

Report on Project GWR 0912

Reconcile current grape and wine supply with the current demand composition for the Wine Restructuring Action Agenda (WRAA).

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April 2010

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Background

In November 2009 the Winemakers' Federation of Australia, Wine Grape Growers' Australia, the Australian Wine and Brandy Corporation and the Grape and Wine Research and Development Corporation released a statement on the outlook for the Australia Wine industry. The statement referred to work undertaken as part of the Wine Industry Restructuring Agenda (WRAA).

The statement declared that the "wine industry must confront the reality of oversupply". "Structural surpluses of grapes and wine are now so large that they are causing long-term damage to our industry by devaluing the Australian brand, entrenching discounting, undermining profitability, and hampering our ability to pursue the vision and activities set out in the Directions to 2025 industry strategy".

The statement continued "Comprehensive analysis and consultation suggests at least 20% of bearing vines in Australia are surplus to requirements, with few long-term prospects. On cost of production alone, at least 17% of vineyard capacity is uneconomic."

One of the WRAA initiatives was to undertake additional analysis to provide further evidence and increase confidence in the oversupply findings. That is the purpose of this research project.

Research Brief

The research brief is:

Project manage and undertake research and analysis tasks required to reconcile current grape and wine supply with current demand composition for the WRAA project.

The tasks include:

- Develop a methodology to disaggregate 2008 wine sales by price points to match to the Gaetjens Langley (GL) supply quality classifications, thereby identifying mismatches between supply and demand volumes.
- Source and adjust export and domestic sales data and dissaggregrate by relevant price point
- Align GL data to match sales data
- Estimate the volume of demand mismatch for each of the GL quality classifications
- Summarise the results and report on the methodology and assumptions utilised.

Methodology

Gaetjens Langley (GL) data breaking down the 2008 Australian grape supply vintage into the five quality categories of A (Specialty), B (Super Premium), C (Premium), D (Popular Premium), E (Basic) was matched to annual Australian wine sales data by price segments for the sales period closest to 2008.

Sales data limitations meant that the matching of 2008 supply to sales was only approximate for the reasons outlined below. However given that sales were relatively stable in the subsequent sales period, inventory also was not subject to any substantial fluctuations and there is no indication that the composition of sales changed significantly over the relevant time period, we can be confident in the order of magnitude of the results.

Annual sales data was sourced from the AWBC export data which is disaggregated by price ranges, and added to the WFA domestic wine sales model data that also is disaggregated by price range. More detailed explanation of the data sources is provided in Appendix A of this report.

The steps in undertaking the supply and demand matching process were:

1. The GL 2008 supply data was converted into litres for each price range.
    - This involved allocating the non quality classified balance item to the five quality categories in the same proportions as the five quality segments.
    - Tonnes were converted to litres using extraction rates that varied with each price range, extraction rates increasing as price falls.
    - Litres were converted to cases on basis of 9 litres equals one case
2. Export sales (2008/2009) in litres by price range were added to the equivalent domestic sales (2007/2008) to provide a total sales in litres and cases.
3. Total supply was compared to total demand to identify the quantum of supply mismatch for each price range and hence quality category. An assumption was made that inventory did not increase, based on stocks data, refer Appendix A.
4. An estimate was made of what quantity of sales represented unprofitable sales and hence unsustainable demand, and the distribution of this over the quality categories.
    - Value chain analysis was used to identify unprofitable sales in export markets. The domestic market could not be analysed due to insufficient data
    - The Deloitte Ready Reckoner was used to approximate value chain analysis
    - Data limitations and a requirement to avoid over statement, means that the results significantly understate unsustainable demand.

Analysis

Supply

The WRAA data on supply quality classification came from analysis of 56 regions carried out for WFA by vineyard valuers and brokers Gaetjens Langley, based on 2008 vintage (ABS Viticulture Survey) data and assessments of vineyard production cost and quality performance.

Vineyard operating costs were estimated as an average for each region, ranging from $5750 to $10,500 per hectare.

- Average cost per tonne of grape production was derived by dividing vineyard operating cost by the average yield for 2001-2008.
- However to identify the range of grape cost to relate to grape quality outcomes, an estimate of the proportion of production that fell within 3 cost levels was made – less than $500, $500 - $1000, and more than $1000.

Quality performance of the region's vineyards, as an average, was assessed according to 5 grades, from A to E. The standard reference point for these classifications was retail prices in domestic and wholesale FOB prices in export markets.

- In subsequent analysis and commentary, A and B were combined because it is too difficult to separate these high quality grapes.

GL vineyard quality assessment

Wine grape grade	Indicative Yield (T/Ha)	Vineyard Cost / Ha	Direct Cost / Tonne	Fruit Price / Tonne	Wholesale Price FOB / Litre Packaged	Domestic Retail Price	Tonnes
A (Specialty)	5	$9,500	$1,900	$3,000	>$10	>$25	180,850
B (Super Premium)	7	$8,000	$1,143	$1,800	$7.50 - $9.99	$15 -$25	
C (Premium)	12	$6,750	$563	$900	$5.00 - $7.50	$8 to $15	409,552
D (Popular Premium)	16	$6,250	$391	$500	$2.50 - $4.99	$5 to $8	553,211
E (Basic)	25	$5,750	$230	$300	<$2.50	<$5	652,116
Not classified, balancing item to 2008 crush total							35,794
							1,831,523

Grape production was classified as "uneconomic" where estimated production costs per quality grade exceeded estimated revenue.

- Specifically C grade grapes costing more than$1000 per tonne to produce were defined as uneconomic, likewise D or E grade costing more than $500 per tonne.

The GL supply data by quality classification was converted to litres in Table 1.

Table 1 GL 2008 supply by quality category, litres

Wine grape grade	Wholesale Price FOB / Litre Packaged	Domestic Retail Price	Tonnes	Extraction rate, litres per tonne	Litres
A (Specialty)	>$10	>$25	180,850	600	108,510,000
B (Super Premium)	$7.50 - $9.99	$15 -$25			
C (Premium)	$5.00 - $7.50	$8 to $15	409,552	650	266,208,800
D (Popular Premium)	$2.50 - $4.99	$5 to $8	553,211	650	359,587,150
E (Basic)	<$2.50	<$5	652,116	700	456,481,200
Not classified, balancing item to 2008 crush total			35,794	650	23,266,100
			1,831,523		1,214,053,250

The GL supply data by quality classification was adjusted to allocate the balancing item in Table 2.

Table 2 GL 2008 supply by quality category adjusted, cases

Wine grape grade	Wholesale Price FOB / Litre Packaged	Domestic Retail Price	Tonnes	Litres	Cases
A (Specialty)	>$10	>$25	184,111	110,629,541	12,292,171
B (Super Premium)	$7.50 - $9.99	$15 -$25			
C (Premium)	$5.00 - $7.50	$8 to $15	417,556	271,411,100	30,156,789
D (Popular Premium)	$2.50 - $4.99	$5 to $8	564,021	366,613,572	40,734,841
E (Basic)	<$2.50	<$5	665,836	465,400,121	51,711,125
Total			1,831,524	1,214,054,334	134,894,926

Total supply from the 2008 vintage is estimated to have been 1,214,054,334 litres, with each quality category estimated as:

Vintage 2008 Quality	Litres	% total
A+B	110,629,541	9.1
C	271,411,100	22.4
D	366,613,572	30.2
E	465,400,121	38.3

A+B and C combined represented 31.5%.

Demand

Export sales data for the year 2008/2009 were sourced from the AWBC export shipments database (WEAR) which provides shipments by FOB price range. Table 3 shows total export sales of 750,381,561 litres of which 99,137,762 litres or 13.2% was A, B or C quality.

Table 3 Export sales 2008/2009, AWBC WEAR

Wine grape grade	Wholesale Price FOB / Litre Packaged	Export sales, litres	Export, cases
A (Specialty)	>$10	35,971,870	3,996,874
B (Super Premium)	$7.50 - $9.99		
C (Premium)	$5.00 - $7.50	63,165,892	7,018,432
D (Popular Premium)	$2.50 - $4.99	336,408,474	37,378,719
E (Basic)	<$2.50	314,835,325	34,981,703
Total		750,381,561	83,375728

Domestic sales data for 2008/2009 was not all available at the time of analysis, requiring 2007/2008 data to be used. Although very little of the 2008 vintage wine was available for sale during the 2007/2008 sales period, the apparent relative stability of domestic sales volumes and price range shares over the subsequent 2 year sale period means that this is unlikely to significant distort the analysis.

The domestic sales data was derived from the Winemakers Federation (WFA) model of Australian wine sales which uses base data from ABS and Nielson sources and then adjusts to compensate for under enumeration in both sources. Details are provided in Appendix A.

Table 4 shows total domestic sales of 463,485,673 litres of which 212,799,277 litres or 45.9% was A, B or C quality.

Table 4 Domestic sales 2007/2008, WFA model derived from ABS and Nielson data

Wine grape grade	Domestic Retail Price	Domestic, Litres	Domestic, cases
A (Specialty)	>$25	99,581,342	11,064,594
B (Super Premium)	$15 -$25		
C (Premium)	$8 to $15	113,217,935	12,579,771
D (Popular Premium)	$5 to $8	89,312,556	9,923,617
E (Basic)	<$5	161,373,840	17,930,427
Total		463,485,673	51,498,408

Table 5 shows total sales are 1,213,867,234 litres with A, B and C quality accounting for 311,937,039 litres that represents 25.7%.of total sales.

Table 5 Total sales

Wine grape grade	Export sales, litres	Domestic, Litres	Total, litres	Total, cases
A (Specialty)	35,971,870	99,581,342	135,553,212	15,061,468
B (Super Premium)				
C (Premium)	63,165,892	113,217,935	176,383,827	19,598,203
D (Popular Premium)	336,408,474	89,312,556	425,721,030	47,302,337
E (Basic)	314,835,325	161,373,840	476,209,165	52,912,129
Total	750,381,561	463,485,673	1,213,867,234	134,874,137

Supply and Demand Balance

A comparison between total supply and total demand shows in Table 6 that the imbalance amounts to only 187,100 litres. However such a close match represents a degree of coincidence given the one year difference in the reference time periods between domestic and export sales data. The most recent sales data (incomplete for quality disaggregation) indicates an imbalance of 16 million litres due to sales exceeding supply - which is consistent with a draw down in stocks.

Table 6 Supply and demand match

Wine grape grade	Wholesale Price FOB / Litre Packaged	Domestic Retail Price	Total supply, litres	Total sales, litres	Total supply demand mismatch, litres
A (Specialty)	>$10	>$25	110,629,541	135,553,212	(24,923,671)
B (Super Premium)	$7.50 - $9.99	$15 -$25			
C (Premium)	$5.00 - $7.50	$8 to $15	271,411,100	176,383,827	95,027,273
D (Popular Premium)	$2.50 - $4.99	$5 to $8	366,613,572	425,721,030	(59,107,458)
E (Basic)	<$2.50	<$5	465,400,121	476,209,165	(10,809,044)
Total			1,214,054,334	1,213,867,234	187,100

The greater divergences between the individual quality categories are more indicative of real imbalances between grape supply and demand.

For A and B quality combined, sales exceeded supply by nearly 25 million litres, and likewise D and E quality sales exceeded supply by 59 and 11 million litres respectively.

By contrast C quality sales were 95 million litres short of the supply availability. This data suggests that the biggest imbalance is with C quality fruit, with supply far exceeding sales and therefore demand.

Nevertheless we know from the total sales outcome, given that stocks were not increasing, that the C quality grapes were sold as wine at price levels different from the C grade quality.

As would be expected in a situation of substantial oversupply, C quality fruit displaced lower grade fruit to sell at prices below the C grade values that are typical of a balance between C grape demand and supply.

The outcome for C quality was that 25 million litres was applied to the supply shortfall for A and B sales, while the remaining 70 million litres was sold as D or E quality wine. D quality sales accounted for 59 million litres, with the balance of 11 million litres sold as E quality. Table 7 illustrates this net C quality surplus.

Table 7 Demand deficiency, demand shortfalls by grape quality category

Wine grape grade	Wholesale Price FOB / Litre Packaged	Domestic Retail Price	Total supply, litres	Total sales, litres	Demand deficiency, litres
A (Specialty)	>$10	>$25	110,629,541	135,553,212	0
B (Super Premium)	$7.50 - $9.99	$15 -$25			
C (Premium)	$5.00 - $7.50	$8 to $15	271,411,100	176,383,827	70,103,602
D (Popular Premium)	$2.50 - $4.99	$5 to $8	366,613,572	425,721,030	0
E (Basic)	<$2.50	<$5	465,400,121	476,209,165	0
Total			1,214,054,334	1,213,867,234	187,100

Unprofitable sales therefore unsustainable demand

Value chain analysis was the methodology for determining estimates of unprofitable sales and hence unsustainable demand. The Deloitte Ready Reckoner was utilised as an approximation for detailed value chain analysis.

Lack of detailed sales data restricted the analysis to those export sales at low prices, although there are known to be unprofitable sales in the domestic market and at higher export price points.

Simulations with the Ready Reckoner indicated that Bulk export wine sold for less than $1 per litre; and packaged export wine sold for less than $2.50 per litre, were highly unlikely to be profitable at March 2010 exchange rates.

Note that profitability for this evaluation was based on all segments of the value chain being profitable. Confidence in these estimates was strengthened by assumptions that were generally biased toward under estimation of costs through the value chain, for example grape prices of $300 per tonne (1).

Bulk wine volume exported at less than $1 per litre in 2008-09 was 101,251,566 litres (AWBC export data).

Packaged wine volume exported at less than $2.50 per litre in 2008-09 was 61,996,540 litres (AWBC export data).

1. Assumes that all production is at best practice costs for the respective quality category, so that profitability determined solely by revenue performance. Consequently unprofitable sales are defined as those made at prices below the normal price level for that quality. The best practice cost levels for E grade were based on $300 tonne grapes, largest producers cost profile and minimal margins.

Consequently at least this combined amount of 163,248,106 litres, equivalent to 18,138,678 cases can be designated as unprofitable sales volume.

Referring to the demand deficiency for C grade grapes shown in table 7, it is evident that a volume of 70,103,602 litres was not sold at the price point corresponding to the C quality value. These grapes were devalued by being sold at D or E grade price points, thereby becoming unprofitable for the grapegrower and/or the wine producer. This assertion of unprofitability rests on the GL cost data which showed that for a substantial percentage of C quality grape production, costs were too high for C quality prices, let alone D or E quality prices.

Of the 70,103,602, 10,809,044 litres was sold as E grade fruit and hence may have already been counted as unprofitable in the low price exports above. Therefore the net addition to the unprofitable sales estimate from C grade fruit is 59,294.558 litres, equivalent to 6,588,284 cases

It is concluded that sales of at least 24,726,962 cases can be identified as having been unprofitable and consequently represented unsustainable demand. This sales volume represented 223 million litres that in turn corresponded to approximately 319,000 tonnes of grapes or, depending on yields, 25,000 to 40,000 hectares of vineyard.

Conclusion

A matching of the 2008 vintage supply with the closest approximation to sales in the relevant period indicates that there was a substantial mismatch between the quality segments of supply and of sales.

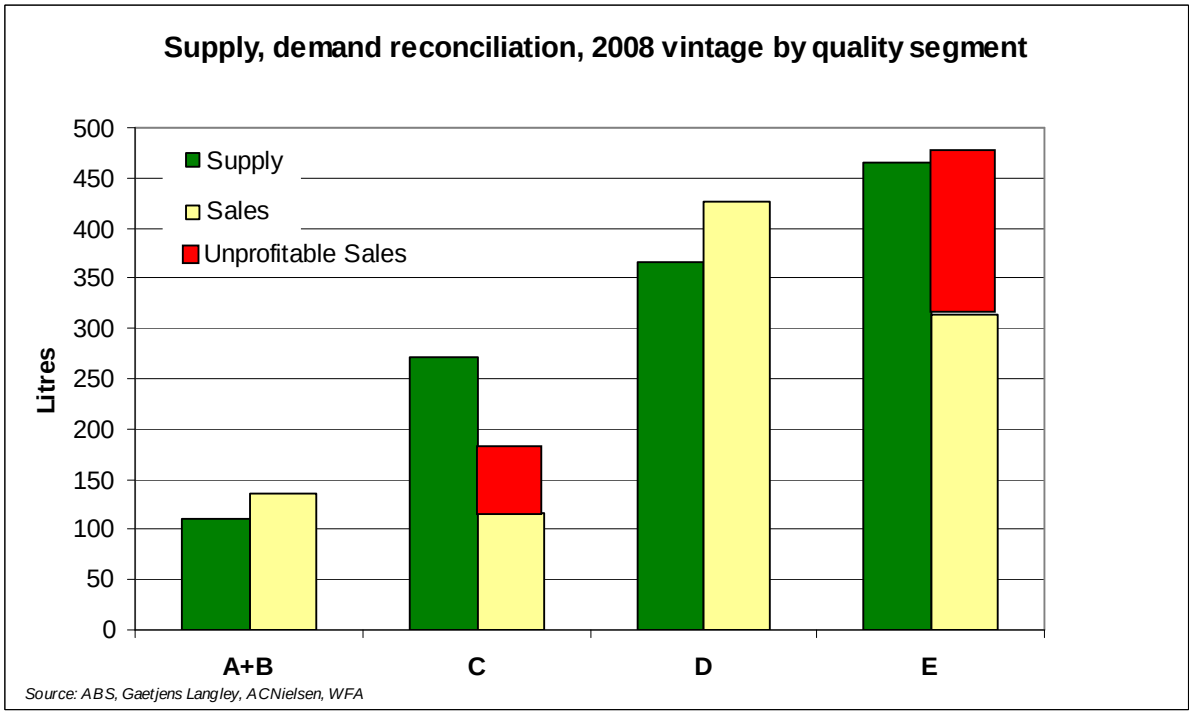
The greatest mismatch was between C quality where supply was substantially greater than sales. In all other quality categories sales were sufficient to accommodate available supply.

The estimates suggest that sales of C quality wine (export price range FOB $5 to $7.50 per litre; domestic retail price range $8 to $15 per 750ml bottle), after allowing for 25 million litres sold as A+B quality wine, fell 70 million litres (8 million cases) short of the available supply of that quality. This shortfall can be interpreted as a significant demand deficiency for this price range of Australian wine. It is beyond the scope of this study to suggest any explanations for such a demand deficiency.

The ultimate market outcome for this surplus C quality wine was that rather than adding to inventory it was sold at D and E quality wine prices, thereby roughly balancing total supply with total sales, albeit noting the flexibility regarding the respective supply and sales time periods.

However, given the over supplied market, the sales of D and E quality have occurred at diminished profitability with some proportion of those sales incurring a loss for one or more participants in the wine supply chain.

It is estimated that sales of at least 25 million cases, equivalent to approximately 319,000 tonnes of grapes or 25,000 to 40,000 hectares of vineyard, can be identified as having been unprofitable and consequently represented unsustainable demand. The following graph illustrates the relativities between supply, total sales and unprofitable sales for each grape/wine quality category.



Paul van der Lee
20.4.2010

Appendix A: Data Sources and Assumptions

Domestic sales source data
ACNielsen price point data and domestic and import sales volumes from the Australian Bureau of Statistics are used as source data. ABS data is adjusted to take into account under reported sales.

Domestic sales price ranges
Price range data for domestic sales differed from GL domestic retail price range segments.
In order to allocate the less than $7.00 Nielson segment between less than $5 (E quality price range) and $5 - $7 (part of D quality $5 - $8 quality price range), all bottled wine less than $7 was assumed to be D quality, while most (80%) of soft pack was assumed to be E quality.

Ready Reckoner assumptions
Key input assumptions used to define the minimum sustainable cost were:

- Major producer
- Grape cost $300 per tonne
- Processing cost 0.25 cents/litre
- Oak and holding cost 0.16 cents/litre
- Packaging costs $12 per case (total ex winery cost $19.52 per case)
- Margins, 10% distributor, 25% retail, winery 14%

At the above costs and margins the business was unlikely to be sustainable.

Unsustainable bulk wine sales
AWBC 2008/2009 data on bulk wine sales were:

$0 - $0.49	5,822,829 litres
$0.50 - $0.99	95,428,741 litres
Total	101,251,566 litres

Historical sales and supply balance (domestic sales underenumerated)

2005/2006	ABS domestic sales	367	
2006/2007	ABS domestic sales	381	+3.8%
2007/2008	ABS domestic sales	362	-5.0%
2008/2009	ABS domestic sales	364	+0.6%
2005/2006	Supply/demand surplus		+307.8m litres
2006/2007	Supply/demand surplus		- 224.1m litres
2007/2008	Supply/demand surplus		+165.6m litres
2008/2009	Supply/demand surplus		+9.6m litres
Calendar 2009	"		+16m litres

Inventory data (stocks, millions cases)

2005/2006	ABS domestic sales	181.6	
2006/2007	ABS domestic sales	172.6	-5%
2007/2008	ABS domestic sales	167.0	-2.7%
2008/2009	ABS domestic sales	162.2	-2.9%

Graph Data, million litres

	Supply	Sales	Unprofitable component of sales
A+B	111	136	0
C	271	176	59
D	367	426	0
E	465	476	163