita (US\$ at PPP) in 2007 was \$38,276 (EIU, 2010), and it is the 17th largest economy, roughly one-twentieth the size of that of the United States (Eslake, 2005). Australia ranks 2nd out of 182 countries on the Human Development Index (HDI), 5th for life expectancy at birth (81.4 years), 1st for combined gross school enrolment ratio (114.2%), and 22nd for GDP per capita.¹

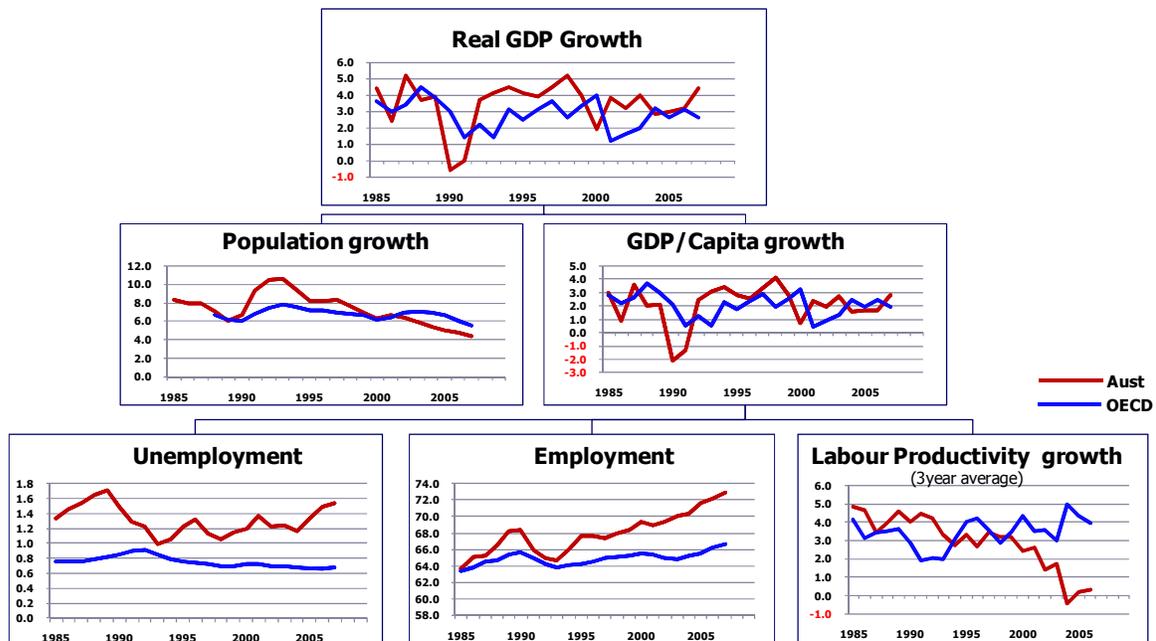
Economic Performance

Australia has consistently outpaced OECD average economic growth almost every year for the past 25 years (see Figure 1). During the Hawke-Keating Government (1983-1996), Australia underwent significant economic reform that included floating the Australian dollar, deregulating the financial system (and selling the state-owned Commonwealth Bank), ceasing subsidization of loss-making industries, compulsory superannuation (which led to higher stock-ownership), significant progress and tariff reductions, and the establishment of the National Competition Policy Framework (OECD, 2010_a).

The above reforms were expanded and complemented during the early years of the Howard Government (1996-2007) through formal independence of the Reserve Bank of Australia, selling the state-owned telecommunications company and introducing a Goods and Services Tax (Australian Government Treasury, 2004).

¹ United Nations Development Program, <http://www.hdrstats.undp.org/en/countries>

Figure 1: GDP Driver Tree



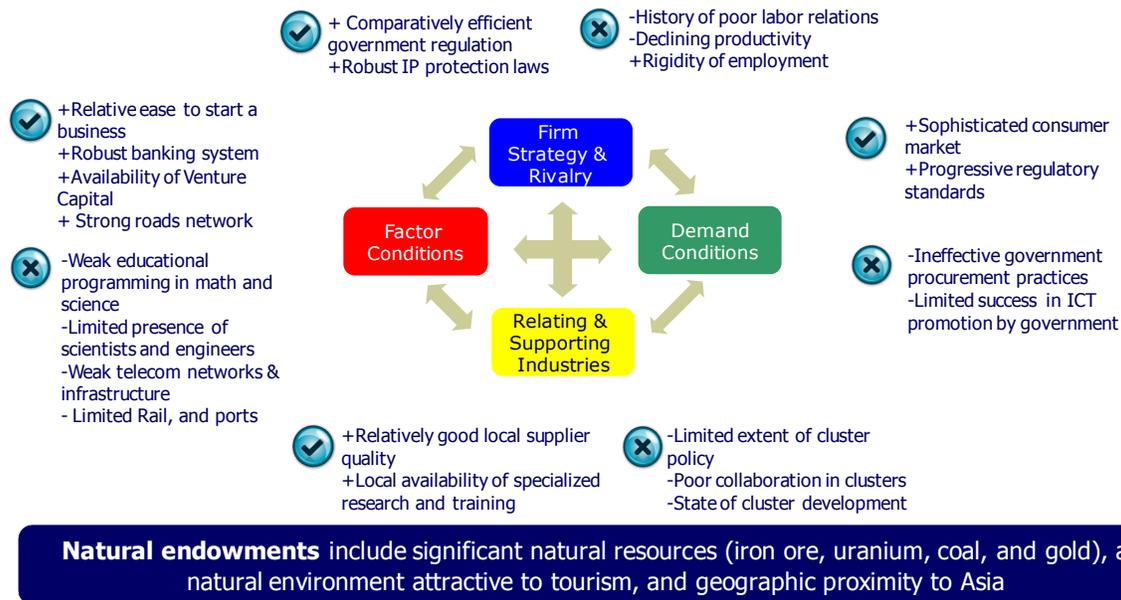
Source: OECD, 2009

These changes led Australia from a protectionist economy in the early 1980s to a largely liberalized economy by the late 20th century. From 1993 to 1998, labour productivity increased at an annual rate of 3.3% (OECD, 2010_b). However, labour productivity growth has slowed dramatically in the last decade (see Figure 1) and Australia now lags the OECD average, and is potentially creating a significant barrier to future improvements in the standard of living (Parham, 2005). The national diamond analysis highlights areas for improvement, as well as the strengths the Australian economy can leverage to improve its competitiveness.

National Diamond Analysis

Australia's national diamond includes some strong elements, but several significant barriers to competitiveness. Australia's reliance on natural endowments for economic growth could explain the lack of urgency regarding reform, and leaves Australia exposed to climate change. Related and supporting industries are comparatively weak outside of the mining sector; the result of a lack of cluster-based policy and collaboration. Factor conditions include strong business conditions but post-secondary skills are an emerging problem. Firm strategy and rivalry is underpinned by good governance, but poor labour relations. Demand conditions are underpinned by sophisticated consumers and progressive regulatory standards. The above reasons help explain why Australian performance on the Global Competitiveness Index (GCI), has declined from 2004 to 2009 (ISIC, 2009).

Figure 2: National Diamond Analysis



Natural Endowments: Australia has substantial natural endowments that have significantly contributed to prosperity. Australia has a high percentage of the world's lead, iron ore, bauxite, zinc, coal and low-cost uranium reserves (EIU, 2008). Its location provides unique opportunities for 24-hour business cycles as well as the export of "off-season" agricultural produce. Australia's proximity and relative ease of access to Asian markets is advantageous, particularly its proximity to China. However, it is a comparatively isolated country and its distance from European and North American markets is a strong disadvantage.

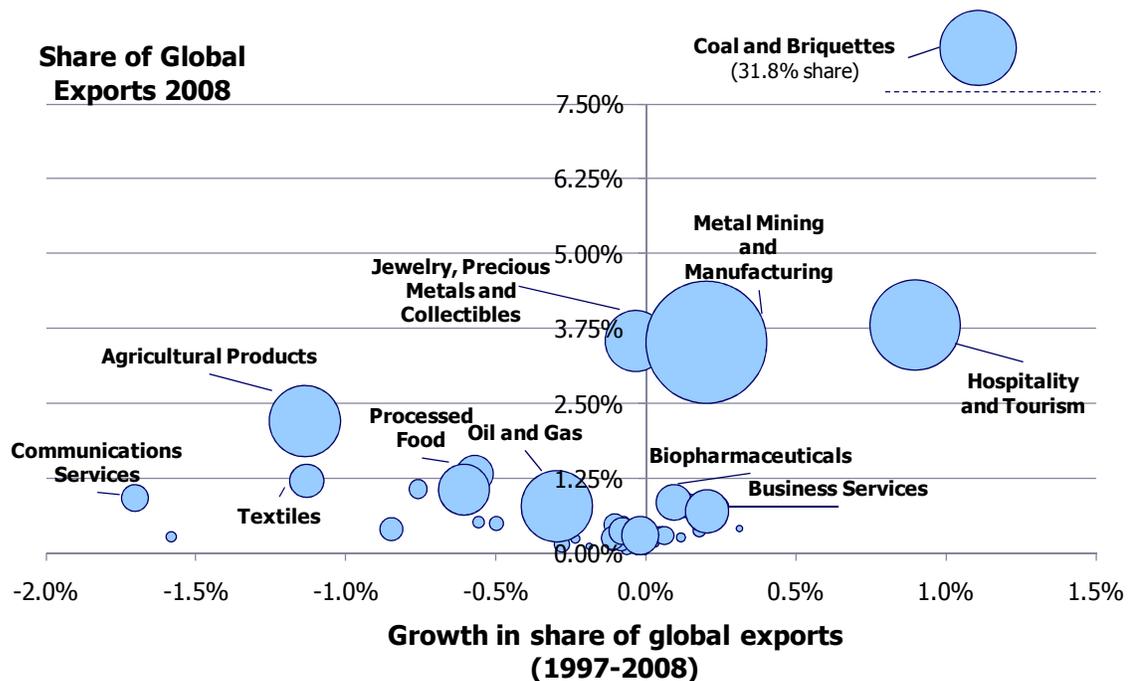
The nation's well-conserved wilderness and marine areas, and scenic, rugged landscapes are conducive to adventure and eco-tourism-related industries. The predominantly dry, arid climate is susceptible to drought, often resulting in extreme water shortages and high irrigation costs.

Australia is exceptionally vulnerable to climate change. As an already hot and dry continent, Australia is more exposed to climate change than many other countries. As an economically developed and stable country in the Pacific region, Australia is being pressured to take a more proactive role in tackling the anticipated consequences of climate change which are projected to seriously impact low-lying, island nations in the region. Finally, the composition of Australia's economy means that climate change would damage Australia's terms of trade more than any other developed country² (Garnaut, 2008).

² Garnaut, Ross 2008, The Garnaut Climate Change Review

Related and Supporting Industries: Australia has a small number of globally competitive clusters, and many of these are primary products (see Figure 3). Primary products account for the majority of Australia's exports, and was the only category to grow between 2004 and 2008³ (ABS, 2009). Australia has over 30% of the coal export market, as well as metal and manufacturing (mainly from metals mining). The main service cluster in which Australia is performing well is 'hospitality and services' which is largely comprised of recreational tourism and international education.

Figure 3: National Cluster Analysis



Source: ISIC, 2010

Australia has poor cluster policy, weak collaboration and limited state development. Australia's depth of natural endowments has allowed it to prosper in the past decade without looking to develop a diverse and sophisticated network of clusters. This situation has allowed continued GDP growth while maintaining lacklustre productivity, resulting in a core challenge, and could help explain the decline in competitiveness metrics in recent years.

Factor Conditions: Ease of doing business in Australia is high, and is supported by a quality banking sector, robust venture capital market and ease of obtaining loans (all top ten in the CGI). However, innovation and skills are key challenges.

³ Primary products account for 57% of exports, simple manufacturing: 5%, complex manufacturing: 10%, other goods: 9% and services (including tourism and education):19%.

Innovation lags competitor nations. At 2.01% of GDP, Australia has a lower R&D investment than the OECD average. Australia ranks even lower on patents per capita, implying that the investments are both smaller and less productive. Commercialization of innovation was highlighted as a problem in a recent OECD report; Australia had one of the lowest reported levels of collaboration between firms and universities (OECD, 2009c). Even among ‘innovation-active’ businesses, only 20.7% of Australian businesses reported collaboration arrangements (Australian Department of Innovation, Industry, Science and Research, 2009).

Large projected skills gap. If unaddressed, the forecast skills gap could continue to hamper future economic growth, particularly within innovation-intensive industries. Despite top ten PISA⁴ school assessments, Australia is the only country in the OECD to have reduced its investment in higher education over the past decade (OECD, 2009). Recent projections by Skills Australia,⁵ suggest that the country’s labour supply is misaligned with industry demands. Looming labour shortages by 2015 will be found amongst the most qualified sections of the workforce, at the diploma/advanced diploma, undergraduate, and postgraduate levels. To counter this shortage, approximately 2.4 million qualifications in the workforce are required at the Certificate III or higher levels (Skills Australia, 2010).

Firm Strategy and Rivalry: Australia’s social and political institutions are strong. Policy makers enact quality legislation (ranked 5th for effectiveness in the GCI), are trusted by the community, and are objective (ranking 10th on both measures in the GCI), but does have a key challenge of labour reform.

Labour relations and rigid wage structures are hindering productivity. Australia has a history of strong governmental involvement, a comparatively rigid wage structure, a high minimum wage, and difficult labour-business relations. Historically, Government has been heavily involved in labour relations,⁶ and labour representation is institutionalized in the political system with in the form of the Australian Labor Party. At almost 60% of the median, Australia has a comparatively high minimum wage, which could be constraining productivity growth as well as employment (Eslake, 2005). Recent industrial relations policy developments reflect poor labour-employer relations (Australia ranks 40th in the CGI). Despite an attempt to introduce workplace reform in 2006, a change in government in 2007 resulted in a reversal of this policy.

⁴ OECD’s Programme for International Student Assessment – a standard international student test

⁵ An independent statutory body that provides advice to the Federal Minister of Education

⁶ During stagflation concerns in the 1980’s the Government negotiated directly with the Australian Council of Trade Unions (ACTU) for wage constraints and productivity improvements in return for guaranteed low inflation.

Demand Conditions: The national diamond is underpinned by a sophisticated consumer market and demanding regulatory standards. However, Government procurement and poor promotion of ICT indicate that Government could play a stronger role in promoting innovation.

Current Policy to Address these Challenges

From a policy perspective, Australia has attempted to address some key issues highlighted above, but there are significant gaps, including economic diversification and climate change. The Government's 2010 Australian Workforce Futures Strategy aims to deepen skill levels and improve labour productivity. The strategy focuses on strengthening partnerships between education and training providers, and industry (Skills Australia, 2010). The Federal Government has also completed an innovation review that aims to "... double the level of collaboration between Australian businesses, universities, and publicly-funded research agencies over the next decade..." (Department of Innovation, Industry, Science and Research, 2009). Linked to innovation, Australia aims to overcome its poor telecommunications infrastructure with an ambitious \$43 billion superfast national broadband network. The national broadband network could complement efforts to enhance innovation.

Another area of missed opportunity has been tax reform. The Government commissioned a report from the head of Treasury (Ken Henry) in 2008. To date, it has been largely ignored. However, the Australian Government introduced a new resource super profits tax (RSPT) of 40%. This change is anticipated to generate an additional \$3 billion in 2012-13 and \$9 billion in 2013-14 from the mining industry.⁷

Strategic Recommendations for Australia

The challenges set out in the national diamond analysis are affecting Australia's competitiveness and slowing productivity growth. Importantly, this should include improvements to labour relations. Below are a set of comprehensive recommendations that would make a significant improvement to both the issue at hand, and Australia's productivity growth. The majority of the windfall from the new mining tax should be invested in building the fundamentals for future cluster development, overcoming innovation shortfalls and providing better skills to more Australians.

Building a strong, collaborative, cluster-based economy

⁷ Deloitte, http://www.deloitte.com/view/en_AU/au/news-research/henryreview/index.htm

- *High Priority:* Establish an independent National Cluster Center accountable to the Minister for Innovation. The center could map clusters, monitor cluster initiatives and provide impact-assessments and would also distribute grants to cities and states that undertake cluster policy.
- *High Priority:* Work with business to engage industry on cluster developments. Provide resources for institutions for collaboration that adopt a cluster approach.
- *Medium Priority:* Use federal Council of Australian Governments meetings to push cluster developments, especially those complementary to natural resources (mining, renewable energy, tourism and education).

Improving innovation

- *High Priority:* Leverage the cluster developments to align government funding for R&D and innovation with cluster priorities.
- *High Priority:* Increase national funding for basic research, and ensure all universities have well-funded 'commercialization' offices.
- *Medium Priority:* Utilize the National Broadband Network to push innovative ICT clusters by undertaking a 'barriers and opportunities' audit.

Closing the skills gap

- *High Priority:* Increase targets for enrollment in tertiary education and vocational training beyond the existing 3% per annum.
- *High Priority:* Use the cluster developments to engage employers on skill needs.
- *Medium Priority:* Encourage the immigration of skilled workers to address short-term needs.
- *Medium Priority:* Pursue further reform for the flexibility of vocational education and training.

Improving labour flexibility and relations

- *High Priority:* Reduce the rigidity of labour negotiations to enable greater workplace flexibility by enabling union-supported, enterprise level wage negotiations (currently collective negotiations).
- *High Priority:* Improve mechanisms for the Fair Work Ombudsmen to prevent workplace disputes, rather than merely resolve such disputes.
- *Medium Priority:* Engage business in 'win-win' elements such as better funding and support for on the job training.

- *Low Priority:* Investigate the feasibility of combining a lower minimum wage with strong tax credits for low income earners.

Adapting for, and mitigating against, climate change

- *High Priority:* Complete COAG water reform process by completing water-sharing plans across the nation and easing the agriculture industry away from large scale irrigation.
- *Medium Priority:* Give business policy certainty by enacting legislation to create an emissions trading scheme.
- *Medium Priority:* Help at-risk businesses innovate and invest in sustainable technology with a \$1 billion fund for coal infrastructure.
- *Medium Priority:* Use climate change and water efficiency as a pressure for innovation. Australia invented the dual-flush toilet, and it should continue this tradition by using some of the mining tax to establish an X-prize style⁸ fund for sustainability inventions (e.g., irrigation and water purification).

South Australia

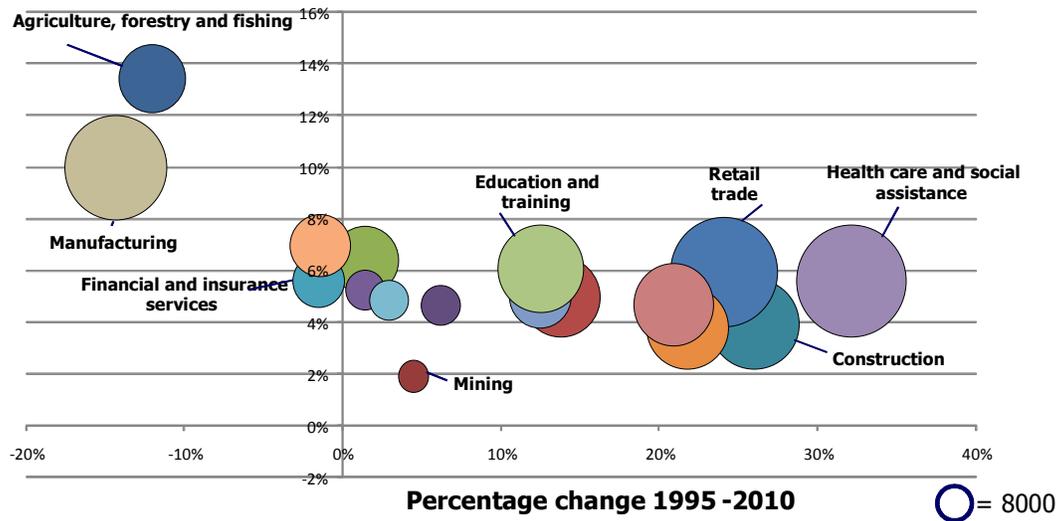
South Australia (SA) is the fifth largest economy of Australia's six states and two territories. Its relatively low population (1.6 million) is spread over an area larger than the state of Texas. It is also the driest state on the driest continent (ABS, 2009_b).

The colony of SA built its economy on mining and agriculture. In the middle part of the twentieth century, the state pursued a transition into mass-based manufacturing, a strategy intended to position the state to take advantage of global prosperity and the prevailing national tariff policy. SA experienced strong growth during this period, until the 1970s and 1980s when the rise of Asian manufacturing and the lifting of Australian tariffs exposed SA manufacturing to unsustainable price-based competition.

⁸ X-Prize is the term for innovation prizes such as the commercial space-craft and environmentally sustainable cars.

Figure 4:

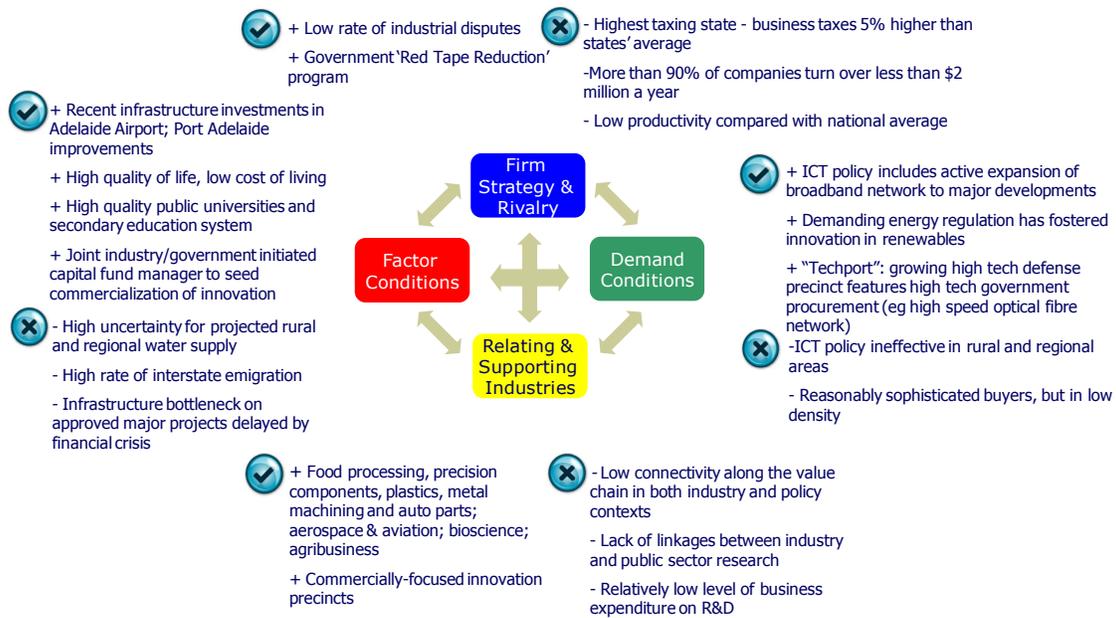
Share of national industry employment



The state’s current position within Australia can be analyzed in terms of each industry’s share of national employment. In 2010, SA’s historical strengths in agriculture and manufacturing are both in decline. In addition, none of SA’s growing industries have captured more than an 8% share of national industry employment.

South Australia’s competitiveness: A diamond analysis demonstrates several attractive features of the state’s competitiveness, compared to the other states. However, several major barriers are impeding SA’s progress toward an improved competitive position. In particular, SA’s productivity rates remain lower than the national average. In addition, there is relatively low connectivity along the value chain – in terms of collaboration between and among industries – as the SA government continues to pursue an industry-based policy for economic development. Finally, increasing climate volatility is putting real pressure on the state’s metropolitan and rural water supply.

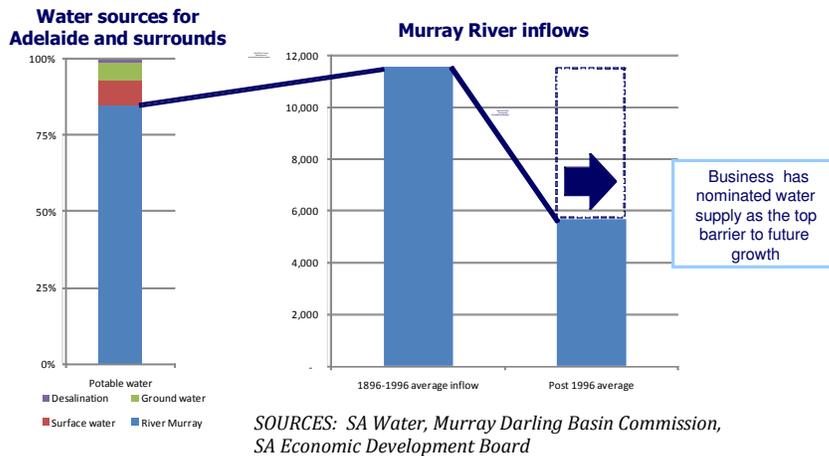
Figure 5: South Australia State Diamond



Factor conditions: Supplementing its already high quality of life and relatively low cost of living, SA has recently invested in improving its critical infrastructure with extensive upgrades

of Adelaide's airport and port.

Figure 6: South Australia's water supply uncertainty



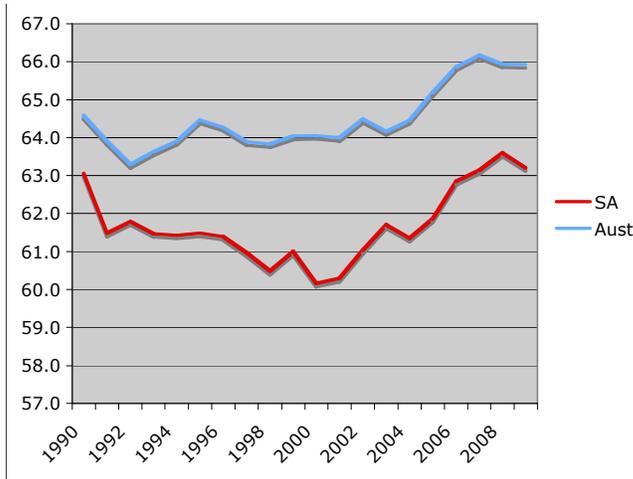
The challenge the state of South Australia faces in terms of the uncertainty of its long-term water supply is illustrated by the situation in its capital, Adelaide. The

state's capital and surrounding areas rely on a single water source – the Murray River – for well over three quarters of its water supply. Inflows to the Murray have been cut in half on average since 1996 (Murray Darling Basin Commission, 2008). For this reason, business has nominated water supply as the top barrier to the state's future growth. Water security is being addressed

largely through the construction of a desalination plant to service the metropolitan area, due for completion by the end of 2010 (SA Water, 2009).

Firm strategy and rivalry: In the context of a country with a rigid labour structure and frequently volatile labour relations, SA has enjoyed a lower rate of industrial disputes over the past decade (SA Economic Development Board, March 2009). The state government has introduced a Red Tape Reduction program to minimize bureaucratic barriers to competition.

Figure 7: SA vs national labour participation



SOURCE: Australian Bureau of Statistics

SA has a lower productivity rate than the national average, due in part to a combination of the industry mix in the economy and a skills mismatch. There is a related gap in labour participation rates when SA is compared with the national average (ABS, 2009).

In the short to medium-term, the state is reliant on three main areas to increase economic growth: construction, mining, and high-end manufacturing – including defense technologies and biotechnology.

On the basis of growth in these areas, there is a significant projected shortfall in skills – particularly in terms of basic vocational training and college graduates (South Australia Government, 2008). There is a continued gap in labour participation rates between the state and national average, suggesting further work can be done to bring long-term unemployed persons back into the active workforce.

Related and supporting industries: Many of SA’s successful industries relate to its historic basis in manufacturing – emerging specialties include precision components, metal machining and autoparts, aerospace and innovation and bioscience. However, the state government response to this transition has come in the form of separate industry policies ranging from agricultural products to manufacturing, evidencing a low level of connectivity along the value chain both within and between related industries.

Demand conditions: Federal and state ICT policy is currently driving the expansion of the broadband network to include new major developments, such as the “Techport” high tech defense precinct. However, access to internet and telecommunications networks remains poor

in rural and regional areas, and although consumers are relatively sophisticated the low number and density of population remains a challenge for local demand.

Current policies: Current government policy in response to the state's transitioning economy and diminishing competitive advantage in manufacturing is focused in industries rather than integrated clusters. The government has adopted a 'lead institute' vocational education reform model, establishing direct channels for private sector involvement in course and curriculum development. This model is also organized on an industry basis. Water security is being addressed largely through the construction of a desalination plant to service the metropolitan area, due for completion by the end of 2010 (SA Water, 2009).

Strategic issues and recommendations: These recommendations are aimed at positioning SA to take better advantage of emerging opportunities by aligning skills development with a cluster-based approach to economic development, particularly focused on higher-end specialized manufacturing, which also has the potential to service emerging opportunities in mining.

Diminishing competitive advantage: Government policy should support a cluster approach to economic development, which will be particularly important to position SA to capitalize on anticipated opportunities in traded services (education, R&D), mining (gold, silver, copper and uranium), and to build on SA's legacy of competitive strengths in manufacturing. In particular, the Department of Trade and Economic Development (DTED) should be restructured to support a Mining and Manufacturing cluster approach and should work with the private sector to establish a Mining and Manufacturing Cluster Advisory body.

Water supply: Government and industry should jointly pursue public-private partnerships to develop and fund additional water security actions in favor of regulated water restrictions. Existing water supply can be supplemented by non-climate dependent sources including expanded recycling and storm water capture.

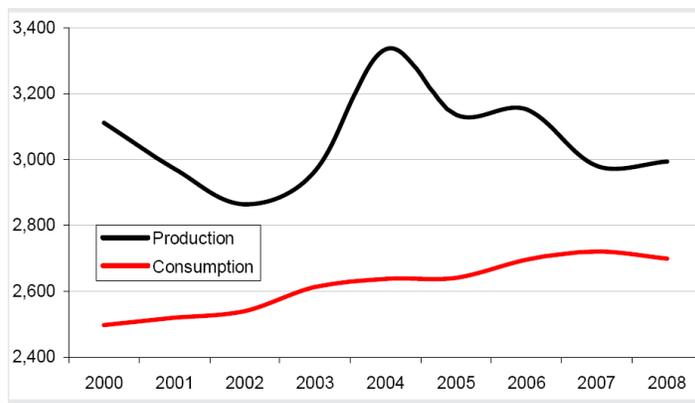
Skills mismatch and participation: Skills development policy should be reoriented to align with the cluster approach to ensure longer-term opportunities in mining and manufacture can be exploited by appropriately trained labour. The 'peak institute' vocational reform model should be expanded to include universities, and school-to-work transition programs should be developed to improve high-school completion rates and greater uptake of vocational training opportunities.

The South Australian Wine Cluster

Australia and the Global Wine Industry

Supply and Demand: The global wine industry produces about 3 billion cases of wine a year, and in 2008 consumption was 2.7 billion cases. Total production declined steadily in the early 2000's before picking up in 2003 and peaking in 2004. Since the middle of the decade, global production has been in decline. Consumption has been slowly rising over the past decade, but continues to lag overall production. This is illustrated in figure 8 below:

Figure 8: Global Production and Consumption of Wine (Millions of litres)



Source: Organisation of Vine and Wine

France and Italy are the top wine producers by volume in 2010 as has been the case for many years. Australia has consistently ranked among the top eight producers by volume, in roughly equivalent quantities to South Africa and Argentina (Morgan Stanley, 2009).

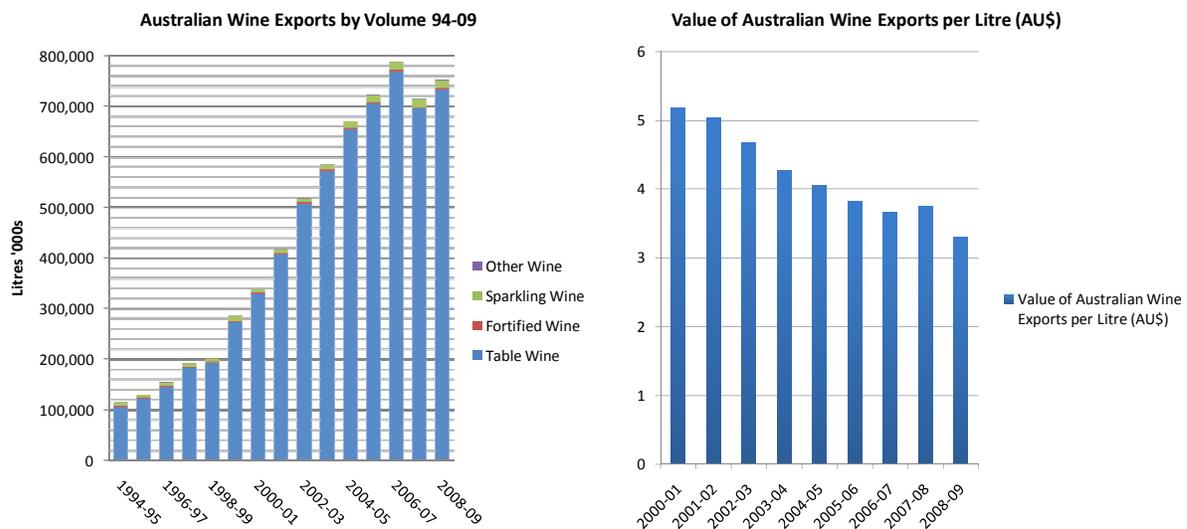
Australia's Wine Exports: Australia is now the fourth largest wine exporting nation after France, Italy and Spain, sending approximately 2.5 million bottles of wine overseas each day. The UK and the US are Australia's largest markets. Australia is the biggest wine exporter to the UK, and the second biggest to the US, behind Italy. The top five destinations for absolute value growth in Australian wine exports in 2008 were China, Denmark, Hong Kong, the UAE and Japan. China was the clear stand-out in 2008, with the value of exports to that market increasing by 32% (A\$18 million) to \$74 million. This ranks China as Australia's fifth largest market by value, but first in value growth (Morgan Stanley, 2009).

Export Volume and Value: In 2009-10, Australian wine export volumes increased by 7% from the previous year to reach 773 million litres valued at A\$2.2 billion. During this period,

Australian bottled wine shipments declined by 7% and an average value of AU\$ 4.14 per litre. In contrast, Australian bulk wine shipments increased by 38% at an average value of AU\$ 0.99 per litre, with the majority (42%) going to the UK. This means that 39% of Australian exports are now bulk wine, the highest percentage share in decades. In 1998, bulk wine made up only 15% of Australian exports, and remained well under 20% until 2005 when the percentage share began to trend upwards (Wine Australia, 2010).

The consequence of this shift to exporting more bulk wine is that while export volume is rising, the value of Australian wine exports is falling. This is illustrated in figure 9 below:

Figure 9: Australian Wine Exports by Volume and Value



It is notable that this increase in bulk wine exports brings Australia more into line with the bulk wine profiles of many other wine exporting countries such as Chile (40%), Spain (53%), Italy (33%), South Africa (50%), the US (47%) and Argentina (30%) (Wine Australia, 2010). Given that the costs of wine production is lower in some of these countries – especially amongst the ‘new world’ producers – Australia’s move toward low value, low quality wine has taken it into a segment on the market in which it will be unable to compete in the future.

Context

The SA wine cluster is the largest in all of Australia. In 2009, it accounted for 44% of all of Australia’s production and 66% of Australian exports.⁹ The cluster has experienced significant growth since the mid-1990s. Exports have increased by over 400% by volume since 1994. In 2009, SA Wine exports were valued at AU\$ 1.6bn and accounted for 17% of the SA export basket

⁹ Australian Bureau of Statistics

(South Australia, 2010). However, as figure 10 below shows, exports experienced a plateau in 2006, and have dipped slightly since 2007 (Australian Bureau of Statistics, 2009).

Figure 10: SA Wine Exports 1994-2009



Source: Australian Bureau of Statistics

A History of the SA Wine Cluster: SA has a long history of wine production dating back to the nineteenth century when John Reynell and Dr. AC Kelly first planted vineyards in the McLaren Vale region of SA in 1838 and when German settlers established wine production in the Barossa Valley. The state now boasts some of the oldest vineyards in the world, since it survived the 1875 phylloxera epidemic which decimated vineyards Europe, North America and the eastern regions of Australia.

Agricultural development in SA, including grape growing, increased during the 20th century. Following World War I and II, extensive “soldier plantations” – consisting of relatively small holdings (15-25ha.) – were established along the banks of the Murray River.¹⁰ During the 1970s and 1980s, the wine industry of SA went through a crisis spurred by low demand and high production costs, which led to a government-sponsored “Vine Pull Scheme” to rectify perceived imbalances in supply and demand.¹¹ Following the crisis, wine producers throughout Australia establish a number of institutions for collaboration to drive marketing, and research and development. At this stage, Australia was a net importer of wines and exports totaled less than AU\$15m (Anderson, 2004).

In the mid-1990s, the SA wine cluster grew rapidly in terms of volume and value due to a number of factors. Wine producers successfully lobbied for tax breaks which allowed for accelerated depreciation of new plantings. Regulation 75AA was introduced in 1993 which

¹⁰ Interview with Chris Byrne, Riverland Grapegrowers Association

¹¹ Interview with Stuart McNab, Fosters

brought a large spike in new market entrants and a rapid increase in vineyard expansion.¹² There were significant improvements in quality and productivity; production innovation, the successful branding of Australian wines as quality at affordable prices, favorable exchange rates and a shift in consumer preference toward fruit forward wines.¹³ The growing influence of Robert Parker's *Wine Advocate* and *Wine Buyer's Guide* through the 1990s played an important role in influencing a global consumer trend toward high alcohol, heavily fruited, oaked, young red wines – a value proposition to which Australian terroir was predisposed at the expense of Old World traditions and terroir (Shapin, 2005). His praise for Barossa Shiraz played a key role in popularizing 'bold' Australian reds.

Recognizing this growth and anxious to sustain it, the Australian Wine Foundation released Strategy 2025 in 1996. This strategy presented a vision to cement the competitiveness of Australian wine and identify niche markets for continued expansion over a 30-year time horizon. (Wine Australia, 1996). At the height of Australia's wine boom, grape prices increased to AU\$1200 per ton, more than four times cost.¹⁴ Extraordinary export growth and the tax regime allowed production to surpass Strategy 2025's targets well ahead of time (Wine Australia, 2007).

Although this success was sustained through the first few years of the 21st century, a number of challenges arose in the latter half of the decade which arrested the growth of the SA wine cluster and dented its competitiveness. The 1993 tax break had led to huge overplanting of uneconomic varieties¹⁵ and it was revoked in 2004 amidst concerns of an oversupply of grapes. An appreciation in the Australian dollar undermined the price competitiveness of Australian wine exports. A sustained drought drove up the costs of vineyards forcing them to rely further on expensive irrigation techniques to obtain water. Increased production of consumer-friendly wines at lower cost in New World producers such as Argentina, Chile and South Africa, as well as bumper harvests in Old World markets cut Australia's global market share.¹⁶

An Analysis of the SA Wine Cluster

The Cluster Map: The SA wine cluster comprises grape growers, vertically integrated wine producers, and brand owners who source grapes from grape growers for winemaking purposes. A plethora of firms within the cluster supporting grape-growing in South Australia, providing services such as tressling, fencing and vineyard equipment and consulting services. Wine

¹² Byrne, *Op Cit.*

¹³ *Ibid.*

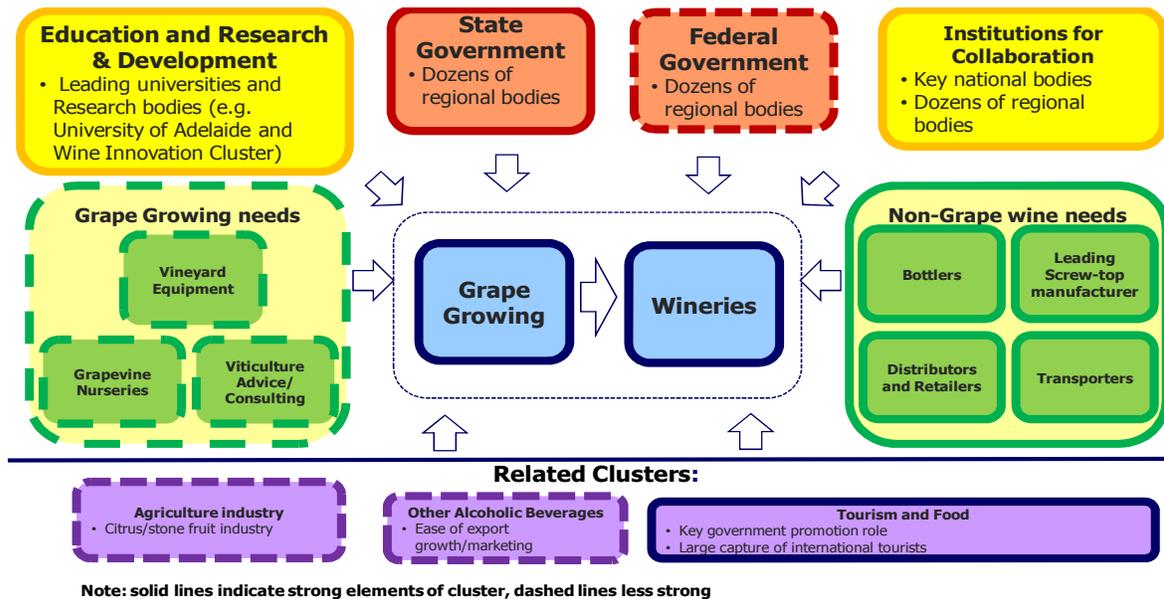
¹⁴ McNab, *Op Cit.*

¹⁵ Interview with Chris Byrne

¹⁶ Interview with Louisa Rose

producers are supported by industries manufacturing bottles, screw-caps and barrels. The cluster also comprises of viticulture and oenology research bodies, a range of institutions for collaboration and a range of state and federal-level statutory bodies. These components are set out in the map below:

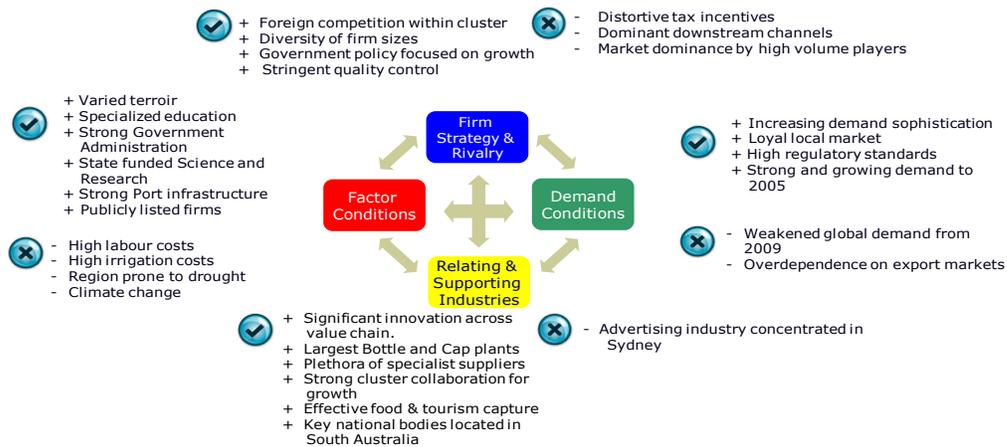
Figure 11: The SA Wine Cluster Map



The SA Wine Cluster Diamond

To understand the strengths and weaknesses of the various components of this map and the cluster generally, an analysis of the SA Cluster diamond is useful. Figure 12 below shows that the SA Wine Cluster is strong across the diamond, which helps explain the extraordinary history of the cluster.

Figure 12: SA Wine Cluster National Diamond



Factor Conditions: A major strength of the SA wine industry is the richness and diversity of its terroir. The state is able to produce a range of varieties across price points, from bulk to icon wines. The Barossa Valley alone lays claims to 30 soil types compared to six in the Bordeaux region of France.¹⁷

Specialized education and research at the University of Adelaide and the Wine Innovation Cluster underpin continuing research and development and innovation centered in Adelaide. Good infrastructure links vineyards to the city of Adelaide and facilitates exports through the Port of Adelaide to key international markets.

However, both high labour costs and high water costs have contributed to the erosion of profit margins. Climate change and the unpredictability of weather patterns, in conjunction with a history of drought introduce uncertainty and risk to the SA cluster and could threaten the long-term viability of the industry (Garnaut, 2008).

Firm Strategy and Rivalry: There are 3500 growers in SA, with the majority (1100) concentrated in the Riverland commodity grape-producing region.¹⁸ Grape growers are usually price takers – selling their produce, dependent on quality, to wine producers and brand owners. The rapid increases in vineyard acreage as a consequence of the mid-1990s tax breaks contributed to the current wine glut that has pushed down prices to unsustainable levels. In the Riverland alone, 15% of growers have exited grape production since the boom of the early 2000's and no growers are expected to cover operational costs for the 2010 vintage.¹⁹

¹⁷ http://www.musingsonthevine.com/tips_ter3.shtml

¹⁸ Chris Byrne, *Op Cit.* and Phylloxera and Grape Industry Board website

¹⁹ *Ibid.*

SA is home to 648, or 27% of Australia's wine producers. Winemakers in the state are of variable size with the majority of producers crushing 100 tons of grapes or less per vintage.²⁰ Four firms, Constellation, Pernod Ricard, Yalumba and Fosters, crush over 200 000 tons of grapes per annum. The number of wine producers in the state has increased 37% since 2005 from 478.²¹

Related and Supporting Industries: The non-grape growing elements of the SA cluster are particularly strong and have a notable history. Two of the largest wine bottle manufacturers in the world – Owen Illinois and Amcor have a presence in SA. Amcor invested in a new plant to increase its production capacity at a plant in which raised its production capacity to 400 million wine bottles a year (equating to sales of around AU\$80 million), providing 90% of the SA wine cluster's bottling needs.²² Amcor moved into the manufacture of metal screw-caps in 2005 to compete with the Adelaide-based Alcan. Other non-grape related products include bins, pallets and bladders which are all produced by firms such as Upper Murray Case Supplies. There are also twenty one firms supplying barrels, the most prominent being Henrich Cooperage.

Grape growers are supported by a number of firms such as the firm Tolley Viticulture that provides services such as mechanized pruning, harvesting and summer trimming. Davidson Viticulture provides expert advice to vineyard owners on planning and management, quality benchmarking and adapting vineyards to climate change.

The most significant related and supporting clusters to the SA Wine Cluster are Food and Tourism. The centrality of these clusters to one another has led the South Australian state government to produce a South Australia Food and Wine Tourism Strategy. This strategy notes that food and wine tourism in SA accounts for \$4.2 billion in expenditure in 2007 and sets a target to achieve expenditure of \$6.3 billion by 2014 (South Australia, 2010b).

40% of international visitors to SA visit at least one winery during their stay. Winery cellar doors are no longer simply venues to taste and purchase wine, with many offering a complete tourism experience, including services such as restaurants, accommodation, tours, picnic and recreational facilities. Wine tourists to SA's six main wine regions visit an average of 4.4 cellar doors per visitor per region or an average of 4.75 million cellar door visits.

In addition, 'Tasting Australia', a biennial international food, wine and beverage festival held in Adelaide, South Australia provides ample opportunity to build links between the food, tourism and wine industries.

²⁰ Winebiz website

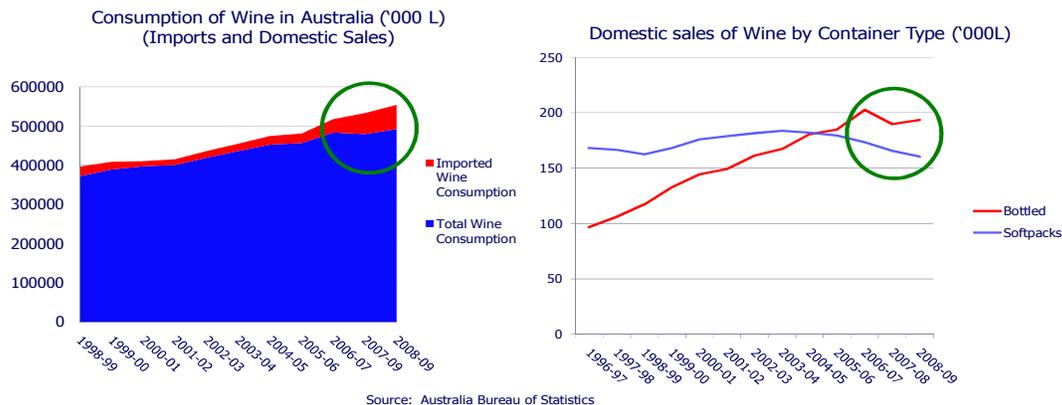
²¹ *Ibid.*

²² www.amcor.com

Demand Conditions: Australian wine consumers are frequently cited by Australian wine producers as being ‘our most loyal customers’²³. Demand for wine in Australia has grown steadily in the last twenty years and is concentrated in domestically produced wine. The market share of domestic wines has reduced in comparison with that of imported wines. In 2008-09, Australian-produced wine accounted for 87.4% of total domestic sales, while imports accounted for 12.6%, up from 7.1% two years ago. Over half of this by volume comes from New Zealand (2.5 million unit cases in 2008), but France is a key source of imports when considered by value (\$180 per case in 2008) (Morgan Stanley, 2009). This growth in imports can be partly explained by the appreciation of the Australian dollar over the last six years and possibly a growing sophistication of Australian and their deepening knowledge of global wine.

There are also some indications that the Australian consumer has become more sophisticated over the past decade, as illustrated by the change in the sales of soft packs and bottled wine. In 2000-01, soft packs accounted for 54.1% of domestic sales. However, by 2008-09, 53.2% of domestic sales were sold in glass containers less than two litres. The amount of table wine sold in soft packs fell to 160.4 ML, 3.2% less than in 2007-08. Soft pack sales comprise 44.1% of the total domestic sales in 2008-09 (Australian Bureau of Statistics, 2009). Both of these trends are illustrated in figure 13 below.

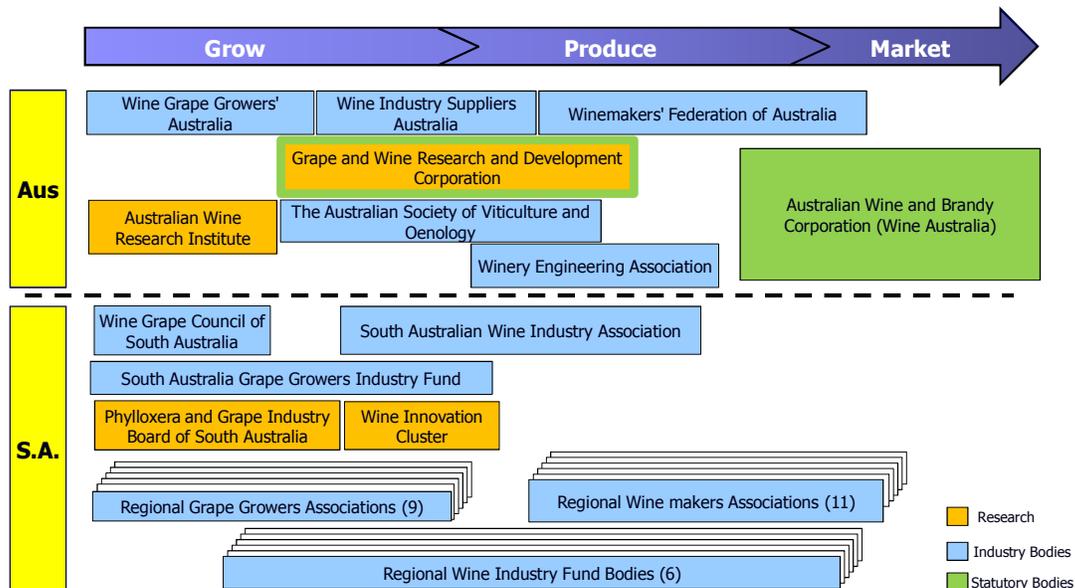
Figure 13: Size and Sophistication of Domestic Demand



Institutions for Collaboration (IfC): IfC's have played a critical role in the development and success of the SA wine cluster throughout its history. As the diagram below shows, IfCs are numerous and operate right across the entire value chain, operating at both the federal level and state level. These institutions are engaged in critical intermediary activities, most notably facilitating collective action and disseminating industry information. The SA Wine Cluster has benefited from this intensive collaboration, which has led to advances in technology (e.g., screw-

²³ Interview with Louisa Rose, Yalumba Wine

caps) and vineyard management (e.g., drip irrigation and mechanical harvesting). A list of the functions of these IfCs can be found in Annex I.



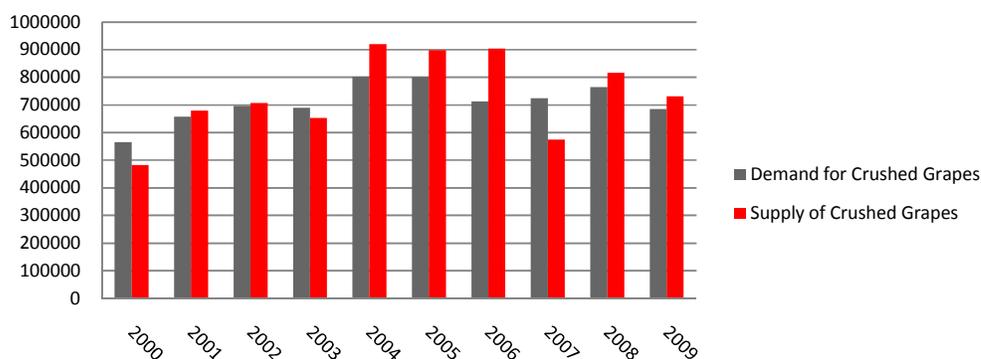
Challenges Facing the SA Wine Cluster

The challenges facing the SA Wine cluster are complex and inter-linked, but can be broken down into two interlinked issues – the oversupply of uneconomic grapes and the price point of SA wine in key export markets. Through an analysis of the twin problems of oversupply and the price point of SA wine, it is possible to understand some of the key factors driving the declining value of SA exports, including the rising costs of producing wine, the lack of diversified distribution channels in export markets and the declining perception of ‘Brand Australia’ in these markets.

The Oversupply of Uneconomic Grapes: In the short-term, oversupply is the most critical issue that needs to be addressed and has been highlighted as a key area of concern by a range of actors involved in the cluster. One industry report argues that “Under the current industry structure, some growers and wine producers must and will exit the industry as margins fall below sustainable levels in the face of oversupply and weakening demand for Australian wine in the global marketplace” (Radobank, 2009). Similarly, in November 2009, the Australian Wine Grape Growers Association (AWGGA) released a report in which they specified that “at least 20% of bearing vines in Australia exceed requirements and there is a current surplus of more than 100 million cases” (AWGGA, 2009).

Figure 14 below illustrates the consistent mismatch between supply and demand:

Figure 14: South Australia Historical Grape Production Chart (Tonnes)



Source: Phylloxera and Grape Industry Board of SA

The main reason for the oversupply problem is that there are too many vineyards producing low quality fruit at too high a cost. This is mainly a legacy of the rapid planting that took place between 1995-2005 which meant that a large proportion of vineyards in the cluster do not meet best practice specifications, with deficiencies in how they are managed, where they are located, and what is planted. In addition, the costs of producing wine are rising, relative to global competitors such as Chile, South Africa and Argentina²⁴. Specifically, vineyard labour costs are higher than competitors and irrigation costs are rising as water becomes an increasingly scarce resource in the driest state in Australia.

A study undertaken by the AWGGA on the viability of Australian vineyards shows that 17% of the fruit being produced in Australian vineyards are ‘uneconomic’. This means that the grapes being grown are too costly for the quality being achieved. The studies reveal that Australian vineyards are producing low-grade grapes at costs that are too high and therefore making Australian wine uncompetitive (AWGGA, 2009). The Winemakers Federation of Australia estimates that at least 27 million cases of wine were sold below cost in 2009 (AWGGA, 2009). As one analyst explains, “Volumetric success in an oversupplied market can be agonizingly unprofitable, value destroying and image corroding”.²⁵

Under usual circumstances, market forces should be sufficient to restructure the market. However, there are various reasons that suggest that while this should happen over time, there is likely to be a protracted delay. Firstly, there is a lack of understanding amongst many grape growers in SA of the uncompetitive nature of low quality wine. This perspective is particularly

²⁴ Interview with Louisa Rose

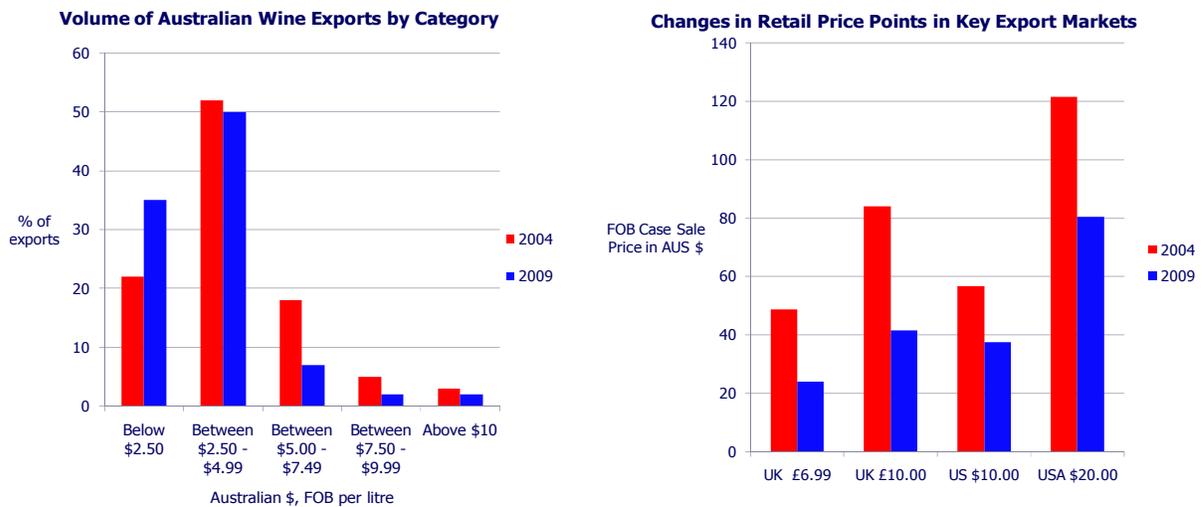
²⁵ Andrew Jefford cited in Wine Federation of Australia, Regional Workshop slides 2010

prevalent amongst the so-called 'lifestyle' or 'hobby' farmers in South Australia, farmers who have a second income and are therefore able to sustain protracted financial loss. Secondly, many growers are locked into multi-year set price contracts with producers and thus have no incentive to respond to shifts in the market. Finally, grape farmers are often disinclined to respond to market signals and either cease production or switch to alternative fruits due to the high sunk capital costs involved in vineyards and the perceived lack of market opportunities for other fruit.

The Price Point and Value Proposition of the SA Wine Cluster in Key Exports Markets:

Intimately linked to the issue of oversupply is the price point of SA wine in key export markets, specifically the UK and the US. Figure 15 shows how Australian wine's price point has changed between 2004-2009 in both the US and UK:

Figure 15:



Source: Australian Wine and Grape Corporation and Australian Wine Grape Growers Association

There are a number of factors that explain these changes.

Power of the Supermarkets: The UK was the main export destination of Australia's wine in 2009 in volume terms and the primary recipient of the increased low-value bulk wine that is being exported. Eighty-five per cent of this wine is sold through supermarkets such as Tesco and Sainsbury's.²⁶ This concentrated distribution channel has resulted in a significant power imbalance between these retailers and SA exporters, with supermarkets able to hold down

²⁶ New York Times, July 3 2009

prices of Australian wines in supermarkets, despite the severe implications this has for the margins of producers.²⁷

Decline of 'Brand Australia': 'Brand Australia' has also been severely eroded by the focus of producers on exporting low value wine. One industry analyst commented that the "generic reputation [of Australian wine] has created a problem for the country because partly we are dependent on heavy growth in the low end of the market. Whereas there is a lot of very high-quality wine here that struggles to find markets in the U.S. because people aren't very familiar with those particular labels" (Kim Anderson in New York Times, 2009). In short, one reason why the supermarkets are able to hold down prices of Australian wine is because consumers have come to associate the Australian brand with a 'low cost, low quality wine' and are unwilling to pay more for what they see as a 'cheap and cheerful' product. The value proposition of Australian wine has therefore been severely damaged and must be rejuvenated if SA wine is to remain competitive. Even if South Australian producers are able to shift towards producing higher quality wines, it will be unsuccessful at achieving a meaningful position in key export markets if steps are not taken to rehabilitate 'Brand Australia'. Part of the problem with the branding of Australian wine abroad is done mainly by Wine Australia, an arm of the Australian Wine and Brandy Corporation, which operates at the national level. This has inhibited the development of more nuanced branding strategies based on specific regions with particular stories, which is essential for success in the higher premium wine market.

Currency Appreciation: The appreciation of the Australian dollar against both the UK sterling and the US dollar over the last six years has exerted additional pressure on the margins of SA wine producers in their two most important export markets. Moreover, analysts suggest that the current value of the Australian dollar is not a short-term volatility but will remain strong as a consequence of Australia's commodity exports²⁸ However, rather than the price of Australian wines rising in the US and the UK as a consequence of this appreciation, the power of the supermarkets has meant that they have been able to stagnate the price point, so the cost of the currency appreciation is not borne by British or American consumers, but has become a further squeeze on the margins of SA wine producers.

Unsustainable Price Point: What all of this demonstrates is that the current price point for SA wine producers in these export markets is unsustainable for Australian wine producers, given their cost structures relative to other producers around the world. An analysis of the cost structure of producing SA wine and exporting it to the UK illustrates why the current position of

²⁷ Interview with Louisa Rose, Yalumba Wine

²⁸ Interview with Stuart McNab

Australian wine is unsustainable. When an Australian bottle of wine is sold in a UK supermarket for £7.99, the retailer margin takes £3.70, while the producer keeps only £1.24 to be spent on marketing, sales expenses and profit. As one analyst explained, “It’s not sustainable for Australia to be trying to produce the world’s cheapest wine; we’re totally unsuited to it.” (Jeremy Oliver, New York Times, 2009)

The Impact of Climate Change on the SA Wine Cluster: Climate change threatens the most important endowment of the SA wine cluster: its terroir. A 2008 study predicted that by mid-century, the SA wine industry could face a 44% reduction in suitable growing area with grape quality also be reduced. (Garnaut Review, 2008). The same study predicts that without intervention the value of agricultural goods produced in the Murray River basin will decline by 12% by 2030 and 49% by 2050.

One of the principal challenges of climate change is the implications it will have for water availability. 55% of South Australian vineyards rely on irrigated water from the Murray River and 24% from the Great Artesian Basin aquifer.²⁹ Average annual rainfall in key wine growing regions in the west and south of the state have declined by 30 mm since the 1970s.³⁰ In 2007, at the height of the recent drought, it is estimated that Lower Murray grape growers spent more than half their 2007 gross income to purchase water to service the 2008 vintage.³¹ This increase in the cost of water is likely to place extra pressure on the cost structures of vineyards in SA in the long term. A range of studies have been commissioned, and various voluntary agreements entered into, operational agreements with clear and sustainable targets and viable sanctions have not materialized.

Current approaches to addressing these challenges

There is a range of activity at both the federal and state level to attempt to address the challenges that face the SA Wine Cluster.

Federal and Cluster-level Strategies: The SA Wine Cluster’s strategic plan was published in 2010 as blueprint for partnership between state government and institutions of collaboration within the cluster. The document specifies the most significant issues facing the cluster – including oversupply, market position and climate change – and aims to establish Partnership Councils amongst key actors within the cluster, both government and industry. At the time of writing, this Strategic Plan lacked an implementation plan to operationalize the strategy, although it is understood that it is in the process of being completed.

²⁹ Australian Science Media Centre website.

³⁰ Climate Change in Australia (government website)

³¹ Byrne, *Op Cit.*

This cluster-level plan is designed to feed into the federal-level strategic planning process, known as Directions to 2025, which provides a vision for Australian wine through to 2025. The latest version of this was released in 2007 and focuses on value growth of the industry up until 2015.

Recommendations for the SA Wine Cluster

Short term Recommendations: Addressing Oversupply

- *Build stronger commercial partnerships between grape growers and wine producers:*

Currently, grape growers are not responsive to the changes that have taken place in the market because of an inadequate understanding of consumer trends. While IfCs have been effective at bringing together actors operating at the same part of the value chain, there has been insufficient connectivity between groups operating at different parts of the value chain. The cluster would benefit from institutionalized commercial integration between growers and producers that ensure both groups have a shared stake in the position of SA wine in key export markets and a shared understanding of how to improve it.

- *Provide support to vineyards to improve their understanding of their cost structures and long term viability*

Vineyards need to develop a more comprehensive understanding of their long term viability based on their existing cost structures and how those costs are likely to change over time. In addition, support can be given to vineyards to improve their management, operations and efficiency based on best-practice.

Medium term Recommendations: Addressing Price Point and Improving 'Brand Australia'

- *Replace the wine equalization tax with a volumetric tax system*

The Henry Review – a Federal Government-initiated review into Australia's tax system - proposed the removal of the wine-specific Wine Equalisation Tax (WET) and the creation instead of a volumetric tax rate for all alcoholic drinks. This would have meant the volume of wine was taxed, rather than its value, which would have resulted in sharp rises in the prices of cheaper wines but cut the prices of premium wines. The Australian wine industry lobbied vigorously against this proposal and it was eventually rejected by the Federal government who opted to keep the WET in May 2010. The wine industry argued that the tax change would lead to 95% of Australian wines increasing in price, 29,000 hectares of vineyard made redundant and 12,000 jobs lost (WFA figures).

There is no doubt that a volumetric tax would have seismic implications for the South Australian wine cluster. But in the medium-term, government should consider moving towards a tax regime that encourages producers to move towards premium, higher quality and higher cost wines. If the cluster is given specific warning well in advance of this change being introduced, it should provide sufficient time and incentive for vineyards and producers to restructure in the medium term.

- *Devolve Branding and Marketing to the Regions*

The federal-level Wine Australia has played a central role in marketing and branding Australian wines in key exports markets such as the US and the UK. This has led to a generic Australian brand overseas. Branding and marketing should be devolved to the regional-level so that they can develop a distinctive narrative to target the premium consumer.

- *Diversify Distribution channels in main exports markets*

An improvement in branding and marketing will require the SA Wine Cluster to move away from distributing wine through large supermarkets and explore alternative means to sell their product in exports markets. This would tackle the challenge of the large power disparity of SA wine producers in relation to the supermarkets, but also assist with creating a more distinctive and exclusive identity for the wines of SA's regions.

- *Exploit new, growing markets*

Growth in consumption of wine in markets such as Russia and China has increased steadily over the last decade. Russia has experienced the most significant increase in its consumption of wine, growing by 9% between 2001-08 and China at 5% . South Australia's exports continue to be concentrated in the UK and the US with 65% of total bottled wine exports going to these two countries in 2009/10 (Wine Australia, 2010). Steps need to be taken to achieve a meaningful position in these markets in the medium term. Beyond this, South Australia cluster exports to other Asian countries remain extremely low (below one million cases a year for most countries) and present another opportunity to diversify export markets.

Long Term Recommendation: Adapt the Cluster to a Changing Climate

- *Implement and regulate sustainable climate change and water management agreements*

Despite national, state and sector strategic plans, and climate change voluntary agreements, there is an absence of a clear, sustainable and actionable implementation schedule with clear

sanctions for violators. The South Australian government, in partnership with industry, should develop and implement such a plan as a matter of priority.

- *Certify and actively market a “green” South Australian brand*

Work with the AWRI and the University of Adelaide to establish clear criteria for a “green” wine brand, premised on demonstrated organic production techniques, sustainable water usage, the use of recyclable packaging materials, and low carbon emission production and distribution. Leverage government commitments to mitigate climate change to encourage Wine Australia to actively market “green” products to targeted consumers in the European and American markets. Environmentally conscious consumers generally consume premium products.³² A sustainable ‘green’ product will help to build a new market segment within the premium sector of the market and address sustainability concerns.

- *Structure research collaboration and fund research to adapt to and mitigate the effects of climate change*

The AWRI does not have sufficient resources to meet its traditional mandate and cover environmental research across the entire value chain for water shortages, water salinity, risk modeling, risk management, rootstocks, carbon emissions, sustainable production techniques, weather proofing, regulation and information dissemination.³³ The successes of the nascent Wine Innovation Cluster – incorporating expertise from the University of Adelaide, AWRI, South Australian Research and Development Institute and CSIRO – must be reinforced to address short and long-term challenges. Addressing the effects of climate change is a public good. Industry should cost and implement a climate change levy on each ton of grapes crushed to fund research in the interests of the industry as a whole.

³² Byrne, *Op. Cit.*

³³ Sakkie Pretorius, Australian Wine Research Institute.

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Executive Director, Riverland Wine Grape Growers Association

Member, South Australian Wine Industry Council

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Louisa Rose

Winemaker, Yalumba

Co-Chair, South Australian Wine Industry Council

Interviewed 7 April 2010

Stuart McNab

Director of Wine Production (Australia and New Zealand), Fosters Group

Chair, Australian Wine Research Institute

President, South Australian Wine Industry Association

Co-Chair, South Australian Wine Industry Council

Interviewed 19 April 2010

Sakkie Pretorius

Managing Director, Australian Wine Research Institute

Professor in the School of Agriculture, Food and Wine at The University of Adelaide

Member, Leadership Group, Wine Innovation Cluster

Interviewed 14 April 2010

Paul van der Lee

Manager, Economics & Policy, Winemakers' Federation of Australia

Interviewed 21 April 2010