COMBINING AMENITY WITH EXPERIENCE: EXPLORING THE HIDDEN CAPITAL OF A WINESCAPE EXPERIENCE

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ABSTRACT: Industry and government bodies have recommended augmentation of traditional production and marketing techniques as ways of increasing an industry's profitability. This paper values the amenity of the wine industry, a sensory experience that provides an array of opportunities both culturally to the tourist and economically to many regions across the world. Using the wine industry in the Central West region of New South Wales, Australia we use Input-Output analysis to assess the economic impacts of this industry and the amenity hidden within. Not only does the industry provide jobs and commerce supporting local prosperity, it also supplies a mixed production and consumption amenity from an agricultural product that meets the tourist's leisure desire – an amenity that transcends from its origin in the vineyard to its destination at the table.

JEL Classifications: C67, J68, P11, Q01, R11, R23

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INTRODUCTION

Recreational, cultural and culinary amenities attract people who are searching for an escape or an experience (Pavelka and Draper, 2015). Such people negotiate their leisure with various ideals that

usually involve past experience, attractiveness and atmosphere of the destination (Moss, 2006; Sparks, 2007). One particular industry throughout the world provides a combination of both amenity and experience. Since biblical times, people have been migrating to cultural events to taste wine and food and very little has changed (Pettigrew and Charters, 2006). Today people travel further and faster than ever before and are constantly looking for that special experience; the viticulture and winery sectors of an economy continue to provide such an amenity, however the degree to which regions are utilising this age-old desire for economic development is the focus of this paper.

The wine industry is a sensory experience that provides a labyrinth of opportunities both culturally to the tourist and economically to many regions across the globe. In recent years the Australian wine industry has had its challengers (Grant, Mounter, Fleming, Griffith, and Villano, 2015) but it still plays a pivotal role in some of Australia's regional economies supporting over 20,000 full-time equivalent jobs in 2012 and contributing $1.8 billion of Australia's wine exports (McFarlane, Morales, Mounter, and Fleming, 2014).

Furthermore, wine tourism is becoming an increasingly vibrant part of the Australian economy, with an estimated 600,000 international wine tourists visiting Australia in 2009 contributing $7.4 billion to the economy and in particular, to regional economies (Tourism Research Australia, 2010). This is not to say that the wine industry is the main 'cause' of tourism; yet it is one reason why tourists visit Australia (Z. Yang and Cai, 2016). The wine industry benefits significantly from the tourism sector and *vice versa* – both sectors are closely linked (Bowe, Lockshin, Rungie, and Lee, 2015; Gómez, Lopez, and Molina, 2015; Quadri-Felitti and Fiore, 2012). Arguably, while explicitly endorsed as an element of industry policy – see, for example, Guy (2014, 2015) – research on wine tourism in Australia is still in its infancy (for notable exceptions see Beames, 2003; Carlson, 2004; Getz, 2000; Getz and Brown, 2006; Mitchell and Hall, 2006). This paper seeks to provide empirical evidence of the prosaic understanding that the 'wine industry' is important to any regional economy.

We provide measures of the economic contribution of the wine industry and dissect and formulate the wine tourism sector (Perkins, Mackay, and Espiner, 2015). The results from these modelling techniques highlight the dynamic shifts that have occurred in the industry since 2001. Importantly, the results deliver a set of refined economic indicators that help guide future policy and

decision making for the industry, especially given the techniques can be applied to other regions in Australia and internationally.

The remainder of the paper consists of four sections. The next section provides a literature review to contextualise our contribution. Next, the case study region and methods are outlined. The results are then presented and the final section provides a discussion of the implications of our research along with some concluding remarks**.**

LITERATURE REVIEW

Amenity is an important factor driving regional sustainability in many regions across the globe and many recent studies are indicative of this (Argent, Tonts, Jones, and Holmes, 2014; Matarrita-Cascante, Sene-Harper, and Stocks, 2015; Ooi, Laing, and Mair, 2015; Yoo, Simonit, Connors, Kinzig, and Perrings, 2014). The sense of wellbeing or happiness gained from wine grapes, wineries, landscapes or even an experience can be classed as an amenity (Byrd, Canziani, Hsieh, Debbage, and Sonmez, 2016; Perkins et al., 2015). Pavelka and Draper (2015) found that people migrate to the regions in search of places that provide extraordinary physical, recreational and cultural capital or alternatively to reinvent a work-life balance. However, considering whatever an amenity has on offer for reasons of migration, it must be notated that the length of stay is important, for the longer people stay, the more money is likely to be spent locally Galloway, Mitchell, Getz, Crouch, and Ong (2008); (Y. Yang and Zhang, 2015).

A study of European tourists taking breaks on the island of Madeira, concluded that the length of stay is positively related to age, gender, education, German nationality buying wine and previous visiting, and is thus related to quality of the experience (Barros and Machado, 2010). On the other hand, a study of Calgary, Ontario indicated that the rural landscape is important in visitor enjoyment of the wine tourism experience (Carmichael, 2005), inclusive of cultural and outdoor attractions (Getz and Brown, 2006). While research undertaken in Australia to investigate potential wine tourists' intentions to take a wine-based escape (Sparks, 2007), alternative research also found similar results as the Canadian study's, however, combining a culinary experience will also influence the tourist to visit the region (Pettigrew and Charters, 2006; Sparks, 2007).

Through the use of I-O modelling, a better understanding can be gleamed of what constitutes 'wine tourism' and the economic relationships that reverberate through the economy (Charters and Ali-Knight, 2002; Kim, Kim, and Laesser, 2015). Cluster analysis both in theory and application supports the movement from comparative advantage to competitive advantage (Porter, 2008) as found by Jackson and Murphy (2006) in their study of four regional towns located on the Murray River in Australia. Their analytical tool identified the vital attributes within the local tourist, service-based industries and also identified those industries that are lacking economically.

Furthermore, Carlson (2004) found that the service based firms are important that surround the amenity associated with wine. However, the key attributes that must be provided locally, involve service quality and the setting and surroundings of each winery visited. We assume that value-for-money is not an attribute sought by wine tourists. This proposes that quality wine producers may receive a premium for their product through the provision of valuable wine consumer experiences.

Not only is the tourism product concerned with clusters, it also consists of complex relationships between rural cultural systems, production and consumption of wine tourism (Olivieri and Giraldi, 2015). This was also suggested in two culturally distinct wine regions: namely Champagne, France, and Margaret River, Western Australia. Mitchell, Charters, and Albrecht (2012) findings' indicate the importance of situating wine tourism within the wider system of rural land tenure and capturing the regional wine cultural composite.

In contrast to I-O modelling is the Computable General Equilibrium CGE technique. Debates continue among modellers over the preference of the CGE technique in analysing the economic impacts of tourism that as more relevant to real world tourism destinations (Dwyer, Forsyth, and Spurr, 2004; Inchausti-Sintes, 2015; Pham, Jago, Spurr, and Marshall, 2015; Tan et al., 2015). However, CGE has been criticised for not providing sufficient detail at the regional level when compared to I-O's micro approach (Pratt, 2015a; Roberts and Stimson, 1998).

Despite these intractable debates, I-O and CGE have much in common in terms of the questions addressed, data requirements and their range of applications (Denniss, 2012). Rose (1995) examined these in a balanced way, arguing that both will continue to evolve and to serve as vital tools of economic tourism analysis.

An I-O study of tourism in the Seychelles found that visitors' countries of origin related almost entirely to the magnitudes of expenditure, resulting in implications for direct marketing to countries that have citizens who can spend tourist dollars (Archer and Fletcher, 1996). These expenditures are important, as revealed by a study of the Grape and Wine Industry in Idaho's economy: tourism expenditures stimulate other businesses in addition to the agribusiness that are linked in the production of grapes and wine (Foltz, Woodall, Wandschneider, and Taylor, 2007), in the same way as they do in the Rioja wine region in Spain. The study used I-O to estimate the economic impact of the local wine cluster and its role in regional economy in order to understand the spread of welfare among the local population (Larreina and Aguado, 2008).

METHODS

The Case Study Region

Figure 1 represents the Central West region of New South Wales (NSW), the example case study in this analysis. This area is deeply linked to viticulture and wine production and these industries play a key role in the regional economy. The Central West is one of Australia's cool and warm grape producing wine zones, although its four constituent regions are beginning to gain renown at both national and international levels. Cowra, Mudgee, Orange and Bathurst are nestled in the hills approximately 130km north-west and west of Sydney, each with a slightly different composition of soils and climate.

[Insert Figure 1 here]

Approach

In order to put a numerical figure on the amenity of the wine industry, we first need to evaluate the economic impacts of this industry on employment in 2012 and compare these results with the impacts in 2001 and 2006. Secondly, we evaluate the economic impacts of the wine industry on income in 2012 and compare these results with the impacts in 2001 and 2006. Finally, we then assess the economic impacts the wine industry has had on tourism in 2012.

An accurate way of calculating an "economic impact" of a given region is the use of input-output (I-O) tables. This technique allows an assessment of the kinds of interlocking relationships between industry types, thereby indicating particular strengths or weaknesses in a region's economic system. Using the collection of data supplied by various sources, we have constructed a sub-category sector for Viticulture in the Central West regional table. From this we have developed I-O models (Social Accounting Matrices) for the years of 2001, 2006 and 2012 and measured the Tourism impacts for 2012 using expenditure data taken from final demand (Akkemik, 2012); Fletcher (1989); (Gül and Çağatay, 2015).

Data

Table 1 below represents the data sources. The Data for the Central West have been assembled by drawing on ABS (2001, 2006, 2012), Wine Australia (2012), Tourism Research Australia (2012) and surveys (2013).The "X" indicates the how the data is located to calculate the results. For example, the Tourism Impacts were calculated using data from the ABS, Wine Australia and Tourism Research Australia.

[Insert Table 1 here]

Viticulture Data

A survey was undertaken (interviewed 167 wine related business) to document the amount of grape-growing hectares in the Central West. Viticulturists from the Central West region supplied a detailed decomposition of the cost structures of three disparate grape-growing vineyard models: Mudgee, Orange, Cowra and Bathurst (2013). Wine Australia supplied the average yield (tonnes/ha) and the average grape price ($/tonne) (2012). The Australian Census of Population and Dwellings provides Viticulture employment data (2001, 2006, 2012; 2013). Also, it must be noted is that not all the grapes grown within the Central West is processed locally and this percentage was also collected (2013).

Winemaking Data

We determined the average industry costs and revenue decomposition. To do this we sourced data from the Australian wine industry benchmarking survey by Deloitte (2002, 2007, 2009). In particular,

we used the income statement which disaggregated costs and revenue by line item. The data were provided as an average percentage of total winery sales disaggregated for wineries within each of the three listed revenue groups ($0-1m, $1-5m and $5-10m).This was also cross-referenced with the surveys completed within the region (McFarlane, 2013).

Wine Tourism Data

The data supplied by Tourism Research Australia (2001, 2006, 2012) consisted of number of visitors to wineries and there expenditures whilst enjoying the local wine-scape.

The I-O Model

The main feature of the I-O model is that it provides a picture, in a very detailed way, of the structure of the economy at a particular point of time. It includes all the transactions (both purchases and sales) that occurred during the time interval of, usually, one year, and thus provides a basis for the detailed analysis of sectorial relationships within the economy. If there is a change in the purchasing or sales pattern of any industry, the flow-on effects to every other industry can then be calculated (Leontief, 1936).

An I-O model is highly useful for regional impact analysis, because the effect of (say) a particular industry on each and every sector in the region can be traced, additional infrastructure requirements (transport, water, electricity, public administration, etc.) can be estimated, as are the additional physical inputs which will be required through trade-related industries (Fletcher, 1989).

The application of I-O analysis in an economic impact study basically involves two steps: First, the acquisition or construction of an appropriate regional (or national) transactions table. Second, the transformation of the initial impact or stimulus into a form that is compatible with the I-O equations. With these two steps taken, the flow-on or indirect impacts can then be estimated. For further info see Jensen and West (1986), West and Jackson (2005) Munday, Turner, and Jones (2013) and Pratt (2015a).

The choice to use I-O or social matrix modelling rather than computable general equilibrium (CGE) came down to practicality in terms of both time and money (Stoeckl, 2012). Regardless, CGE heavily relies on I-O tables for calibration. Others have argued for the use of CGE to measure tourism impacts (e.g. Dwyer et al., 2005) but, given the uniqueness of the wine tourist and how they like to

spend money on the winescape experience, we found that I-O is more practical and accurate at the local government area level when allocating expenditures that result on a change in final demand.

Decomposition of the Wine Industry

The Australian wine industry can be thought of as two sub-industries that interact with the rest of the economy in distinct and disparate ways. First, Viticulture is an agricultural industry that uses water, fertilizers and high amounts of labour as inputs; output is grapes; customers are wine processers. Second, Winemaking is a manufacturing industry that uses higher amounts of capital for inputs plus intermediates such as packaging and cooperage; output is wine; customers are wholesalers. Customers are final consumers. Our analysis of the cost structures captures the spending habits of each of the sub-industries. This entails that we produce a holistic picture of how various types of expenditure in the wine industry affect economic outcomes in other parts of the Central West economy (Pratt, 2015b; West, 1993).

Ascertaining the Contributions of Wine Tourism

Wine tourism itself is treated like an import. Tourists come into the region and spend their money generating expenditure. This generating stimulus can be in any category of final demand, such as final private expenditure that is an example of Wine tourism. By entering data supplied by Tourism Research Australia we are able to measure the changes that occur in industry production levels which are a result of a change in one or more of the final demand components (Fletcher, 1989). Economic impact analysis using I-O involves estimating the changes in production, industry value-added, household income and employment in response to an actual or potential source of economic change in the regional economy (Gül and Çağatay, 2015; West and Jackson, 2005). The calculation of the impact on the economy as a result of any change in final demand expenditures is relatively simple, and is demonstrated with the aid of the example below in Figure 2.

[Insert Figure 2 here]

Figure 2 shows that the Tourism impacts are measured from the final demand (Gross output) or capturing the pattern of demands (Tourism expenditure or sales) within the Wine Industry; these are the intermediate sales to the sectors in which tourists spend their money (Polo and Valle, 2015).

Gross Output

Gross output is principally a measure of an industry's sales or receipts, which includes sales to final users in the economy or sales to other industries (intermediate inputs).

Value Added

The value added or Gross Regional Product (GRP) impact measures only the net activity at each stage of production. GRP is defined as the calculation of an economies consumption, investment and government expenditure, plus exports of goods and services, minus imports of goods and services for a region. The GRP impacts are the preferred measure for the valuation and input of a stimulus to the economy; nonetheless, in this study we refer it as value added (Rolfe, Gregg, Ivanova, Lawrence, and Rynne, 2011).

Employment

The total number of people gainfully full time employed.

Household Income

An imputed wage, based on the national wages and salaries paid in each industry sector from the parent table and adjusted for state variances at the industry divisional level, was applied to the local sectorial employment. The reason for this is to more precisely define the link between household income and household expenditure in the table so that the consumption-induced indicators are not under-estimated (Jensen and West, 1986; Rolfe et al., 2011).

Household Expenditure

Household expenditure was based on the national data and adjusted for local population levels. Employment-based location quotients were then used to allocate those expenditures between local and imported sources. This is important due to its addressing the substitution I-O limitations, for further information on these limitations see West and Jackson (2005), Zhao and Choi (2015) and Klijs, Peerlings, and Heijman (2015). The wine industry is not included as a separate industry in the I-O tables. Therefore in this study, we modify the Central West I-O table using actual data from the

Central West wine industry. We do this to provide an accurate representation of how the industry interacts with the rest of the economy, rather than using simple agriculture sector averages (which is the aggregate sector under which wine falls in the standard tables) (West and Jackson, 2005). By using the actual input cost structure data of the wine industry, we can assess how an increase in wine production will flow through to its suppliers (Kim et al., 2015).

Economic Impacts

Direct effects are those associated with final demand for wine: direct employment and expenditure of growers, wineries and wine tourism operators (West, 1993). Production-induced effects are those generated by job creation in industries that supply goods and services to the wine sector (e.g. shipping, fertilizer, petrol, bottles) (Akkemik, 2012). Consumption-induced effects are those due to the spending of workers who have new jobs due to the wine industry's economic activity (e.g. on clothes, food, entertainment, etc.). Flow-on is the combined total of the production-induced and consumption-induced impacts. Total impact is an aggregation of the direct effects and the total flow-on effects (Teigeiro and Díaz, 2014).

RESULTS

Table 2 below represents the average per hectare, total regional hectares, total production in tonnes and the average price paid for grape per tonne during the given year. The region, like most of Australia, received torrential rain resulting in flooding (Walters, Mair, and Ritchie, 2014) and due to the increase of chemical costs involved in treating the resulting fungi for many producers it was not economically viable to harvest (Osborne, 2014), thus bringing down the average yield to 5.2 tonnes per hectare. As a result overall production was down to 20,056 tonnes which is more than half of what it was in 2001. This can be contributed to the vine pull scheme (VPS) as a mechanism to address the oversupply of grapes (Grant, Gow, and Dollery, 2011). This oversupply is indicated by the dramatic decrease of the average grape price since 2001.

[Insert Table 2 here]

Figure 3 below represents the economic approximate indicators of the Central West wine industry. These indicators combine both the Viticulture and Wineries sectors from 2001 to 2012. From the figure we note the wine industry has contributed $317 million to the value of production or total output to the economy in 2001, $490 million and $155 million in 2006 and 2012 respectively. Inclusive of this output, the wine industry contributed $167 million to the value of any intermediate input goods or services used within this industry in 2001, $212 million and $60 million in 2006 and 2012 respectively.

[Insert Figure 3 here]

Figure 4 presents the employment and approximate income to Central West households that result from the production of local grape and wine. These estimates combine both the Viticulture and Wineries sectors from 2001 to 2012. Examining Figure 4 we note the wine industry employed 1664 people in 2001, 2716 and 728 in 2006 and 2012 respectively. This employment provided incomes to households within the Central West worth $67 million in 2001, $121 million and $37 million in 2006 and 2012 respectively.

[Insert Figure 4 here]

Table 3 below represents the number of tourists who visited a winery within the Central West of NSW in 2012 and whether they were international, domestic or just a day visitor. Interestingly, only 34,000 of the visitors were international and these could explain the current world economic climate with fewer people from overseas coming to Australia for a holiday (Forsyth, Dwyer, and Spurr, 2014).

[Insert Table 3 here]

Examining Table 3 it is clear that the majority of the visitors lived within Australia and that approximately half were overnight visitors and the others were day. The region is only a few hours' drive outside of Australia's largest city so these results could be expected. In total 972,000 visited a winery and also spent a significant number of dollars within the local region. It is also interesting to note how this kind of tourist likes to spend his money (Charters and Ali-Knight, 2002; Getz and Brown, 2006).

Table 4 represents the wine tourist's expenditures within the Central West during 2012. Perhaps surprisingly, Table 4 indicates that the wine tourist likes restaurants with approximately $115 million being spent on eating out. They also like to drive, spending approximately $105 million on vehicle costs and are happy to stay the night or longer, spending more than $92 million on accommodation. The other expenditures make up the lion's share of the expenditures and the other areas that these tourists like to spend their money is on drinks, transportation, tours and entertainment (Fowler, Yuan, Damonte, Collins, and Megehee, 2012; Jones, Singh, and Hsiung, 2013).

[Insert Table 4 here]

What this tells us is that the wine tourist likes to have an experience when he or she goes to a wine region and is also not averse to spending their hard-earned money capturing the event or amenity (Charters and Ali-Knight, 2002; Fowler et al., 2012). In total, wine tourists spent approximately $476 million in the local economy and this has both direct and indirect economic positive impacts on the region.

Figure 5 represents the wine tourism economic impacts that are calculated from the final demand using the $476 million direct tourist expenditures in 2012. These indicators combine both direct and indirect impacts. From Figure 5 we can ascertain that wine tourism generated 2751 jobs that brought approximately $115 million worth of income to the households of the Central West. In

total this tourism contributed $722 million to the economies' output and of that $254 million was a substantial value-add.

[Insert Figure 5 here]

A portion of that $722 million, $180 million was taxes and also imports. However, of the rest, approximately $540 million spread the economy creating jobs and incomes.

Figure 6 represents the sectors that benefited most by wine tourism. Figure 5 demonstrates that most of the $540 million was filtered through the services sectors. Tourism contributed primarily $261 million in trade and accommodation and $134 million, $38 million in business, public and personal services respectively across the region. Manufacturing also received $62 million. Nonetheless, this is where the wineries sector is placed as is the Viticulture sector that is nestled within the agriculture sector, which received $16 million.

[Insert Figure 6 here]

From Figure 6 we are able to realise how important wine tourism has become for the broader economy and the techniques used in this study can be applied to any region in the world (Fletcher, 1989). Given the substantial amount previously shown, the question of what percentage of the Wine industry is Tourism is an important one (Carlson, 2004; Larreina and Aguado, 2008; Olivieri and Giraldi, 2015).

Figure 7 represents the components that comprise the wine industry within the Central West of NSW. From this figure we are able to gain a 'Vineyard to the Table' perspective. The Viticulture sector represents only four percent of the industry, but this is, nonetheless, a starting point. From this point after the grapes are grown the Wineries take over and make the wine representing a further fourteen percent. Finally, after the wine is made comes the selling and marketing and this is when the economy gains the most through wine tourism alone and of course the consumers palate. Most of the

wine industry is tourism and this is eighty-two percent of the industry within the Central West of NSW.

[Insert Figure 7 here]

In all, the total amount of output generated by the wine industry within the Central West was in excess of $876 million. From the figure above we are able to realise how important wine tourism has become on the broader economy and the techniques used in this study can be applied to any region in the world. Given the substantial amount previously shown what percentage of the Wine Tourism makes up the total industry we will now discover how much of this total industry sits within the Central West economy.

Figure 8 represents the NSW Central West economy and we can see that it was mostly dominated by Business services and Mining in 2012. Overall and to answer the former question, the wine industry represents approximately four percent of the twenty four billion dollar output economy.

[Insert Figure 8 here]

The wine industry is usually spread over three sectors, Trade and Accommodation, Agriculture and Forestry and Manufacturing. However, Figure 8 aggregates these contributions to render the overall significance of the industry.

DISCUSSION AND CONCLUSION

A number of salient points require further discussion. Firstly, the demonstrated expansion of production of wine grapes before 2006 with wine grape plantings and expanding wine manufacturing capacity relied heavily upon export sales with a sustained depreciation of the Australian dollar to assist producers. With the arrival of the global financial crisis and the appreciation of the local currency, exports fell causing wine stocks to increase and grape prices to decline (Oczkowski, 2014). These forces combined to produce a situation we have labelled a ‘perfect storm’ for the Australian

wine industry. After 2008, many regions took part in a vine pull due to the increased costs of production and reduced grape prices (Grant et al., 2011).

Secondly, the direct economic stimulus provided by the local wine industry (Gül and Çağatay, 2015) is significant, subsequently snowballing to four percent or almost a billion dollars of a total economic output of $24 billion in 2012. With the significant employment multipliers, the industry delivers almost 6,000 jobs to the local economy.

Thirdly, through the mechanism of I-O modelling we have been able to identify the flow-on effects and indirect impacts flowing through the economy at the local level, demonstrating that incomes, value added, and gross output are mainly generated from the expenditures of the wine tourism sector. These expenditures are also reasonably well distributed across the local economy (Polo and Valle, 2015). Tourism is critical to the region's ongoing economic health, accounting for half a million visitors spending almost half a billion dollars annually, the wine tourism industry is critical to the health of the local economy.

Fourthly, most of these expenditures in 2012 come from the local domestic-based rather than overseas tourists and this is due to the fact that Australia's tourism competitiveness depends on its exchange rate (Pavlic, Svilokos, and Tolic, 2015; Tang, 2013). This means that Australia should concentrate on identifying counties that have a better standard of living and targeting the high spending visitors converting Australia's comparative advantage into competitive advantage (Gómez et al., 2015). The formation of local business clusters would also help facilitate this transition (Jackson and Murphy, 2006).

Fifthly, most of the expenditures identified were spent on eating out, fuel and vehicle costs whilst in comparison, very little was spent on wine and food tours. Given the evidence suggests that local wine and food tours are underserviced (Pettigrew and Charters, 2006), this is an area that should be further examined. As background to any subsequent examination, tourists live thousands of miles from the respective wineries and are willing to buy high quality and expensive wines and will revisit the producing country and winery (Getz, 2000). They expect high, or top, quality hospitality services, and they are prepared to pay accordingly (Byrd et al., 2016; Carlson, 2004). Refusing to supply such hospitality services reflects poor winery management (Getz and Brown, 2006).

Sixthly, this analysis reveals not only the significance of the contribution this industry has to the local economy both directly and indirectly, but also the evolution of this contribution. It begins at the very epicentre of growing grapes that then provides the foundation of the production industry but also the amenity of landscapes that the tourists desire (Pavelka and Draper, 2015). Like ripples on a pond, the amenity moves on to the wine making that provides an experience to the tourist's palate. The combination of both amenity and experience is what lures the wine tourist to the region, spending money and creating a foundation for future prosperity (Perkins et al., 2015).

Seventhly, with the appreciation of the Australian dollar, tourism became less competitive in a global world market (Pham et al., 2015). Given the significance of this industry both regionally and nationally, there are good reasons for Australia to develop the identified strategies to support its tourism industry (Dredge and Jamal, 2013). In the face of declining employment prospects in regional Australia, and stagnating economies, the Federal Government has identified tourism as the foundation of local economic development; however, little has been done (Forsyth et al., 2014). Across a similar period there has been a slowdown in Australian tourism investment, resulting in a 'tired' product offering (Corden, 2012). By marketing the country's local amenities, a country can negotiate leisure with tourists to generate ripples of prosperity through the economy (Gómez et al., 2015). Nonetheless, as those against the Wine Equalisation Tax will argue, subsidising wine tourism or a wine region may not be the best approach to help struggling wineries or declining wine regions (Henry, Harmer, Piggott, Ridout, and Smith, 2009). Also, in 2015 we saw the Australian dollar depreciate, again reviving perceived opportunities for the tourism industry.

Another important area that must be addressed is the role that transport links play to connect the regional economies within regional Australia with the global market. It is important that the investment in infrastructure, transport networks, tourist accommodation, and services continue to grow (Ferri, 2004). For example, an inexpensive fast-track train service from Sydney to the Central West of NSW would provide the necessary extra tourism expenditure. Could not some of the resource rents sourced from the recent mining boom be returned to source communities helping to diversify their local economies?

A final point is that only with the aid of up-to-date statistical data are we able to generate reliable statistics so that it is possible to undertake the required types of tourism analyses (Pratt, 2015a) as presented in this paper. More local involvement in taking tourist surveys and keeping vineyard records is recommended as a local, regional and national industry response. This will also help in identifying the networks and links of industry stakeholders and these need to grow organically and collectively (Tkaczynski, Rundle-Thiele, and Beaumont, 2009) for the industry to reach its potential.

In conclusion, this study has demonstrated that I-O analysis is the most extensive method available for studying the economic impact of tourism at the regional level. I-O analysis can do more than quantify impacts; it can also produce results that help guide policy and decision-makers. These analyses have shown that the wine industry in the Central West of NSW is multi-faceted and complex. Not only does the industry provide jobs and commerce supporting local prosperity, it also provides a production and consumption amenity from an agricultural product to meet the leisure-desire of the tourist. Wine tourists visit the region and are willing to pay significant sums for the experience to be involved in the joint production and consumption of wine. The quality of the experience rests on local industry to design and leverage the necessary investment that harnesses this inherent amenity. Wine and tourism are two rural industries that have the potential to be symbiotic, contributing to the nourishment of each other, developing local engines of economic development and growth.

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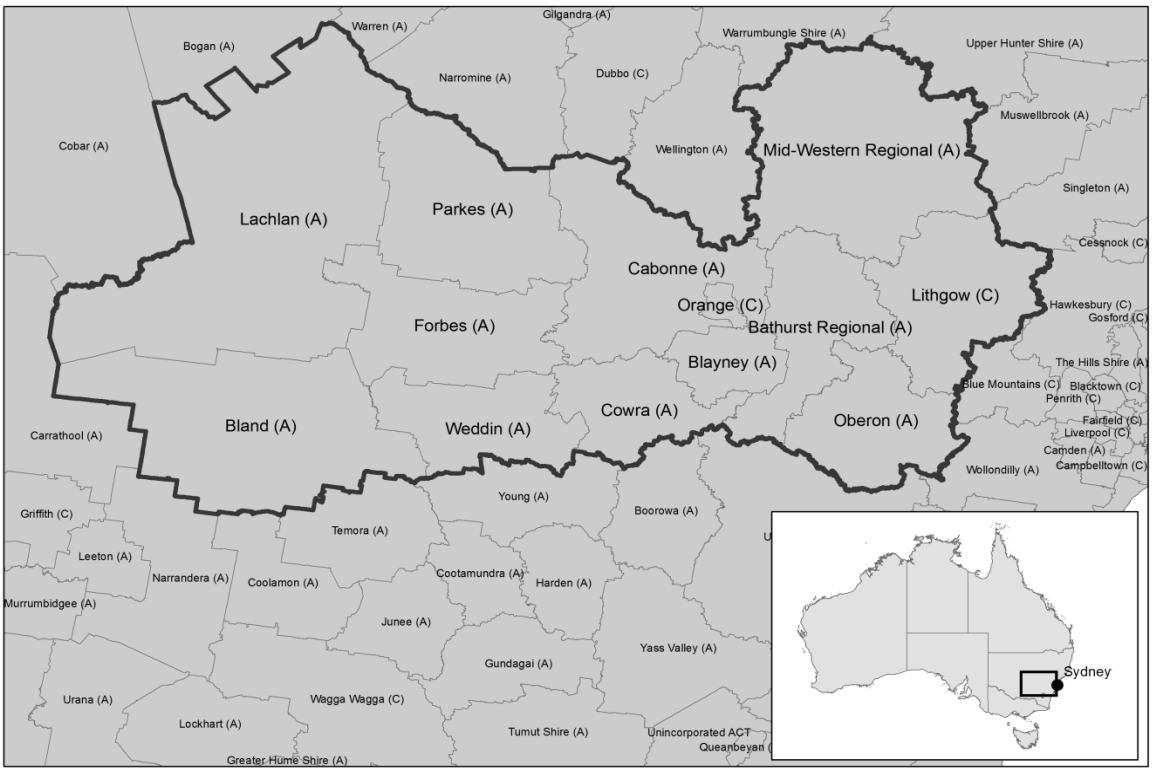

Figure 1. The Central West Region, New South Wales, Australia

Source*:* Prepared by Dr Andy Fischer, 2014, University of Tasmania, Launceston, Australia using ArcGIS.

Table 1. Data Sources

Data Sources	ABS	Wine Australia	Tourism Research	Deloitte	Surveys
Input-Output Model	X	X		X	
Viticulture and Wineries	X	X		X	X
Tourism Impacts	X	X	X		
Viticulture Impacts	X	X			X
Wineries Impacts	X	X		X	X

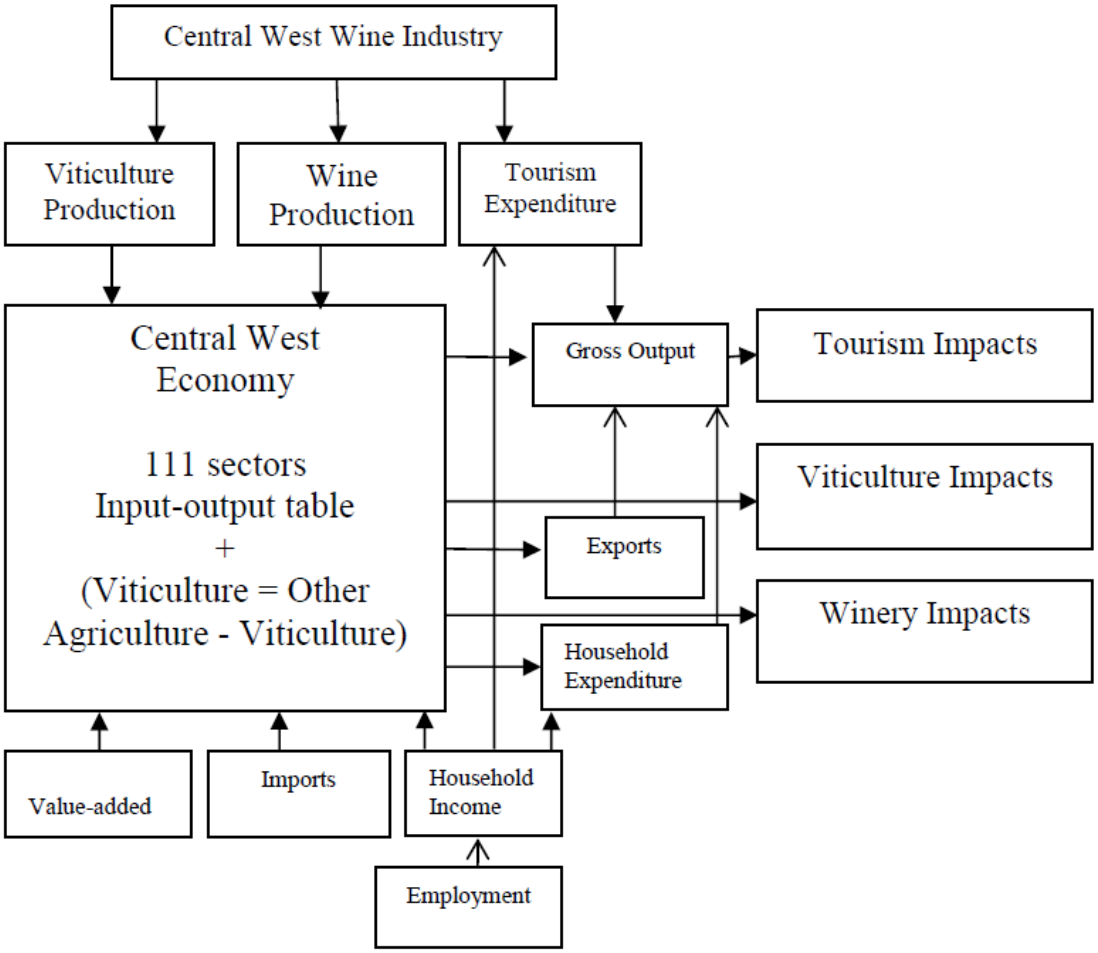

Figure 2. A Contextual View of the Central West I-O Model

Table 2. Central Wests of NSW Wine Industry Accounts

Year	Yield/t	Ha	Production/t	Ave($)/t
2001	7.4	5,576	41,358	$1,468
2006	8.1	7,038	56,703	$1,331
2012	5.2	3,849	20,056	$727

Source: Central West 2001, 2006 and 2012 IO tables, ABS (2001, 2006, 2012), Wine Australia (2012), locally conducted surveys (McFarlane, 2013)

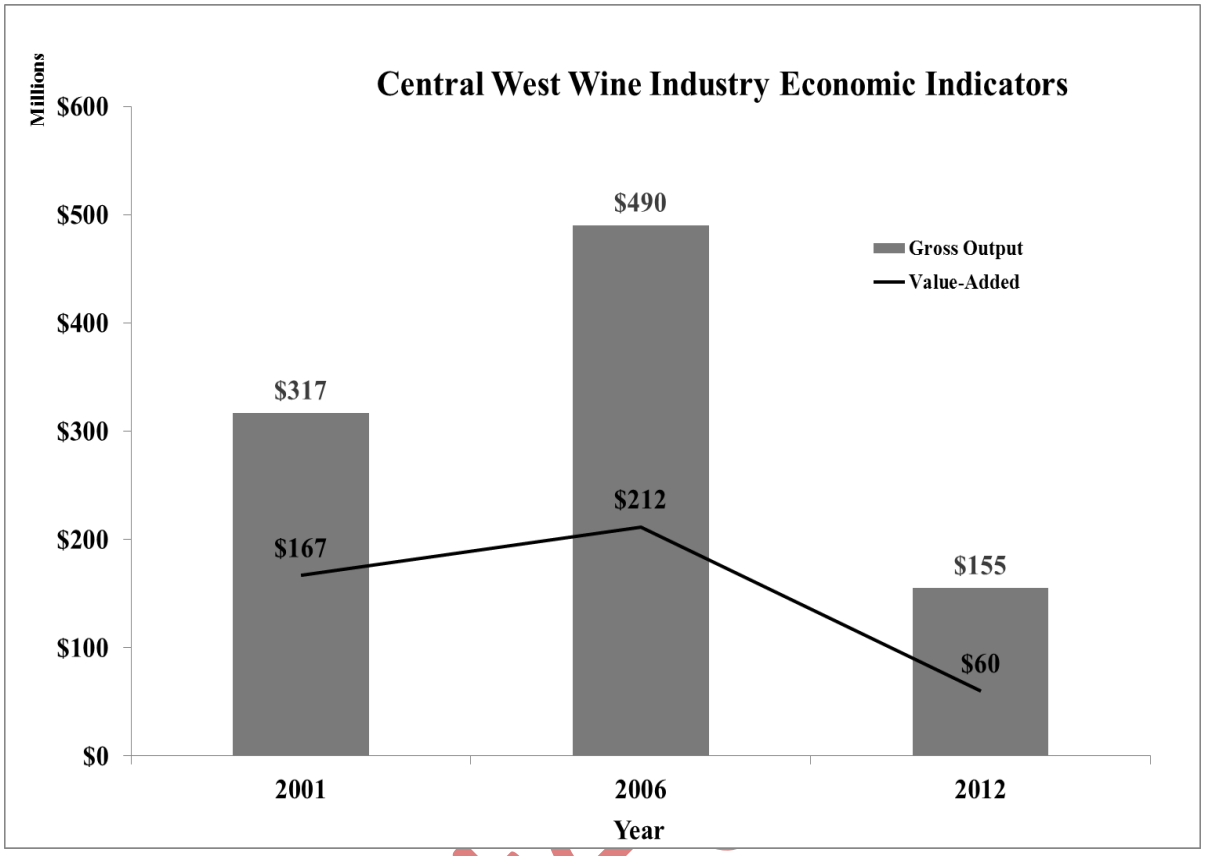

Figure 3. Central West Wine Industry Economic Indicators from 2001, 2006 and 2012

Source: Central West 2001, 2006 and 2012 IO tables, ABS (2001, 2006, 2012), Wine Australia (2012), locally conducted surveys (McFarlane, 2013)

Figure 4. Employment and Income to Households that Work in the Production of Grape and Wine within the Central West

Source: Central West 2001, 2006 and 2012 IO tables, ABS (2001, 2006, 2012), Wine Australia (2012), locally conducted surveys (McFarlane, 2013)

Table 3.Tourist Visiting a Winery in the Central West of NSW in 2012

Tourists Identified	Visitors to Winery in 2012
Domestic day	496,186
Domestic overnight	441,814
International	34,000
TOTAL	972,000

Source: International Visitor Survey and National Visitor Survey data provided by Tourism Research Australia (2012)

Table 4. Wine Tourist Expenditure in the Central West of NSW in 2012

Activities (2012)	Wine Tourist Expenditure
Accommodation:	$92,186,000
Prepared meals & drinks	$114,752,585
Groceries for self-catering	$38,250,862
Alcohol and drinks	$30,367,853
Shopping, gifts, souvenirs	$30,367,853
Fuel (petrol, diesel)	$101,360,375
Vehicle maintenance or repairs	$3,691,598
Bus Fares	$10,585,904
Rail fares	$10,585,904
Airfares	$24,498,398
Wine Tours	$1,265,691
Other Tours	$843,794
Entertainment, museums, movies, zoos etc.	$14,070,637
Other expenditure on trip	$3,691,598
TOTAL	$476,519,051

Source: Central West- International Visitor Survey and National Visitor Survey data provided by Tourism Research Australia (2012)

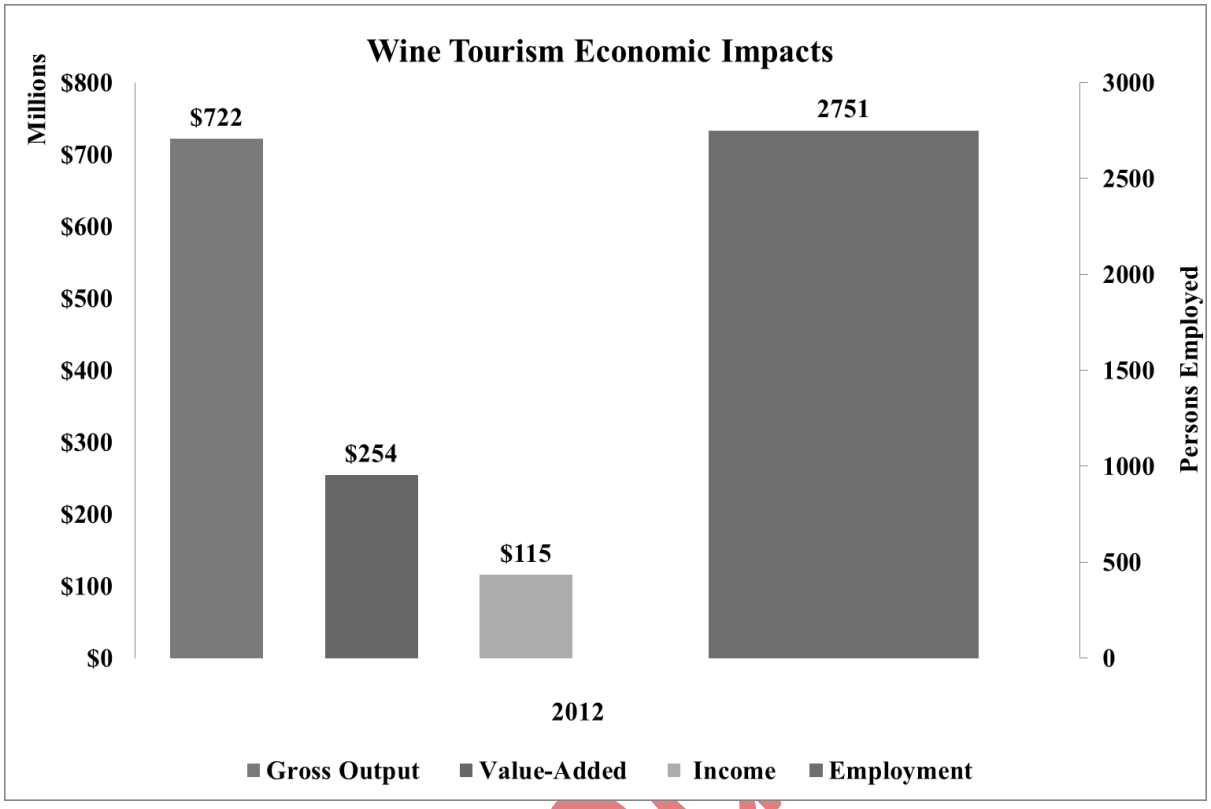

Figure 5. The Wine Tourism Economic Impacts of the Central West of NSW

Source: Source: International Visitor Survey and National Visitor Survey data provided by Tourism Research Australia (2012), Calculated using 2012 Central West IO table.

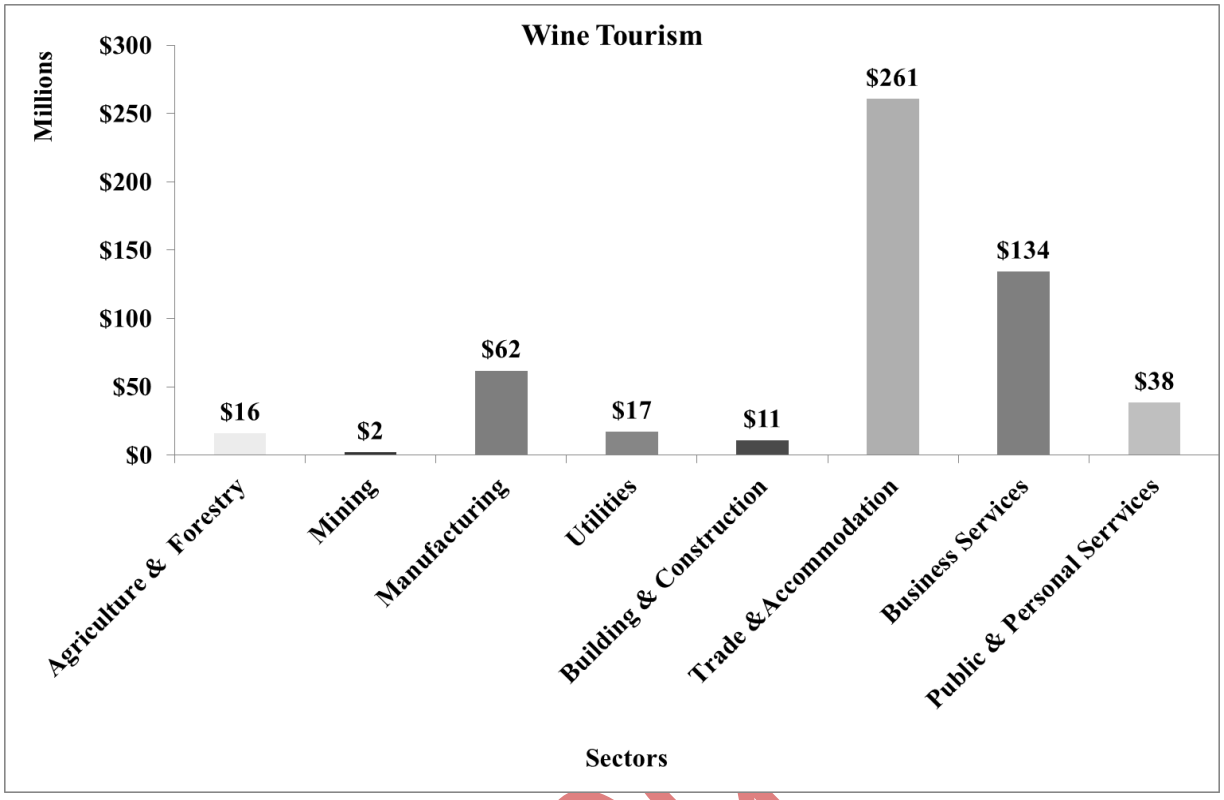

Figure 6. The Sectors Benefited Most by Wine Tourism in the Central West of NSW

Source: Source: International Visitor Survey and National Visitor Survey data provided by Tourism Research Australia (2012), Calculated using a 2012 Central West IO table.

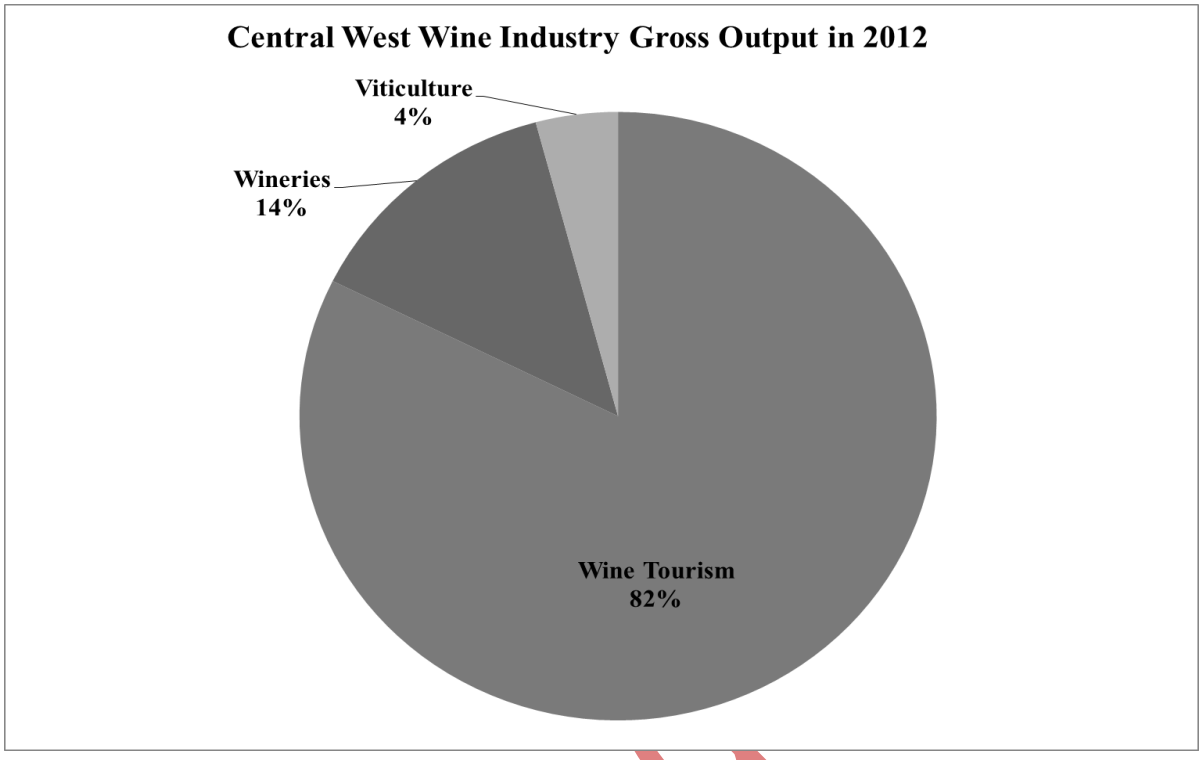

Figure 7. The Components that Make Up the Wine Industry within the Central West of NSW

Source: Source: International Visitor Survey and National Visitor Survey data provided by Tourism Research Australia (2012), Calculated using a 2012 Central West IO table.

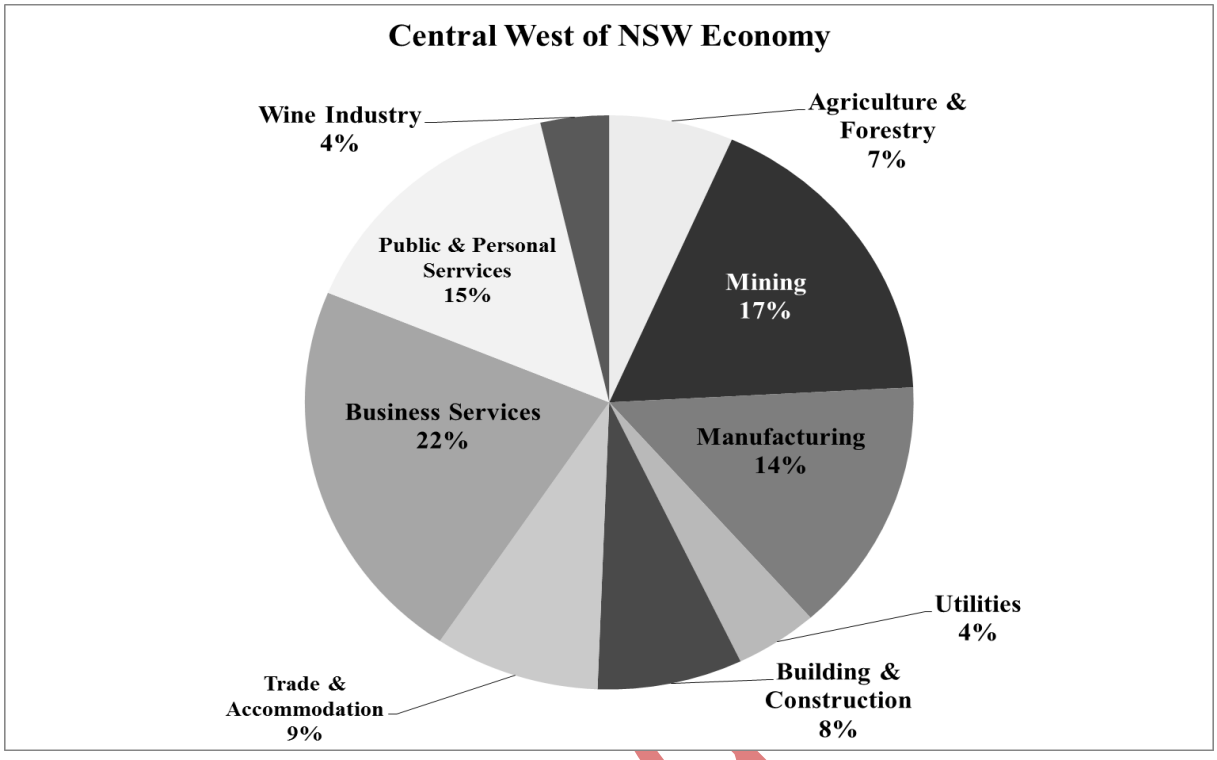

Figure 8. The Central West of NSW Economy

Source: International Visitor Survey and National Visitor Survey data provided by Tourism Research Australia (2012), Calculated using a 2012 Central West IO table.