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make history.

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Boost wine industry productivity, premiumization and sustainability by reforming producer levies and the Wine Equalization Tax

The Australian wine industry is facing multiple challenges. Some but not all are a result of China's imposition in late 2000 of near-prohibitive tariffs on imports of Australian wine. Symptoms include the 2022 stock-to-sales ratio for red wine being 70% above its ten-year average, the value of wine exports in 2022/23 being one-third below its peak of 2018/19 and no higher than a dozen years ago, prices of both winegrapes and exported wine being barely above those in the early 1990s (Figure 1), and sales of commercial wine so low that many low-quality grapes were not harvested in 2023. Meanwhile, production costs are rising due to climate changes, and demand for alcoholic beverages is growing less rapidly as consumers become more health conscious. As well, environmental groups and buyers are demanding production and distribution systems be more sustainable, and health lobbies continue to advocate for regulations that dampen wine and other alcohol consumption.

In response, two key industry bodies, Wine Australia and Australian Grape and Wine, have committed to develop a One Sector Plan to guide the industry's recovery through to 2030, and have called for submissions of ideas (Wine Australia 2023b).

This note is a response to that call. It briefly summarizes major current and prospective challenges before pointing to a reform that could address some of those challenges, namely by simplifying the complex system of producer levies in a way that could boost innovation, sustainability and premiumization. Also considered in the penultimate section is a reform of the tax on domestic wine consumers.

Current and prospective challenges

Among the challenges facing Australia's wine industry are the following:

- Even if the China market was re-opened to Australian wine, it is now barely half the size it was pre-COVID and will grow much slower than earlier this century due to an expected slowdown in income growth there (Anderson 2023a), thus not providing an immediate outlet for Australia's excessive stocks of red wine.

- Demand for commercial wine (<$10 a bottle) has shrunk at home and abroad. Its share of the volume of Australian wine sales in the domestic market was more than 80% in the late 1990s but is only 55% today (Figure 9 in Wine Australia 2022a); and more than half the decline in its value of exports in 2022-23 was in the <$5/litre price segment.
- The profitability of producing commercial winegrapes in Australia's hot inland regions has been held up in recent vintages because irrigation water has been ample and thus low-priced, but it will slump in future drier years when the price of water leasing would rise several-fold.
- Demand for premium wine is still growing but only slowly, and competition is strong as producers in all countries strive to premiumize (Del Ray and Loose 2023).
- Over the past dozen years, wine exporting has benefitted by the devaluation of the AUD (22% against the £ and € and 39% against the US$); exporting will be more difficult if/when the AUD appreciates again.
- The beverage category that is growing fastest (albeit from a very low base) is for low- and no-alcohol (Lo-No) products, but wine is struggling much more than beer to find affordable technologies to generate acceptable qualities and styles of lower-alcohol wines (Anderson 2023b).
- Consumers and their gatekeepers are steadily increasing their demands for wine production, distribution and packaging to be environmentally sustainable and carbon-neutral.
- Global warming and the increasing frequency and severity of extreme weather events is adding to producers' costs and thus to their desire for more climate-smart viticultural technologies that are more sustainable.
- One prospective response by vignerons to climate change is altering the mix of winegrape varieties in their vineyards, or seeking cooler-climate sites to save changing varieties, but information to guide decision-making is hampered by the fact that official area data on annual winegrape plantings and removals by variety and region have not been collected since 2015 in states other than South Australia.
- Just when the digital revolution, climate change and pressures to become more environmentally sustainable are boosting the industry's marginal returns to new investments in grape and wine research and training, funds for grape and wine

research in Australia have stagnated, which has also shrunk the supply of university lecturers to train the next generation of vignerons.

Levy reform to address key challenges

While numerous efforts are under way to address some of the above challenges, drastic responses such as pulling up the least-profitable vines are likely to be too slow to rapidly return profitability to remaining vineyards. Yet neither governments nor industry leaders are interested in subsidies to promote the pulling up of vines, given the sense of loss of old vines that followed the vine-pull scheme of the mid-1980s (and notwithstanding such a scheme being introduced in Bordeaux this year).

Whatever the optimal bearing area is for each region under expected future market and climate conditions, faster rates of innovation in production and marketing are going to be needed to help restore the competitiveness of Australia's wine industry by boosting its productivity, premiumization and environmental sustainability.

Currently funding for grape and wine R&D and wine promotion comes from levies on growers, wineries and exporters plus some matching funding from the federal government based on the tonnes of grapes crushed. A grape grower levy also is collected in South Australia to promote vine health. A mixture of producer and government funding also contributes to the cost of compiling vine area, winegrape production and price data, all of which are essential for investor and industry planning (Vinehealth Australia 2023 and earlier; Wine Australia 2023a and earlier).

What follows is an assessment of the effects of these various levies and of an alternative: a single comprehensive levy that could boost the competitiveness of Australia's wine industry. (In doing so, the small levies also collected to fund regional associations' activities are ignored. In South Australia, they range from about $4 per tonne in the hot inland Riverland region to $15 per tonne in the coolest region of the Adelaide Hills (PIRSA 2023).)

R&D levies

For many decades R&D investments in Australia's wine industry have yielded very high payoffs. Each year Wine Australia (2022b and earlier) reports the rates of return and the benefit-cost ratios for a sample of past research projects. While there is a wide range of estimates across the projects – as expected for such risky investments – a weighted average of

them would suggest the industry is underinvesting very considerably in this innovation-promoting activity.

Most of the R&D funding comes from a levy on grapegrowers of $2 per tonne and one on winemakers of $5 per tonne of grapes crushed (a small fraction of which goes to Plant Health Australia), plus matching funding from the federal government (DAFF 2023). Those levy funds are supplemented by additional income sources generated by the Australian Wine Research Institute, and the investments are smoothed somewhat by drawing, in low-yield vintages, on reserves accumulated during high-yield vintages. Even so, they (including the additional earnings by AWRI) amounted to an annual investment of less than $20 per tonne or $195 per hectare over the 2008-21 period. But because the average quality and hence price of winegrapes has been rising over time, the investment as a share of winegrape *value* has halved over the past decade, dropping from more than 4% to 2.1% (Figure 2).

Furthermore, the federal government is demanding that more of the winegrape R&D levy revenue be spent on federally sponsored collaborative research ventures such as ones responding to climate change, so even less is being retained for industry-led research projects.

The sizes of the per-tonne levies on grape producers and processors have been unchanged since 2005. Given the high marginal rates of returns from past R&D investments, a considerably higher levy is warranted. More than that, if the levies were set as a percentage of the rising *value* of winegrape production, then further premiumization of production would ensure some growth in the research budget – in contrast to the trends of the past two decades depicted in Figure 2.

Marketing/promotion levies

The wine marketing annual levy involves a base fee of $200 plus a per tonne of winegrapes fee that ranges from $4.20 for those producing just 10 tonnes to $48,880 plus 40 cents per tonne above 40,000 tonnes for the largest producers (DAFF 2023). This has amounted to more than $1 million per year. Again, if this was set as a percentage of the rising *value* rather than volume of winegrape production, that would ensure some growth in the marketing budget.

In addition, an export marketing charge is collected to help cover the cost of promoting Australian wine abroad. It is set as a percentage of the export price, ranging from 0.2% for shipments up to $20 million to 0.1% for shipments between $20 and $70 million and to 0.05% for shipments of $70 million or more (DAFF 2023). Over the period 2019-23

these export charges averaged $2.9 million. This would be simpler if it was expressed as a single percentage of the gross value of exports. Moreover, since exports are more than 60% of sales it would be even simpler to make this part of a single levy that is set as a percentage of the value of grape production.

Vine health levy

South Australia historically has avoided the infestation of phylloxera, in part by adopting very strict vine health protocols. That has been paid for by a levy on SA grape growers, which is currently a base fee of $100 plus $9.69 per hectare of vines for all owners with at least 0.5 ha. Vinehealth Australia (known prior to 2015 as the Phylloxera and Grape Board of South Australia, established in 1899) collects that levy along with precise data on the area of vines under each grape variety planted more than three years prior plus area changes in each of most-recent three years, together with each grower's data on crush volume and average price by variety. With the average yield in the state (and the nation) being a little over 10 t/ha, that levy is equivalent to about $1/tonne.

Since vine health is a partly-public good, and since states other than South Australia (representing about half the industry's output) currently do not have a way to collect data on vineyard area by region and variety, a strong case can be made for introducing similar arrangements in other states by replacing South Australia's legislation with comparable federal legislation, possibly involving a lower rate because some of the costs would be spread over twice the area.

Why not one comprehensive grower levy?

These numerous levies are based on area or crush volume and thus are not growing with the prices of winegrapes, which are highly correlated with the average price of Australian wine exports (Figure 1). Thus a strong case can be made for combining them into a single comprehensive levy based on the gross value of winegrape production, revenue from which could then be allocated according to a pre-agreed formula to R&D, local and export promotion, vine health, and data collection and compilation.

Doing so would certainly lower the overall cost to producers and bureaucracies of levy collection, but other benefits would be even more important.

The key benefit of reforming the levy system to make it a percentage of the crush value is that funds to promote more innovation would grow over time as the industry

premiumizes, thus keeping pace with producer earnings as average prices rise in response to the gradual adoption of preceding innovations.

Another benefit of a single levy is that if growers in states other than South Australia were to vote to be levied (and provide their vineyard data) in a similar way to those in South Australia, a full census of area, production and price data would be available each vintage. That would avoid the cost of Wine Australia's current Vintage Survey (Wine Australia 2023a and earlier). Regional levies also could equally easily be included in that single payment per grower.

An average of the gross value of winegrapes over the most-recent five vintages could be used as the base to calculate each grower's levy each year, to even out the effect of fluctuations in yields and prices. How that would look for 2023 is laid out in Table 1, which includes the effects of adopting an alternative single comprehensive levy based on an average of data for 2019-23. It doing so, the estimated effects are shown separately for the hot inland regions and the rest of Australia made up of cooler coastal or more-elevated regions, and also for the eight largest producers (each crushing over 40kt per vintage) and all other producers.

According to Anderson and Puga (2023), the hot regions accounted for 63% of both the total bearing area and the value of winegrape production in 2019-23, and for 81% of the volume of winegrapes crushed. And according to Euromonitor International (2023), the top eight firms in 2021 and 2022 accounted for 80% of the volume of sales of Australian wine. We assume that 80% applied to 2019-23 too, and that the large firms' share of the value of winegrapes crushed was 70%.

With those assumptions, a single comprehensive levy of 1.8% of the value of the crush would deliver the same total levy revenue as the current complex system of R&D, marketing/compliance and vine health levies, assuming the matching grant from the federal government also was unchanged from the 2019-23 average. If the levy was set a fraction higher, that could provide enough extra revenue for Vinehealth Australia to cover the non-South Australian half of the nation's vineyards, including for collecting and compiling data on the area of each variety in each vineyard.

A key reason today's complex levy structures were created had to do with equity issues as between the hot inland regions and cooler coastal regions, and between large and small producers or exporters. The new comprehensive levy reported in part (e) of Table 1, based on the value of winegrape production, doesn't lead to quite the same distributional outcome: the hot regions would pay 30% less than currently, and the largest firms would pay about one-eighth less. But that new distribution would be a fairer one, especially if the

forthcoming R&D and promotion efforts are focused on generating innovations in production and marketing that strengthen the industry's premiumization and sustainability as it raises its productivity.

What about wine consumer tax reform?

There is another reform that could contribute to premiumization, and it would bring an *immediate* improvement in profitability for the producers of fine wine, although at the expense of non-premium wine producers. Ironically, it involves the opposite switch in incentives to the reform described above, that is, it requires a move from a value base to a volume base. You've guessed it: switching the domestic consumer tax on wine from its current 29% of the wholesale price to $x per litre.

In the past the wine industry had not been in favour of a per-litre consumption tax, for two reasons. One was because, when that tax was set along with the 10% GST in 2000, all but one-seventh of domestic sales were non-premium wines which dominated the output of the biggest wineries, and only one-quarter of Australia's wine production was exported (Wittwer and Anderson 2002). Since then, however, the share of wine production that is exported has risen to two-fifths and the volume share of Australian wine sold in the domestic market that is commercial (<$10 bottle today) has fallen from 84% to 62% (Wine Australia 2022a). Hence the share of commercial wine that is sold on the taxed domestic market has fallen from almost two-thirds to barely one-quarter; and the largest firms are now moving further away from commercial wine production because of the decline in its demand globally.

The other reason the wine industry continues to shy away from a per-litre consumption tax is because it can more-easily be compared with the much higher per litre rates of tax on beer and spirits sales. Also, the latter rates are raised every six months in line with inflation and so have nearly doubled this century – although standard bottles of wine that retailed around $10 in 1999 have at least doubled in price as well and hence so has the tax paid on them.

The pressure from health lobbies and the World Health Organization for countries to adopt excise taxes based on litres of alcohol is intensifying. The United Kingdom went one step further in its latest reform of 1 August 2023, by setting higher alcohol tax *rates* for higher-alcohol beverages. Should the federal government be pressured to make such a change in Australia, the wine industry would do well to fine-tune the arguments for a lower tax rate on wine than on beer or spirits. That argument could be based on (a) the lower rates in most

other wine-exporting countries (Anderson 2020) and (b) the lower social costs associated with consumption of wine vs. beer and spirits (Srivastava, Yang and Zhao 2022) – costs that would be lower still were the switch to be made to a tax per litre of alcohol rather than of beverage.

A switch to, say, $20 per litre of alcohol (one-third of the current tax rate on beer, one-fifth of that for spirits – see Table 2) would generate a similar amount of tax revenue as the current 29% Wine Equalization Tax (assuming the WET rebate for cellar door sales remained in place). It would mean wines with a pre-tax wholesale price above $7 per bottle (so about $13 retail including that excise plus the retailer's margin and 10% GST) would be cheaper at the bottle shop than under the current WET regime. So its effects on the profitability of premium growers and wineries would be positive (especially for those that don't export) assuming the current gap between the effective tax rates for wine and beer was retained, and domestic sales of premium wines (both local and imported) would expand. However, domestic sales of lower-quality wines would contract, requiring more of such wine to be exported. Moreover, the industry would be at risk of the wine tax rate being set at much more than one-third of the rate for beer.

Conclusion

Producers interested in becoming more productive and sustainable in the years ahead need to boost the extent to which they levy themselves to generate funds for investing in R&D and promotion. An effective way of ensuring such investments grow in pace with the industry's earnings is to replace the current set of producer levies that are based on crush volume with a single levy set as a percentage of crush value. The above analysis suggests a rate of 1.8% of the average value of the crush from the 2019-23 vintages would, with the same matching R&D grant from the federal government as in those years, be sufficient to fund current activities. Needless to say, even more benefit would result if that rate was higher, given the very high rates of return that have resulted from recent R&D projects (as reported in Wine Australia 2022b and earlier).

However, investments in R&D and to a lesser extent promotion take a long time to have an impact at the producer level. Something that could have an immediate effect is a switch from a value-based tax on domestic consumers to one based on volume. Such a reform *could* help producers of premium wines, but at the expense of those producing the lowest-quality wines who would then have to find more outlets abroad to offset a decline in domestic

sales. Whether it *would* in fact help premium wine producers would depend on the extent to which any such reform is accompanied by an increase in the effective rate of wine taxation, bearing in mind that the tax rates on beer and spirits consumption in Australia as of August 2023 were three and nine times that on wine, respectively.

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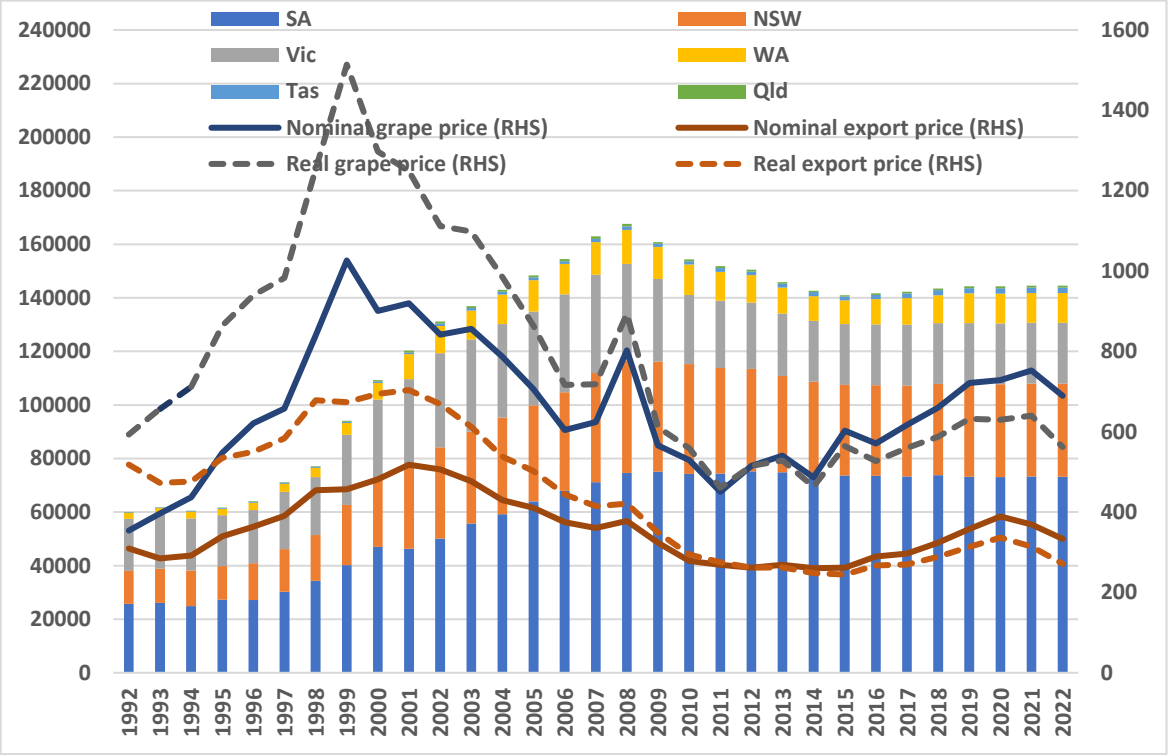
Figure 1: Winegrape bearing area by State (bars, left axis in hectares), and prices of winegrapes and of exported wine (lines, right axis in $/tonne and cents/litre), Australia, 1992 to 2022[a] (nominal and real AUD)[b]

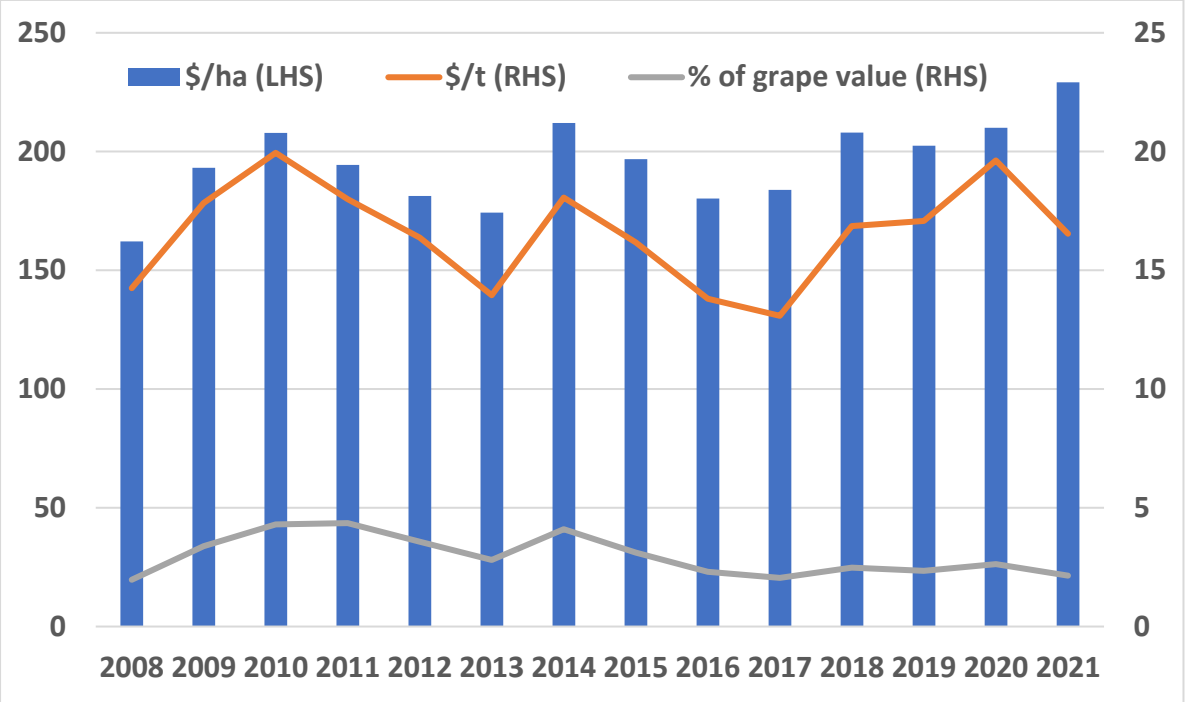


[a] Export prices are for fiscal years beginning 1 July.

[b] Real prices are nominal prices deflated by the CPI which is set at 2011-12 = 1.00.

Source: Authors' compilation from Anderson and Puga (2023).

Figure 2: Investment in grape and wine research and development in Australia,[a] 2007 to 2021 (current AUD and %)



[a] Investments by the Australian Wine Research Institute and the Grape and Wine Research and Development Corporation (which in 2015 was incorporated within Wine Australia), so not including small additional amounts spent by private firms, state departments of agriculture and the CSIRO. Spending is expressed relative to winegrape bearing area and to the volume and value of winegrape production.

Sources: AWRI (2021 and earlier) and Wine Australia (2022c and earlier).

Table 1: Estimated annual levy payments by the largest firms[a] and all smaller firms in Australia's hot[b] and other regions, 2019-23 ($m)

	Largest firms[a]	Other firms[a]	Government matching funds for R&D[f]	TOTAL
(a) R&D[c]				
Hot regions[b]	10.3	2.6	11.2	24.2
Other regions	2.4	0.6	2.6	5.7
(b) Marketing[d]				
Hot regions[b]	3.2	0.8		4.0
Other regions	0.8	0.2		0.9
(**c) Vine health[e]**				
Hot regions[b]	0.3	0.1		0.5
Other regions	0.2	0.1		0.3
(d) Sum of above				
Hot regions[b]	13.9	3.5	11.2	28.7
Other regions	3.4	0.9	2.6	6.9
TOTAL	**17.3**	**4.4**	**13.9**	**35.6**
(e) Single levy[g]				
Hot regions[b]	9.6	4.1	11.2	25.0
Other regions	5.6	2.4	2.6	10.7
TOTAL	**15.2**	**6.5**	**13.9**	**35.7**

[a] Largest eight wineries in Australia, each crushing over 40kt of winegrapes per year. According to Euromonitor International, they have accounted for 80% of the volume of sales of Australian wine. We assume that those large firms' share of the vine area and value of winegrapes crushed was 70% in 2019-23.

[b] The hot regions are defined in Anderson and Puga (2023) as those with an average growing season temperature above 19^0 C. In 2019-23 they account for 63% of both the total bearing area and the value of winegrape production, and for 81% of the volume of winegrapes crushed (Anderson and Puga 2023).

[c] R&D levy is $2/t for grapegrowers and $5/t for wineries, a total of $7/t of grapes crushed.

[d] The complex system of marketing (including export) levies and related compliance fees is assumed to average $3/t.

[e] The Vinehealth levy of $100 plus $9.69 per hectare of vines on SA growers with at least 0.5 ha is assumed to average $10/ha of all South Australian vines.

[f] The government's contribution is assumed to be the same in the single levy case as historically.

[g] The single levy used here is 1.8% of the value of winegrapes crushed: it would generate almost the same revenue as the sum of the levies shown above, including the government's constrained matching grant.

Source: Authors' computation based on above assumptions (see also text).

Table 2: Consumer taxes on alcohol in Australia and the United Kingdom, August 2008, 2013, 2018 and 2023 (% and AUD per litre of alcohol)[a]

	Commercial wine	Fine wine	Mid-beer	Full-beer	Spirits
Australia					
(a) % of wholesale pre-tax price					
2008	29	29	46	66	182
2013	29	29	51	74	205
2018	29	29	56	81	225
2023	29	29	66	96	267
(b) $ per litre of alcohol[b]					
2008	15.04	45.12	40.46	40.46	68.54
2013	15.04	45.12	45.44	45.44	76.98
2018	15.04	45.12	49.90	49.90	84.51
2023	15.04	45.12	59.06	59.06	100.05
United Kingdom					
$ per litre of alcohol					
2023	56.57	56.57	18.40	41.70	56.57

[a] *Ad valorem* rates are calculated at the following wholesale pre-tax prices per litre of beverage (current AUD) and alcohol levels: commercial wine $7 and 13.5%; fine wine $21 and 13.5%; non-draft mid-strength beer $2/litre and 3.4%; non-draft full-strength beer $2/litre and 4.4%; spirits $15 and 40%.

[b] In Australia the beer rate does not apply to the first 1.15% of alcohol.

Sources: ATO (2022) and as accessed on 21 August 2023 at https://www.ato.gov.au/business/excise-on-alcohol/excise-duty-rates-for-alcohol/, and Masala (2023).