

Brief Report

The Northern Territory's cask wine levy: health and taxation policy implications

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In June 1999, the Australian Senate passed a series of bills paving the way for the introduction of a Goods and Services Tax (GST). Among these was the Wine Equalisation Tax Bill which aimed to maintain wine prices and revenue collection from wine sales – which would have fallen with the abolition of the Wholesale Sales Tax (WST) – at then current levels.¹ In the lead-up to passage of the Bill, debate focused on whether the new tax should be levied on an *ad valorem* basis (i.e. be another sales tax) or on a 'volumetric' basis so that tax was levied according to the amount of alcohol in a beverage. The *ad valorem* method was adopted, resulting in the continuation of taxation arrangements which greatly favour cheap bulk and fortified wine products such as cask wine. The volumetric approach would have raised the floor of alcohol prices currently occupied by these products and thereby reduced their consumption. The outcome of this debate thus had the potential to make a significant public health impact by reducing the burden of alcohol-related harm, and the research on which this report is based was undertaken in that context.

The price of alcoholic beverages has a significant impact on consumption levels.^{2,3} Until 5 August 1997, price also included State/Territory liquor licensing fees. At that time, the High Court ruled that the licensing fees were *de facto* excise duties and, hence, that it was unconstitutional for the States/Territories to levy them. Following that decision, the Commonwealth Government increased WST on alcoholic drinks by 15% to reimburse the States/Territories for lost revenue.

The current system of excise and taxation, of which the WST is a part, has grown up on an *ad hoc* basis and contains significant anomalies. For example, the 'total tax payable per standard drink' (i.e. one containing 10 g of alcohol) is approximately \$0.28 on regular strength beer, \$0.38 on light beer, \$0.40 on bottled wine, and \$0.08 on cask wine.⁴

In Australia as a whole, annual mean consumption of pure alcohol is estimated to be 9.67 litres per person aged ≥ 15 years.⁵ However, in some parts of Australia, it is often twice, and sometimes approaches three times that level. In these areas, much alcohol is consumed as cask wine which – because of economies in production, packing, and lower taxation levels – has enjoyed a considerable price advantage. This price advantage has led to its purchase for cheap binge drinking and it has been shown that a significant proportion of night-time assaults and acute alcohol-related hospital admissions are linked to its consumption.⁶

Excessive consumption of cheap cask wine has been of concern to members of both Aboriginal and non-Aboriginal communities in which it takes place. In towns such as Tennant Creek, communities have used the provisions of liquor licensing legislation to have restrictions imposed on cask wine sales, and in towns such as Derby have used 'accords' between licensees to similar ends. It has been shown that such restrictions have been effective in reducing consumption and related harm.^{7,8} However, while they certainly have a role to play, they are piecemeal in application. A more efficient means of curbing excessive consumption and related

Abstract

Objective: To examine the effect of the application, and removal, in the Northern Territory of a levy on the sale of cask wine – a beverage shown to contribute disproportionately to alcohol-related harm.

Method: Using data on licensee purchases of alcoholic beverages and ABS population data, estimates were made of per capita consumption of pure alcohol by beverage type. Time series variables were analysed using multiple linear regression analysis.

Results: Prior to the introduction of the levy, quarterly per capita consumption of cask wine among persons aged ≥ 15 years was 0.73 litres. During the levy period, this fell to 0.49 litres and following removal of the levy rose to 0.58 litres. Imposition of the levy had no significant effect on the consumption of other beverages.

Conclusions: Taxation is an effective means of reducing excessive alcohol consumption and related harm.

Implications: In the interests of public health, support should be given to the introduction of a tiered tax based on alcohol content.

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Table 1: Association between the presence/absence of the NT cask wine levy and per capita consumption of ethyl alcohol for cask wine and high alcohol content beer, estimated by multiple linear regression.

Beverage variable	Adjusted R^2	Standard beta coefficient	beta estimate	95% CI for beta		t	p
				Lower	Upper		
Cask wine	47%	-0.709	-0.257	-0.397	-0.116	-3.896	0.001
High beer	0%	-0.074	-0.004	-0.036	0.028	-0.286	0.779

harm is through price – which can be significantly modified by taxation policy.

Excessive consumption of cask wine has also been a concern of the Northern Territory Government which, in July 1995, in addition to existing liquor licensing fees, introduced a \$0.35 per litre levy on the sale of cask wine. The aim of the levy was to reduce consumption and to raise revenue for the Northern Territory's 'Living with Alcohol' program. Replacement of liquor licensing fees by a Commonwealth WST effectively removed this levy. These changes provide a 'natural experiment' for studying the effect of taxation on levels of consumption.

Method

The Northern Territory Liquor Commission provided quarterly data on licensee liquor purchases (the best estimate of consumption)⁹ by beverage type by volume for the period July 1994 to September 1998. Purchases during the period in which the cask wine levy was in place (July 1995 to June 1997) were compared to purchases for the periods July 1994 to June 1995 and July 1997 to September 1998. To enable comparisons between purchase of cask wine and other beverages, each was converted to estimates of litres of pure ethyl alcohol using the following conversion factors:

- cask wine: 0.119
- bottled wine: 0.119
- high beer: 0.048
- low beer: 0.025
- straight spirits: 0.385¹⁰

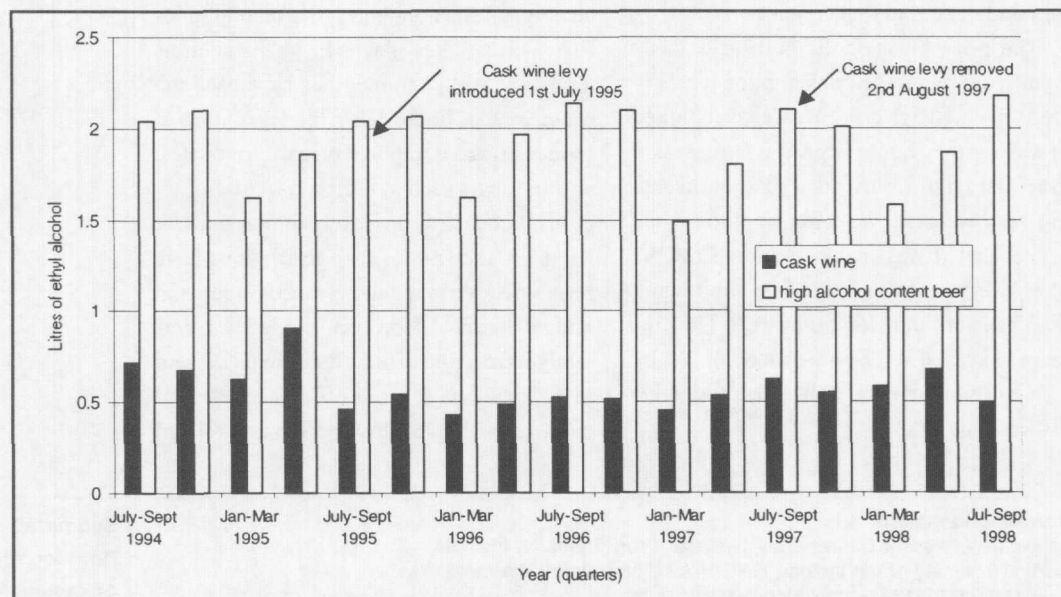
Estimates of licensee purchases of pure alcohol were divided by ABS estimates of the Northern Territory residential population aged ≥ 15 years for each financial year, producing estimates of per capita consumption of pure alcohol.

Examination of auto-correlation plots and Durban Watson statistics for cask wine and high alcohol content beer revealed no evidence of significant auto-correlation, thereby allowing the application of multiple linear regression. As indicated by the SPSS seasonal decomposition procedure, seasonal factors in each series reflected peak tourist seasons occurring between April and September. Both beverage variables were deseasonalised and transformed by utilising seasonal weights generated by the SPSS seasonal decomposition procedure and transformed by natural log prior to analysis. Other beverage types were similarly examined.

Results

Table 1 and Figure 1 show that during the period the cask wine levy was in effect, estimated per capita consumption of cask wine in the Northern Territory was significantly lower than that occurring during the non-levy periods (beta = -0.71, $p=0.001$). A test of df beta did not implicate the unusually high level of cask wine consumption in the second quarter of 1995 (Figure 1) as an influential point (df beta >2); i.e. this point did not unduly influence the slope of the regression line. In the period prior to the introduction of the levy, mean quarterly per capita consumption of cask wine was 0.73 litres per person aged ≥ 15 years. After the introduction of the levy this dropped to 0.49 litres per person

Figure 1: Trends in per capita consumption of ethyl alcohol for cask wine and high alcohol content beer among persons aged ≥ 15 years, NT, July 1994 to September 1998



aged ≥ 15 years. In the period after the removal of the levy, estimated mean quarterly per capita consumption rose to 0.58 litres. No similar association was found for high alcohol content beer or any other beverage type.

Discussion

Introduction of the cask wine levy in the Northern Territory led to a significant reduction in per capita consumption of cask wine, without any corresponding shift to the consumption of other beverage types. In the year following removal of the levy there was a drop in the average retail price of cask wine¹¹ and a return to higher levels of cask wine consumption, although not to pre-levy levels. This natural experiment suggests that increasing the tax on cask wine to a level which is more closely in line with that on other alcoholic beverages had the effect of reducing consumption of a beverage which has been clearly implicated as disproportionately contributing to levels of alcohol-related harm. Together with previously cited work, it provides a strong public health argument for reforming the alcohol taxation system.

In passing an *ad valorem* based WST bill, the Senate missed this chance for reform. Nevertheless the opportunity remains, in the spring session of Parliament, to amend existing alcohol excise legislation and to move Australia towards a *tiered* volumetric tax system which will:

- create a new volumetric tax on bulk wines, as recommended by the 1995 National Inquiry into the Wine and Winegrape Industry;
- remove present anomalies in the taxation system that allow wine-based 'designer' drinks to be taxed at a significantly lower rate than spirit-based drinks of identical beverage strength;
- tax beverages on the basis of their contribution to harm; and,
- promote the consumption of lower-strength beers through lower rates on these products.

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