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IMPACT OF TAX REFORM ON AUSTRALIA'S WINE INDUSTRY

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In August 1998, the Commonwealth government proposed sweeping changes to the Australian taxation system. The tax reform debate that has emerged is centering on whether to introduce a broad-based value-added tax (GST) in Australia. What are the likely impacts on the wine industry of such a tax reform, both without and with further changes to wine consumption taxes? This paper provides empirical estimates of the effects of various options using an economy-wide model that distinguishes premium from non-premium grapes and wine.

Under the Coalition Government's plan, a uniform GST on virtually all goods and services of 10 per cent would replace the present mix of various wholesale sales taxes (WSTs) on a subset of goods, and be accompanied by cuts in personal income taxes and in State financial charges. Within this plan, wine taxation is to be maintained at roughly the current level by replacing the WST on wine of 41 per cent with a smaller wholesale value-based (ad valorem) wine equalisation tax (WET), to which the 10 per cent GST would be added at the point of final sale.

However, some super-premium wine producers and a health lobby group are advocating a switch to the use of a volume-based WET (x cents per litre of alcohol rather than y per cent of the price). As to the level of taxation, on the one hand the beer industry has argued for a volumetric level of taxation on wine the same as beer which is well above the current wine rate; while on the other hand, those who extoll the health virtues of wine argue that wine should be treated no differently than food -- as in most European wine-producing countries. If there is a switch to the sort of volumetric tax that has always applied to beer and spirits, it would adversely affect producers of non-premium wine, particularly given that the low value-to-volume ratio for non-premium wine makes its international trade difficult for distant Australia. Conversely, a volumetric tax would be less painful for producers and consumers of premium wine than would an ad valorem tax that raised the same amount of government revenue; and, being based on the volume of alcohol, it would also discourage excessive wine consumption and thereby reduce its adverse external effects. Hence the Government needs to consider distributional and externality consequences in addition to the usual tax revenue and economic efficiency effects when deciding on the type and level of wine taxation.

In examining the consequences for the grape and wine industry of moving to a GST in Australia, four possibilities are therefore worthy of consideration:

• that the present value-based rate of tax on wine sales remains via a wine equalisation tax (WET) plus the general GST, in place of the current wine WST;

• that the same amount of government revenue be raised by the WET but that it be set not as a value-based tax but rather a volume-based (per litre of alcohol) tax, as with the beer and spirits excise tax;

• that the volume-based WET be raised to the same rate as that for beer, which would mean a big rise in wine taxation; and

• that, as in Europe's wine-producing countries, there be no add-on WET but just the GST on wine, which would mean a large fall in the consumer tax on wine.

This article estimates empirically the sign and size of various effects on the Australian wine market of these four alternatives to the present wine tax. Effects on production, consumption and trade in premium red, premium white, and non-premium grapes and wine are shown. Unlike most earlier studies which analyse of the wine market in isolation, the present estimates are derived in the context of changing the Australian economy's overall tax regime to one of relying more on indirect taxes via a uniform 10 per cent GST in place of the present system of WSTs at various rates on just a subset of goods. An economy-wide model is essential for such an assessment, because the indirect effects on the wine market of changing the economy's overall tax structure may be more important – and possibly of opposite sign – to the direct effects of wine tax changes. The authors were commissioned earlier this year by the Winemakers' Federation of Australia to develop such a model for this purpose.

Effects of altering Australia's tax regime

The Coalition Government's tax reform proposal has the overall rate of wine (and other alcohol) taxation remaining roughly unchanged from present levels. This is done by retaining ad valorem wholesale taxes on alcoholic products but at a lower level so that the sum of them and the 10 per cent GST would be equivalent to the current WSTs of 41 per cent for wine and 37 per cent (plus volumetric excise taxes) for other alcoholic beverages. Tobacco and petrol excise taxes also are to be retained, but the wholesale sales taxes on other goods and some state government financial charges would go and would be replaced by a 10 per cent GST on all goods and most services. Personal income tax cuts are also part of the package. Since the future size of the Government's budget surplus is now in doubt because of the Asian financial crisis, we assume here that the personal income tax cuts are restricted to what can be financed with the GST net of the revenue loss from removing wholesale sales taxes and State financial charges.

To understand the wine market effects of so altering Australia's tax system, it is helpful to progress in stages. The **first scenario** involves replacing the existing WSTs (except on alcoholic products) that currently apply to a subset of goods purchased by producers and households, and state financial charges, with a 10 per cent GST on consumption of goods and services. In this scenario the overall rate of wine (and other alcohol) taxation is kept unchanged from present levels. The Government's proposal renames the wholesale tax on wine a Wine Equalization Tax (WET).

The remaining scenarios deal specifically with taxes on alcoholic beverages. They assume that the reforms modelled in the first scenario are in place already. A ***second scenario*** is to have, instead of an ad valorem WET, a volumetric WET that raises the same tax revenue. This was seriously considered by the Commonwealth Government and, while not chosen for the August 1998 proposal, is likely to continue to be advocated by some premium wine producers and health lobbyists. The current excise taxes on alcohol are all volumetric (wine's being zero at present). A ***third scenario,*** one that has traditionally been argued for by producers of other alcoholic beverages, is to set the volumetric top-up tax on wine at least as high at that for beer per litre of alcohol. And a ***fourth scenario*** is to go in the opposite direction of scenario III and compare the outcome in scenario I with one in which the overall tax on wine is brought down to just the proposed GST rate of 10 per cent.

To keep the number of tables manageable, and because the new tax regime presumably will be in place for a long time, attention will be directed mainly to long-run simulation results. In the long-term scenarios, it is assumed that there is sufficient time to reallocate capital across all industries and labour across regions to equalise rates of return nationally for each productive factor. For the wine industry that may be as long as ten years. These resultsare then comapred with those for the short run, by which we mean there is insufficient time for capital to be relocated within and between sectors.

Scenario I: replacing various WSTs (except for alcohol) and financial taxes with a 10% broad-based GST

Would the grape and wine industry contract or expand with the reform? It depends on numerous things in an economy-wide setting, but of particular importance is whether an industry's products are now taxed *relatively* more or less than before the reform. Table 1 shows that the grape and wine industry would be one of the beneficiaries of this tax reform. Output of grapes would be 4 to 5 per cent greater than otherwise and, with a larger proportion of non-premium grapes diverted to wine-making, wine sales would be up by over 6 per cent in both volume and nominal value terms.

The change to a GST alters relative prices facing consumers. Even when alcohol taxes remain unchanged, the *relative* price of wine falls when many previously non-taxed products become taxed. Table 2 shows that the overall nominal price of wine increases by 0.6 per cent in scenario I, compared with an estimated CPI increase of 5.1 per cent. As spending on wine tends to increase more than proportionately with income, in this scenario aggregate expenditure on all products, rises by an estimated 7.0 per cent in nominal terms while domestic sales of wine expand by 9 per cent in volume and 9.5 per cent in nominal value terms (Table 2).

Two opposing effects influence the outcome for exports. Increased domestic consumption driven by the nominal income effect reduces the proportion of domestic wine production exported. But increased production will increase the amount of wine available for sale to all buyers, so that the net outcome is ambiguous. Overall, the results suggest the volume of exports would decrease by 0.4 per cent (Table 1).

Scenario II: 10% GST but a volumetric instead of an ad valorem WET

In the second scenario, switching the top-up Federal wine tax from a value basis to a volumetric basis lowers the consumer price of premium wine, by 8 per cent on average, and raises that for non-premium wine, by almost 11 per cent, compared with scenario I (Table 2). Consumption of premium wine would therefore expand at the expense of non-premium wine sales. Producer prices in the long run change little: there is sufficient time for increased labour and capital to enter the premium grape and wine industries, with a corresponding exodus from the non-premium industries (Table 1, final two columns). The recent trend by producers to switch their emphasis from non-premium to premium quality would be accelerated. The impact on production is so large in the case of non-premium wine (-7.3 per cent) that it almost offsets that segment's production gain from the move to a GST (8.1 per cent, see upper half of Table 1). On the other hand, this move to a volumetric wine tax would add to premium winegrape and wine production in the long term, as domestic consumers substitute from non-premium wines to what would become relatively less expensive premium wines.

Scenario III: 10% GST but the volumetric tax raised to beer rate

Scenario III is the same as scenario II except that the volumetric tax is higher. It reflects an industry concern that should the Federal Government introduce a volumetric tax on wine as in scenario II, that tax rate will eventually be raised to the level that applies to beer. Beer has not only a 37 per cent WST (almost as high as wine's 41 per cent) but also a volumetric tax of almost $16 per litre of alcohol. Scenario III involves raising the volumetric tax on wine to that level. Compared with the lower tax level of scenario II, this necessarily discourages all types of grape and wine production and consumption and forces more production to be exported. Since it is relatively difficult for Australia to export non-premium wine, that segment of the industry would be harmed much more. Indeed the effects would be so large as to more than wipe out the gains that would otherwise have been made in premium wine production, while adding to the losses that would be incurred by non-premium producers under scenario II. The magnitudes of losses (a -12.5% change in output for all wine, and -19.1% for non-premium wine, relative to scenario I – see Table 1) are consistent with historical evidence which shows that hikes in Australian wine taxes have had marked effects on the grape and wine industry.

Scenario IV: 10% GST and no other wine tax

What about scenario IV, in which the Federal wine tax is lowered to the general GST rate (that is, just 10 per cent instead of also having the WET)? In this case the wine industry would benefit substantially. Wine output would be 13.5 per cent higher and wine consumption would be 18.5 per cent higher in this case as compared with scenario I (last row of Tables 1 and 2).

Short-run scenarios

All the above scenarios refer to the long run. What about in the short run, when there is insufficient time for capital to reallocate within and across industries? With capital stocks constrained in each industry, the supply response to the respective shocks is necessarily more limited. Consequently, the output gains that appeared in long-run scenarios I and II (Table 1) are larger than those in the short-run results displayed in Table 3. For example, the production expansion by the premium grapegrowers and winemakers from replacing the ad valorem tax with a volumetric tax on wine (scenario II) are less than half as large in the short run as those in the long run, while the production cuts by the non-premium winemakers are smaller in the short run. Importantly, the non-premium wine part of the industry suffers net losses overall in the short run from switching from the current WST to a GST plus top-up volumetric tax: output gains of 2.5 per cent in scenario I are more than offset by an output loss of 5.6 per cent in scenario II. In addition, scenario II reduces short-run profits of non-premium winemakers by 4 per cent more than scenario I increases them (since 0.293 x 1.358 = 0.398). Such a volumetric tax with that adverse effect on profits in the short term would accelerate the transformation already under way for winemakers and hence grapegrowers to switch from non-premium to premium production (see Figure 1).

5. Policy implications and conclusions

To summarize, the long-run modelling results suggest the following:

- the wine industry would benefit from the move to a broad-based GST in place of numerous WSTs even if wine remained just as heavily taxed as at present;
- a switch from a value-based top-up WET to a volumetric WET which raises the same government revenue would harm the industry as a whole, and especially its non-premium sector, even though it would help premium wine producers and consumers;
- raising such a volumetric tax to the same level as the tax for beer per litre of alcohol would cause even the premium part of the industry to be worse off than currently; and
- lowering the tax on wine to the GST rate would add substantially to the benefits of the tax reform not only to the wine industry.

The government had to grapple with three issues in deciding on what its wine policy would be in the tax reform package: whether there should be an additional penalty tax on wine consumption over and above the GST; if so, at what level; and with what tax policy instrument? The arguments for penalty taxes on wine consumption have focused traditionally on three items, namely equity, revenue-raising, and externality considerations. Equity should not have to be considered in the present debate because, in the context of an overall reform of the tax system, equity can be dealt with much more effectively in a system-wide framework of government spending and taxation rather than targeting individual so-called luxury products.

The second penalty tax consideration, revenue-raising, has two aspects. One has to do with whether it is worth compromising on tax simplicity (via a single GST rate for all products, to reduce lobbying and administrative costs), in order to lower the efficiency cost of raising a given amount of tax revenue by imposing higher taxes on products (such as alcoholic beverages) whose demand is believed to be relatively unresponsive to price rises. The other dimension regarding revenue raising has to do with Federal-State governmental fiscal arrangements. State governments traditionally had levied a 15 per cent tax (called a ‘franchise fee’) on alcoholic beverages as a way of supplementing funds received from Canberra. When that was ruled unconstitutional in 1997, the Federal Government began collecting it on behalf of the States. Since Federal-State fiscal relations are to be re-opened in the current reform debate, with the Coalition Government proposing the states receive all GST revenue, the need for that additional 15 per cent impost on the wine market could be reconsidered.

The third penalty tax consideration has to do with what are often called ‘externalities’. Strong arguments can, have, and will continue to be made as to the positive external benefits to health from moderate wine consumption on the one hand, and the various social costs of excessive alcohol consumption on the other. Even if the external costs were believed to outweigh the external benefits, is the difference sufficient to justify the loss in national economic welfare from maintaining the current level of wine tax, after the GST is introduced, which our model results suggest is around $130 million per year?

The Coalition Government in its wisdom has decided that a penalty tax on wine is still warranted, but that it will continue to be a value-based tax. The above empirical results show that had the government deciedd to make the top-up WET volume-based, it would have major redistributive effects within the wine industry and among wine consumers. In particular, a switch to a volumetric tax would harm producers and consumers of low-priced wine while benefitting premium wine producers and consumers, ceteris paribus. It would thus encourage the industry to move even further and faster down the path of becoming more focused on the premium end of the market (see Figure 1), which incidentally seems to be where the industry is developing its strongest comparative advantage internationally. It would also tend to encourage consumers to substitute quality for quantity. Again, that would reinforce recent trends in the market, and presumably would contribute to a lowering of the social costs associated with excessive drinking. But the adverse consequences for regions producing non-premium grapes and wine of shifting to a volumetric tax instrument evidently dominated in the Government' thinking.

An earlier but more detailed version of this paper is available as G. Wittwer and K. Anderson, ***Tax Reform and the Australian Wine Industry,*** *published by the University of Adelaide's Centre for International Economic Studies. Related CIES reports also now available include R. Osmond and K. Anderson,* ***Trends and Cycles in the Australian Wine Industry, 1850 to 2000****; and N. Berger, K. Anderson and R. Stringer,* ***Trends in the World Wine Market, 1961 to 1996: A Statistical Compendium.*** *Prices are $9, $12 and $25, respectively, or $39.10 for all three (a 15% saving), including postage. Credit card orders to CIES on fax (08) 8223 1460 or phone (08) 8303 5672.*

Table 1: Grape and wine production results, long run scenarios I to IV

Scenario	Output	Producer price	Production value	Export volume	Capital stocks	Employ-ment
I: 10%GST + ad valorem WET			**% change from base case**			
Red wine grapes	4.8	0.4	5.1	0.0	8.2	2.1
White wine grapes	4.7	1.1	5.9	0.0	8.3	2.0
Non-premium grapes	3.9	0.0	3.9	0.1	6.8	0.9
Premium red wine	4.8	0.1	5.0	-0.5	8.9	2.1
Premium white wine	4.7	0.0	4.7	-0.3	8.5	1.6
Non-premium wine	8.1	0.2	8.4	-0.7	11.7	5.2
Total wine	6.5	0.1	6.7	-0.4	9.6	3.0
II: 10% GST + top-up volumetric WET			**% change from scenario I**			
Red wine grapes	3.7	0.3	4.0	0.0	3.9	4.0
White wine grapes	3.4	0.3	3.7	0.0	3.7	3.6
Non-premium grapes	-3.4	-0.4	-3.8	1.4	-3.2	-3.6
Premium red wine	4.1	0.1	4.2	-0.5	3.8	4.1
Premium white wine	3.6	0.1	3.7	-0.4	3.6	3.6
Non-premium wine	-7.3	-0.1	-7.4	0.3	-7.8	-7.2
Total wine	-2.2	0.0	-2.1	-0.4	0.1	0.3
III: 10% GST + higher volumetric tax			**% change from scenario I**			
Red wine grapes	-5.1	-0.5	-5.5	0.0	-5.4	-5.5
White wine grapes	-5.0	-0.4	-5.4	0.0	-5.4	-5.4
Non-premium grapes	-8.7	-0.9	-9.6	3.5	-8.2	-9.2
Premium red wine	-4.7	-0.2	-4.9	0.7	-4.4	-4.7
Premium white wine	-4.8	-0.2	-4.9	0.6	-4.8	-4.7
Non-premium wine	-19.1	-0.3	-19.3	0.6	-20.2	-19.1
Total wine	-12.5	-0.2	-12.7	0.7	-9.4	-9.4
IV: 10% GST on wine, no WET			**% change from scenario I**			
Red wine grapes	9.7	0.9	10.7	0.0	10.4	10.6
White wine grapes	9.4	0.8	10.3	0.0	10.2	10.2
Non-premium grapes	7.9	0.9	9.0	-3.3	7.5	8.6
Premium red wine	9.7	0.4	10.1	-1.4	8.9	9.7
Premium white wine	9.3	0.3	9.6	-1.1	9.4	9.2
Non-premium wine	16.9	0.3	17.2	-0.7	18.5	16.8
Total wine	13.5	0.3	13.9	-1.2	12.1	11.8

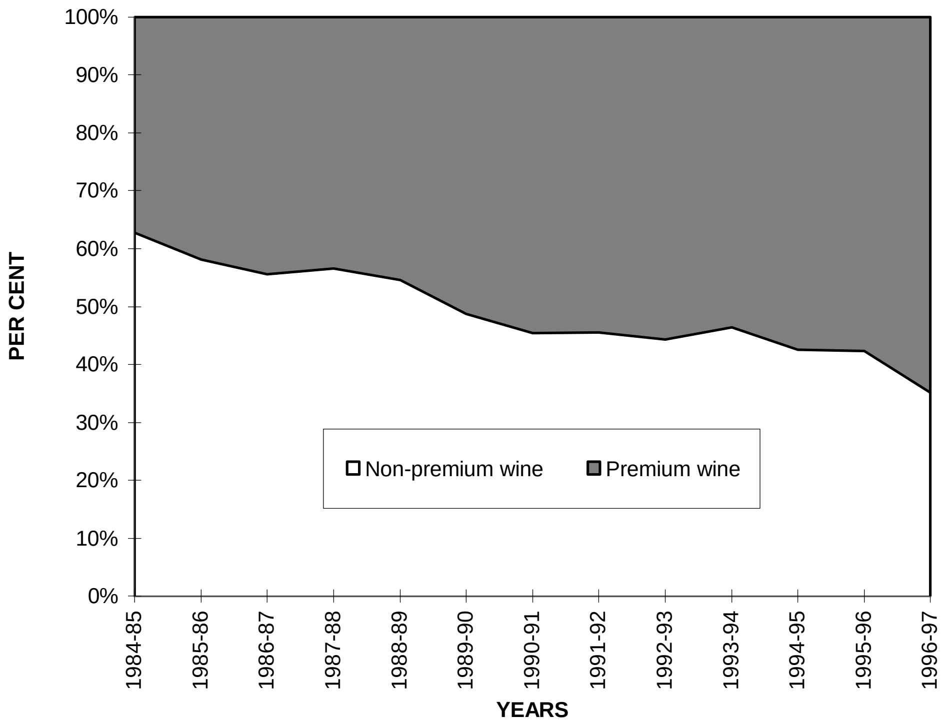
Table 2: Wine consumption results, long run scenarios I to IV

Scenario	Aust. Wine (volume)	Imported wine (volume)	Total consm.	Consumer price	Expenditure
I: 10%GST + ad valorem WET	**% change from base case**				
Premium red wine	8.8	8.7	8.7	0.5	9.3
Premium white wine	9.1	8.3	9.0	0.5	9.5
Non-premium wine	9.2	8.6	9.1	0.7	9.8
Total wine	9.0	8.6	9.0	0.6	9.5
II: 10% GST + top-up volumetric WET	**% change from scenario I**				
Premium red wine	7.3	6.7	7.1	-8.4	-1.8
Premium white wine	7.5	6.6	7.5	-8.4	-1.6
Non-premium wine	-8.2	-4.5	-8.1	10.6	1.6
Total wine	-3.3	2.7	1.5	-1.3	0.2
III: 10% GST + higher volumetric tax	**% change from scenario I**				
Premium red wine	-8.2	-7.6	-8.1	11.7	2.7
Premium white wine	-8.4	-7.6	-8.4	11.7	2.3
Non-premium wine	-21.8	-14.4	-21.5	34.5	5.6
Total wine	-17.6	-10.1	-13.2	20.2	4.4
IV: 10% GST on wine, no WET	**% change from scenario I**				
Premium red wine	17.3	15.9	17.0	-16.4	-2.2
Premium white wine	17.7	15.9	17.6	-16.4	-1.7
Non-premium wine	19.0	10.9	18.7	-17.4	-2.0
Total wine	18.5	14.1	17.8	-16.8	-2.0

Table 3: Grape and wine production results, short run scenarios I and II

	Output	Producer price	Production value	Export volume	Employment	Profits
I: 10%GST + ad valorem WET	**% change from base case**					
Red wine grapes	0.1	2.3	2.4	0.0	0.3	18.3
White wine grapes	0.1	2.7	2.8	0.0	0.1	17.1
Non-premium grapes	-0.2	2.0	1.9	-7.5	-0.5	14.4
Premium red wine	0.1	1.4	1.5	-4.7	0.1	18.2
Premium white wine	0.0	1.2	1.2	-4.4	0.0	18.0
Non-premium wine	2.5	2.8	5.4	-5.2	4.6	35.8
Total wine	1.4	1.8	3.2	-4.6	1.5	23.6
II: 10% GST + top-up volumetric WET	**% change from scenario I**					
Red wine grapes	1.4	2.0	3.5	0.0	3.2	12.8
White wine grapes	1.4	1.7	3.1	0.0	2.9	11.7
Non-premium grapes	-1.5	-2.2	-3.6	7.5	-3.2	-12.3
Premium red wine	1.7	1.5	3.2	-5.1	2.8	10.2
Premium white wine	1.5	1.2	2.8	-4.5	2.7	9.7
Non-premium wine	-5.6	-2.7	-8.1	5.6	-9.5	-29.3
Total wine	-2.3	0.0	-2.3	-4.5	-1.2	-2.2

Figure 1: Premium and non-premium shares of wine production, Australia, 1984-85 to 1996-97



Source: Osmond and Anderson (1998, Table 10).