Australian National
Preventive Health Agency

EXPLORING THE PUBLIC INTEREST CASE FOR A MINIMUM (FLOOR) PRICE FOR ALCOHOL

FINAL REPORT

May 2013

The Australian National Preventive Health Agency

The Australian National Preventive Health Agency (the Agency) was established on 1 January 2011 by the *Australian National Preventive Health Agency Act 2010*, to strengthen Australia's investment in preventive health and help turn the tide on the rising prevalence of preventable chronic diseases.

The Agency supports the development and implementation of evidence-based approaches to preventive health initiatives. Its initial focus, as requested by Health Ministers, is to target obesity (including nutrition and physical inactivity), harmful alcohol consumption and tobacco.

In partnership with the Commonwealth and the state and territory governments, the Agency is driving the national capacity for change and innovation around preventive health policies and programs and is committed to improving health outcomes for all Australians. Further information about the Agency can be obtained at www.anpha.gov.au

This Report is published to provide the final advice on the public interest case for a minimum price for alcohol, as requested by the Commonwealth Government.

Note: *While advice and expertise are provided to the Agency through its Advisory Council and Expert Committees, it should be noted that recommendations in the Report are those of the Agency, and do not necessarily represent the opinions of any members.*

Contents

LIST OF TABLES, FIGURES AND BOXES

ACRONYMS

ABS	Australian Bureau of Statistics
AIHW	Australian Institute of Health and Welfare
AMA	Australian Medical Association
ANPHA	Australian National Preventive Health Agency
CPI	Consumer Price Index
DSICA	Distilled Spirits Industry Council of Australia
EU	European Union
FARE	Foundation for Alcohol Research and Education
FASD	Foetal Alcohol Spectrum Disorder
GATT	General Agreement on Tariffs and Trade
GST	Goods and Services Tax
LWA	Living With Alcohol program
NABIC	National Alcohol Beverage Industries Council Incorporated
NATSISS	National Aboriginal and Torres Strait Islander Social Survey
NDSHS	National Drug Strategy Household Survey
NHMRC	National Health and Medical Research Council
RTDs	Ready-to-drink
ScHARR	School of Health and Related Research, University of Sheffield
SRP	Social reference pricing
The Agency	Australian National Preventive Health Agency
WET	Wine Equalisation Tax
WHO	World Health Organization

GLOSSARY OF TERMS

Apparent consumption of alcohol: The estimated level of alcohol consumption is based on the availability of alcoholic beverages in Australia calculated by the Australian Bureau of Statistics. It provides estimates of the quantity of pure alcohol available for consumption from beer, wine, spirits, and Ready to Drink (pre-mixed) beverages (RTDs), plus estimates of the total volume of beer and wine available for consumption. Estimates of apparent consumption are derived using information relating to supply - that is, data on domestic sales of Australian produced wine, excise data on alcohol produced for domestic consumption, data on imports and an estimated component for home production.

$B: billions

Benefit cost analysis: An analytical tool that can be used to assess the costs and benefits of regulatory proposals. Benefits and costs are examined from the perspective of the community as a whole to help identify the proposal with the highest net benefit.

Consumer price index: Measures changes in the price level of consumer goods and services purchased by households.

Consumer segmentation: A process used in marketing to divide people into groups based on similar characteristics on the assumption that their behaviours will have similarities.

Consumer surplus: Consumer surplus is the difference between the maximum price a consumer is willing to pay for a product and the actual price they do pay. In terms of a benefit-cost analysis, consumer surplus can be considered as the satisfaction or enjoyment that consumers derive from this difference.

Disaggregated data: Data that have been separated into parts. This allows for sorting and analysis by various categories or groups.

Econometric analysis: Statistical and mathematical analysis of economic relationships. Econometrics creates equations to describe phenomena such as the relationship between changes in price and demand.

Empirical evidence: Evidence relating to or based on experience or observation.

Excise duty: A tax on certain types of goods produced or manufactured in Australia, including alcohol, tobacco, fuel and petroleum products. Equivalent customs duty is imposed on imported alcohol, tobacco, fuel and petroleum products, referred to as excise equivalent goods or EEGs.

Foetal Alcohol Spectrum Disorders (FASD): A term covering a range of adverse, clinically significant effects caused by exposure to alcohol during pregnancy, including but not limited to growth retardation, facial anomalies and development abnormalities of the central nervous system.

Harmful consumption of alcohol: Drinking at levels in excess of the National Health and Medical Research Council's Alcohol Guidelines for long-term harm and/or short-term harm.

Hypothecation: The dedication of the revenue from a specific tax for a particular expenditure purpose.

$m: millions

Meta-analysis: The use of statistical methods to combine results of individual studies. This allows best use of all the information gathered by increasing the power of the analysis.

Monopoly rents: Comparison of monopoly and perfectly competitive outcomes reveals that the monopolist will set a higher price, produce a lower output and earn above normal profits. When the availability of a good is artificially restricted (for example by a prescribed minimum price) then the increased earnings of the suppliers are termed monopoly rents.

Off-license: Alcohol served in containers for consumption away from the premises.

On-license: Alcohol served to consumers directly by hotels, clubs, etc. Consumption will occur in defined licensed areas associated with the provider.

Packaged liquor: Alcoholic beverages in sealed containers sold for consumption away from licensed premises (e.g. at home, in a restaurant). Packaged liquor may be sold by licensed or off-license premises.

Pre-loading: A phenomenon where people drink large quantities of alcohol before attending a social event or going out with friends.

Price elasticity: A measure of the responsiveness of demand or supply of a good or service to changes in price

> Own-price elasticity of demand is the percentage change in the quantity consumed of a specific beverage that results from a 1 per cent change in price of that beverage.
>
> Aggregate-price elasticity refers to the overall price elasticity of demand for a particular group of related products (e.g. alcoholic beverages).
> Cross-price elasticity of demand for different beverages. Cross-price elasticites can determine how much consumption of beverage *y* changes when the price of beverage *x* changes by one per cent

Standard drink: A drink containing 10 grams of alcohol (equivalent to 12.5mL of pure alcohol).

Systematic review: A systematic review attempts to identify, appraise and synthesize all the empirical evidence that meets pre-specified eligibility criteria to answer a given research question. Researchers conducting systematic reviews use explicit methods aimed at minimizing bias, in order to produce more reliable findings that can be used to inform decision making.

Wine Equalisation Tax (WET): An *ad valorem* tax, collected at a rate of 29 per cent of wholesale price according to the value of the wine rather than the alcohol content.

Volumetric taxation: A tax based on the volume of a product rather than its price.

EXECUTIVE SUMMARY

Alcohol is enjoyed by the majority of Australians — about 80 per cent of the population aged 14 and over report some level of consumption.

There is community concern, however, within Australia and internationally, about the effects of harmful alcohol consumption on individual drinkers, families and the wider community.

Particular concern is expressed about: young people and episodic risky drinking (colloquially called 'binge drinking') including the violence, injuries and harms to others associated with this behaviour; drinking during pregnancy; the high-levels of health and other harms amongst Aboriginal and Torres Strait Islander peoples; and the longer term health harms from regularly drinking above the level of NHMRC recommended guidelines.

In response to these concerns, the Australian National Preventive Health Agency (ANPHA) was tasked by the Commonwealth Government to develop further the concept of a public interest case for a minimum (floor) price of alcohol, to discourage harmful consumption and promote safer consumption. The public interest includes the effects on citizens broadly including the health and economic impacts of such a measure.

Harmful consumption of alcohol is associated with both social and economic costs to the Australian community, with figures submitted to the Agency ranging from $3.8 billion to $36 billion. Analysis of the differing assumptions and value judgements underpinning these figures commissioned by the Agency concluded that the policy relevant costs of harmful alcohol are in excess of $15 billion annually.

The price of alcohol is a key driver of consumption levels, and resultant patterns and behaviours. Economic analyses and natural experiments from a range of countries have consistently demonstrated that increasing the price of alcohol will lead to a reduction in overall consumption. However, while price increases are highly effective at the population level, price responsiveness varies between persons drinking at different levels. Heavier drinkers are the bigger buyers of alcohol and further, in general, they tend to purchase cheaper alcohol than moderate drinkers. Thus, heavy drinkers are likely to be responsive to price changes. Further, the public health literature demonstrates clearly that outcomes for harmful drinkers are affected by price movements – mortality from diseases such as liver cirrhosis and rates of alcohol-related sudden deaths change significantly as a result of price changes.

Minimum (floor) pricing

International evidence on the impacts of the introduction of a floor price for alcohol is limited; however, some important examples do exist that have demonstrated harm-reduction outcomes. Determining whether a minimum price for alcohol is in the public interest for Australia requires a thorough analysis of both the benefits and the costs to the community as well as the distribution of these benefits and costs. Benefits include reductions in crime and violence, alcohol-related disease and productivity losses while costs include the loss of satisfaction from reduced consumption by drinkers. Initial analysis suggests that minimum pricing is potentially an effective instrument for reducing harmful alcohol consumption and its associated harms. However, estimating the exact impact of a minimum price on consumption volumes and patterns at various price points is only possible in an incomplete way in Australia as crucial parameters are missing. For example, little can be said at present about how consumers might switch between alcohol products (cross-price elasticities). Additionally, sales data are not readily available in Australia,

and are expensive to purchase, reducing the ability of many stakeholders to form their own assessments from analysis or to scrutinise the underlying data in the work of others. These data limitations reduce the confidence with which the quantum of the benefits and costs of reduced alcohol harms can be measured.

Despite this, sufficient analysis has been conducted to make an initial judgement on whether it is in the public interest to introduce a minimum price for alcohol. As any increase in price would not be fully offset by a decrease in consumption, the total expenditure on alcohol is likely to increase. As Australia's alcohol distribution and retail systems are fully private, a regulated minimum price increase (as distinct from a tax) would lead to profit increases flowing to the private sector from the monopoly rents created. This significantly reduces the available public benefits which could be used to further reduce or treat alcohol-related harm or be redistributed by government for other purposes. Even with extensive benefits from reductions in alcohol harms which would result from the implementation of a regulated minimum price, the loss of major offsetting benefits makes it very difficult for this policy to result in net benefit to the community. As a result, *at a national level*, it would be difficult for minimum alcohol price regulation to deliver sufficient benefits to overcome this hurdle.

Thus, the Agency advises the Commonwealth Government that a minimum (floor) price for alcohol should not be introduced nationally at this time.

Minimum floor prices for alcohol have been implemented or are being considered in some overseas jurisdictions where the governments either lack the power to impose or easily change excises. This is not the case for the Australian Government which has the full power to deal with changes in alcohol taxation.

Alcohol taxation reform

A majority of the submissions received by the Agency observed that the introduction of a minimum (floor) price was not the only price-related mechanism available to government to address harmful alcohol consumption, and that current alcohol taxation arrangements should also be considered. A prime purpose of alcohol taxation is the reduction of harms caused by alcohol misuse; thus, a coherent system of alcohol taxes would target the content of alcohol in beverages. The majority of submissions to this Review pointed to the current Wine Equalisation Tax (WET) as a measure in need of reform. The WET is a tax based on the value (*ad valorem*) of the wine: the cheaper the wine, the less it is taxed, irrespective of alcohol content.

There was strong endorsement from a wide range of stakeholders for a volumetric tax on all alcohol products and many noted, referring to the *'Australia's Future Tax System'* Review (the Henry Review), that reform of the WET could have similar effects in reducing alcohol-related harms as those of a minimum price. There are many methods by which alcohol taxation reform could be achieved, and many considerations in such a process involving additional economic and social analyses and consideration of transition measures – these questions do not form part of the task given to the Agency.

However, when the price affordability of one product over another appears to be partially as a result of a distortion in the market due to government revenue measures, consideration of reform becomes a public health issue (not simply an economic consideration). The effective preferential treatment of wine under the WET, results in price distortions in the alcohol market in particular in favour of cheap wine. Therefore, from a public health perspective, the current WET

as an *ad valorem* tax does not target alcohol content effectively. Preferential treatment of wine, particularly at the lower value end, is likely to be contributing to social and health harms.

Thus, based on public health considerations, the Agency finds that the current operation of the Wine Equalisation Tax is of concern and requires reappraisal by the Government.

There is also significant practice experience and evidence to indicate that any price-related measure should be implemented as part of a broader suite of actions also aimed at reducing harmful alcohol consumption.

Alcohol sales data

Finally, preventive health policies and programs relating to alcohol are informed by sound data on alcohol consumption and alcohol-related harm. While data based on population surveys and estimates of per capita consumption are currently available in Australia and a large amount of excellent research is conducted on health policy matters, the available data for both economic and health research could be significantly improved. Alcohol sales data, for example, would allow for more refined analyses of consumption trends and improved implementation and evaluation of polices to reduce alcohol-related harm. Western Australia, Queensland and the Northern Territory currently collect wholesale alcohol sales data, while other jurisdictions do not. The lack of data from all jurisdictions hampers the ability to undertake more extensive research at a local, state and national level – including into pricing based strategies. Further, cider consumption in Australia is growing rapidly. The exclusion of cider consumption data when calculating Australia's apparent per capita consumption of alcohol makes it difficult to determine the effect of cider on overall consumption and trends.

Thus, the Agency:

Strongly encourages state and territory governments to continue, or to initiate, the collection of wholesale sales data in order to enable and improve the essential research and analysis required to inform evidence-based public policy decisions. Such data should be available in the public domain.

Recommends that, in future, the Australian Bureau of Statistics includes cider consumption data in its Apparent Consumption of Alcohol publication.

INTRODUCTION

There is community concern within Australia and internationally about the effects of harmful alcohol consumption on individuals and communities. In response to this concern, the Australian National Preventive Health Agency (ANPHA) was tasked by the Commonwealth Government to develop further the concept of a public interest case for a minimum (floor) price of alcohol, to discourage harmful consumption and promote safer consumption.

A minimum (or floor) price sets a minimum price per standard drink (or unit of alcohol) at which alcoholic beverages must be sold. Minimum pricing is not a taxation measure, but rather a regulatory measure used to increase the price of the cheapest alcohol products and prevent discounting of cheaper products. For a minimum price to be effective in reducing harmful alcohol consumption and its associated harms, drinkers who consume alcohol at harmful levels would need to reduce their consumption in response to the increase in minimum price. There is a wide range of views on whether a minimum price would be effective in achieving this outcome. This report seeks to examine the available evidence in relation to a minimum price and the reductions in harms that may result from its introduction. Further it addresses whether doing so would be in the public interest. The public interest encompasses the effect of a minimum price on citizens broadly, including the health and economic impacts of such a measure.

This report begins with an overview of current alcohol consumption patterns; the extent to which Australians engage in harmful drinking; and the nature and magnitude of harms resulting from such drinking. It then seeks to answer a number of questions which inform whether a minimum price for alcohol would be in the public interest, including:

- whether a minimum price would reduce the harmful consumption of alcohol;
- is there sufficient evidence to estimate the impact of any change in consumption behaviour;
- what are the benefits and costs to the community of implementing a minimum price; and
- are there other regulatory options available to achieve reductions in harmful alcohol consumption and alcohol-related harm?

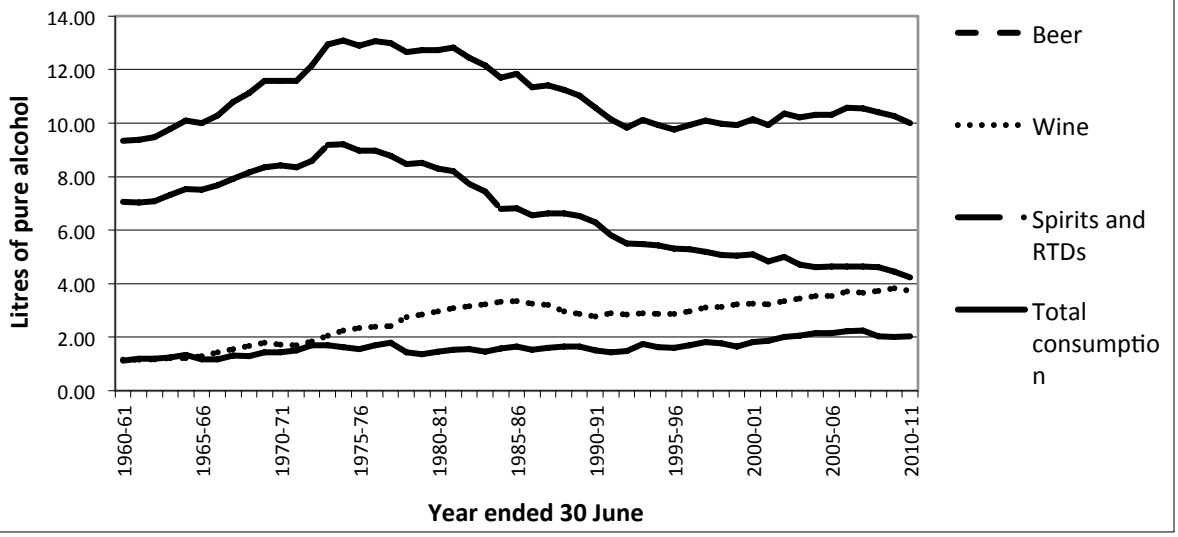
CHAPTER 1: PATTERNS AND TRENDS OF ALCOHOL CONSUMPTION IN AUSTRALIA

Key points:

- **In 2010, Australia's apparent per capita consumption of alcohol was around 10 litres per person.**
- **Consumption patterns have changed over time, with beer consumption decreasing and wine consumption increasing.**

1. Alcohol is entwined within Australia's social cultural and economic fabric. It is associated with socialising, celebration, religious and cultural ceremonies, and recreational activities. The apparent per capita consumption of alcohol has changed in Australia over time, with periods of both increasing and decreasing consumption (see Figure 1).[1] In 2010-11, Australia's apparent consumption of pure alcohol was around 10 litres per person.[2] While this represents a decrease compared to previous years, Australia's per capita consumption is high when compared with all nations.[3] In 2009, when compared with the thirty OECD countries for which alcohol consumption data was available, Australia ranked twelfth.[4]

Figure 1: Apparent consumption of pure alcohol in Australia 1960 - 2011



Source: ABS 2010 and ABS 2012

2. Consumption patterns have changed over time. Over the past 50 years the proportion of beer consumed, as a share of total alcohol consumption, has decreased (from 76 per cent to

[1] Australian Bureau of Statistics (ABS) (2010). *Apparent Consumption of Alcohol: Extended Time Series, 1944-45 to 2008-09*. Canberra: Australian Bureau of Statistics

[2] Australian Bureau of Statistics (2012). *Apparent consumption of alcohol, Australia 2010-11*, No 4307.0.55.001. Canberra: Australia Bureau of Statistics

[3] World Health Organization (2011). *Global Status Report on Alcohol and Health*. Switzerland: World Health Organization

[4] Organisation for Economic Co-operation and Development (2012). OECD Health Data: Non-medical determinants of health: OECD Health Statistics (Database). Accessed 17 March 2013. http://www.oecd-ilibrary.org/social-issues-migration-health/alcohol-consumption_alcoholcons-table-en

44 per cent), while the proportion of wine and spirits has increased (from 12 per cent to 36 per cent and 12 per cent to 20 per cent respectively).[5]

3. In recent years, the consumption of cider has increased significantly.[6] The Australian Bureau of Statistics does not include data for the consumption of cider when calculating apparent per capita consumption.[7] Between 2007 and 2011 growth in the value and volume of cider sales ranged from 150 to 188 per cent.[8] A Nielsen report '*Cider Report 2011'* stated that cider now represents 1.8 per cent of all liquor purchases in Australia.[9] While cider consumption remains low relative to other alcoholic beverages, the exclusion of this information makes it difficult to determine the effect of cider on overall consumption and trends.

4. In 2010, just over 80 per cent of Australians aged 14 years and over consumed alcohol, with around 1.3 million doing so on a daily basis.[10] The main type of alcohol consumed by recent drinkers — those who had consumed at least a full serve of alcohol in the previous 12 months — aged 14 years or older was bottled wine (33 per cent), followed by regular strength beer (20 per cent).[11]

5. Consumption patterns and drink preference differ by age and gender. The most recent National Drug Strategy Household Survey (NDSHS) found that in 2010:[12]
    - Approximately 20 per cent of adult Australians abstain.
    - The proportion of people who drank daily was 7.2 per cent.
    - Male drinkers were almost twice as likely as females to drink daily.
    - The age group most likely to drink daily were those aged 70 years or older, for both males (18 per cent) and females (12 per cent);
    - The peak age for weekly drinking was 50-59 years for males (51 per cent) and 40-49 years for females (41 per cent).
    - Male drinkers report most often drinking regular strength beer (34 per cent) while female drinkers report most often drinking bottled wine (47 per cent).
    - Younger drinkers (those aged 14–19) report most often drinking pre-mixed spirits (44 per cent).

6. The National Health and Medical Research Council (NHMRC) *Australian Guidelines to Reduce Health Risks from Drinking Alcohol* (the Guidelines) provide a useful benchmark against which to understand and assess Australian patterns of drinking.

[5] ABS (2010)
[6] Roy Morgan Research (2011). Alcoholic cider category continues to grow. Accessed 16 May 2012 from http://www.roymorgan.com/news/press-releases/2011/1531/
[7] ABS (2012),
[8] Carragher, N., Shakeshaft, A. and Doran, C.M. (2013). Here we go again: cider's turn to highlight anomalies in Australia's alcohol taxation system. *Australian and New Zealand Journal of Public Health.*37(1): pp 95-96
[9] Nielsen (2011). News Release: Alcoholic cider continues its meteoric rise: Nielsen. Accessed 16 May 2012 from http://au.nielsen.com/site/documents/CiderReport2011mediarelease_final.pdf
[10] Australian Institute of Health and Welfare (AIHW) (2011). *2010 National Drug Strategy Household Survey report.* Drug statistics series no. 25. Cat. no. PHE 145. Canberra: AIHW
[11] ibid
[12] ibid

Australian Alcohol Guidelines

7. The Guidelines recommend that: [13]
    - Guideline 1: For healthy men and women, drinking no more than two standard drinks (see Box 1) on any day reduces the lifetime risk of harm from alcohol-related disease or injury (long-term harm);
    - Guideline 2: For healthy men and women, drinking no more than four standard drinks on a single occasion reduces the risk of alcohol-related injury arising from that occasion (short-term harm);
    - Guideline 3: For children and young people under 18 years of age, not drinking alcohol is the safest option; and
    - Guideline 4: For women who are pregnant, planning a pregnancy or breastfeeding, not drinking is the safest option.

Box 1: What is a standard drink?*

In Australia, a standard drink is any drink containing 10 grams of alcohol (equivalent to 12.5mL of pure alcohol).[14] One standard drink always contains the same amount of alcohol regardless of container size or alcohol type.[15] A serving of alcohol (e.g. a glass of wine or a schooner of beer) may contain more than 1 standard drink.

Standard drinks by beverage[16]

- Can/Stubbie low-strength beer = 0.8 standard drink
- Can/Stubbie mid-strength beer = 1 standard drink
- Can/Stubbie full-strength beer = 1.4 standard drinks
- 100ml wine (13.5% alcohol) = 1 standard drink
- 30ml nip spirits = 1 standard drink
- Can spirits (approx. 5% alcohol) = 1.2 to 1.7 standard drinks
- Can spirits (approx. 7% alcohol) = 1.6 to 2.4 standard drinks

*For additional information see Appendix 3

8. The Guidelines consider both the effect of alcohol consumption during and immediately after drinking (short-term harms), and the lifetime risk (long-term harms) of alcohol-related disease or injury as a result of drinking alcohol regularly over a lifetime. The key concept underpinning the guidelines is that the risk of alcohol-related disease and injury increases progressively with the volume of alcohol consumed and the number of drinking occasions an individual participates in.[17]

9. The Guidelines for healthy adults (Guidelines 1 and 2) are based on calculations that estimate:
    - the risks of developing alcohol-related diseases as a result of drinking at specific levels on a regular basis over a lifetime, compared with not drinking (Guideline 1);
    - the cumulative lifetime risk of death from injury associated with many drinking occasions, compared with not drinking (Guideline 1); and

[13] National Health and Medical Research Council (NHMRC) (2009). *Australian Guidelines to Reduce Health Risks from Drinking Alcohol*. Commonwealth of Australia, Canberra
[14] ibid
[15] Department of Health and Ageing. The Australian Standard Drink. Accessed 20 March 2013 from http://www.health.gov.au/internet/alcohol/publishing.nsf/Content/standard
[16] NHMRC (2009)
[17] ibid

- the immediate increase in the risk of injury associated with drinking a defined amount of alcohol on a single drinking occasion, compared with not drinking (Guideline 2).[18]

10. In compiling the Guidelines, the NHMRC decided on a lifetime risk of dying from alcohol-caused disease or injury of 1 in 100 (one death for every 100 people) as the basis for guidance as to what could be seen as an acceptable risk from drinking in the context of present-day Australian society. The NHMRC highlight that the lifetime risk of 1 in 100 may be seen as too high or too low by individual drinkers and note that the Guidelines are concerned with risks related to health, and not with moral or normative standards about drinking.[19] An explanation of lifetime risk can be found in Box 2.

Box 2: Lifetime risk and the NHMRC Alcohol Guidelines

The following extract from the NHMRC Guidelines explains the rationale for the 1 in 100 lifetime risk threshold:

> Lifetime risk is a commonly used standard for evaluating the risk associated with exposure to a particular substance or situation, for instance, in evaluating what are acceptable levels of environmental poisons or food additives. The arbitrary limit often used for environmental toxins has been a risk of death of 1 in 1,000,000: that is, that the chance of death attributable to a given level of exposure over a lifetime should be no more than one in a million. This standard is used in Australia for contaminants of drinking water.
>
> A child drinking tap water is not choosing to take on a risk of poisoning. For such involuntary risks, the threshold of acceptable risk is therefore set very low. However, for behaviours that are seen as voluntarily adopted, such as driving a car, higher risks are routinely accepted. For example the lifetime risk of dying in a traffic accident associated with driving 10,000 miles a year in the US has been calculated to be about 1 in 60. From this perspective, at least some of the risks from drinking alcohol can be seen as voluntarily assumed by the drinker. On the other hand, there are harms from drinking that are not voluntarily assumed; in particular, harm to people other than the drinker. Drinking alcohol is thus a mixed case in terms of whether the associated risks are voluntary.
>
> The fact that risk is perceived as multi-dimensional, and judged according to its characteristics and context, makes it difficult to convey concepts of risk at a population level. The NHMRC decided on a lifetime risk of dying from alcohol-caused disease or injury of 1 in 100 (i.e. one death for every 100 people) as the basis for guidance as to what could be seen as an acceptable risk from drinking in the context of present-day Australian society. Guideline 1 in general aims to keep drinking below that risk level for the drinker. This may be seen as too high or too low a risk by the individual drinker. This report also presents tables and figures that show how the risk of harm varies, for those who wish to guide their drinking by another level of risk.

Source: National Health and Medical Research Council (2009*) Australian Guidelines to Reduce Health Risks from Drinking Alcohol,* pp. 34-35

[18] ibid
[19] ibid

CHAPTER 2: HARMFUL CONSUMPTION OF ALCOHOL

Key points

- **In 2010, more than 40 per cent of Australian drinkers consumed alcohol, at least once in the last 12 months, at levels which put them at risk of short-term or long-term harm**
- **The proportion of people drinking at harmful levels has remained relatively stable over the past 15 years; however, the absolute number of harmful drinkers has increased as the population has increased.**
- **Consumption patterns differ by age and gender. Young people (aged 18-29) are more likely to drink at harmful levels than the rest of the population and males are more likely to drink at harmful levels than females.**
- **Young drinkers, Indigenous Australians, pregnant women and older drinkers may face disproportionate harms when consuming alcohol.**
- **Harmful alcohol consumption is influenced by a number of factors including family, friends, price, access and availability of alcohol.**

1. Many drinkers consume alcohol responsibly, however, a proportion of drinkers in Australia consume alcohol at a level that is considered *harmful* to either their short or long-term health. There are two recent data sources that report on the harmful consumption of alcohol in Australia; the 2010 National Drug Strategy Household Survey (AIHW)[20] and the 2011-2013 Australian Health Survey – First Results (ABS).[21] This report primarily sources data from the NDSHS as the data set was more detailed and publicly available for further analysis. However, it is important to note that both surveys are in broad agreement regarding the level of harmful alcohol consumption in Australia.[22]

2. The 2010 National Drug Strategy Household Survey (NDSHS) found that in 2010:[23]
    - two-in-five people (40 per cent) aged 14 years and over consumed alcohol, at least once in the last 12 months, at levels which put them at risk of short-term harm; and
    - one-in-five (20 per cent) consumed alcohol at levels which risk long-term harm.

3. Over the past 15 years both the level of per capita consumption and the proportion of people drinking alcohol at levels that risk their short or long-term health have been declining or relatively stable; however, as the population increases, the absolute number of people drinking at harmful levels also increases. For example: In 2007, 20.3 per cent of people consumed alcohol at levels which risk long-term harm, compared to 20.1 per cent in 2010. Whilst the overall percentage has remained stable, there has been an increase in the absolute number of risky drinkers from 3.5 million in 2007 to 3.7 million in 2010.[24]

4. There is some overlap between the groups of drinkers at risk of short and long-term harm. One study conducted by Marsden *et al* (2012), estimates that drinkers who consume alcohol

[20] AIHW (2011)
[21] Australian Bureau of Statistics (2012). *The 2011-13 Australian Health Survey: First Results, 2011-12* No 4364.0.55.001. Canberra: Australia Bureau of Statistics
[22] The 2011-13 Australian Health Survey – First Results found that in 2011-12:
- 44.7 per cent of people aged 18 years and over consumed more than four standard drinks at least once in the past year, exceeding the National Health and Medical Research Council single occasion risk guideline.
- 19.5 per cent of people aged 18 years and over consumed more than two standard drinks per day on average, exceeding the National Health and Medical Research Council lifetime risk guideline.

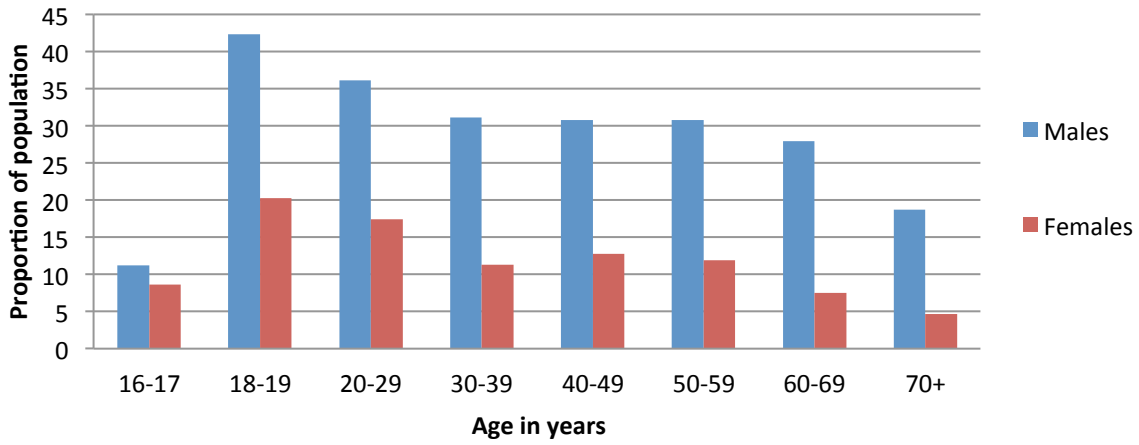
[23] AIHW (2011)
[24] ibid

at levels which risk long-term harm also account for around a half of all episodes of drinking at levels associated with risk of short-term harm.[25] The study also noted that moderate drinkers are likely, at times, to engage in drinking behaviours which put them at risk of short-term harm.[26]

Consumption patterns and harms among different groups of drinkers

5. There are substantial differences in harmful drinking patterns by age and gender (Figures 2-3).
    - People aged 18 -29 years are more likely than the rest of the population to drink at levels that put them at risk of short- and long-term harm. In 2010, 32 per cent of those aged 18-19 and 27 per cent of those aged 20-29 drank at levels that put them at risk of long-term harm, while 31 per cent of those aged 18-24 drank at levels that put them at risk of short-term harm as often as weekly.
    - Males are more likely than females to drink at levels that place them at risk for both short (48 per cent and 29 per cent respectively) and long-term harm (29 per cent and 11 per cent respectively).[27]

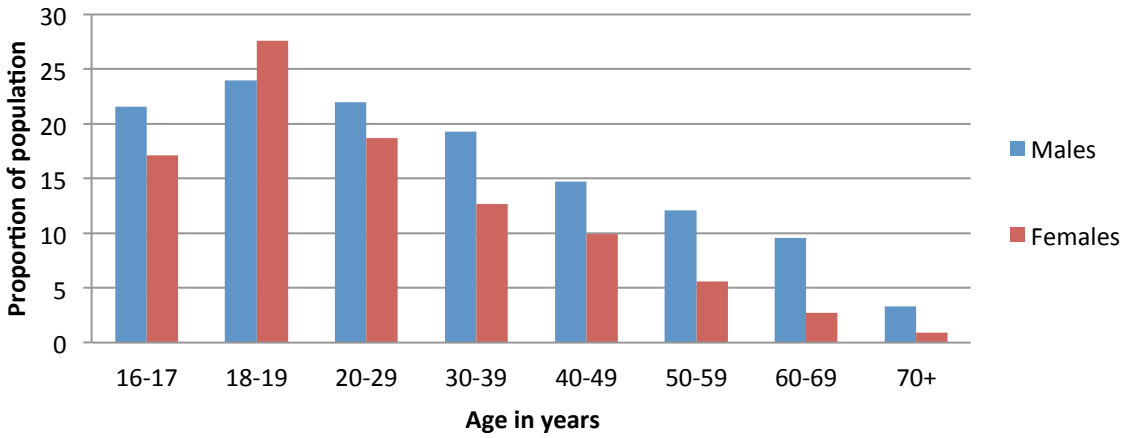
Figure 2: Persons aged 16 and over at risk of alcohol-related harm over a lifetime



Source: AIHW (2011)

[25] Marsden Jacob Associates (2012) Bingeing, collateral damage and the benefits and costs of taxing alcohol rationally, report to the Foundation for Alcohol Research and Education, October.
[26] ibid
[27] Australian Institute of Health and Welfare (2012). *Australia's health 2012.* Australia's health series no.13. Cat. no. AUS 156.Canberra: AIHW.

Figure 3: Persons aged 16 and over at risk of short-term harm from a single drinking occasion at least monthly



Source: AIHW (2011)
Note: At least monthly means had more than 4 standard drinks at least once a month but not as often as weekly.

6. There are also differences in the social and cultural characteristics of people that drink at harmful levels at least weekly.[28]
    - Employed people were more likely than unemployed people and those not in the workforce to drink at levels that placed them at risk of short or long-term harm.
    - People living in remote or very remote areas were more likely to drink at levels that put them at risk of short or long-term harm than those living in other areas (26 per cent compared to 15 per cent in major cities).
    - Those living in the Northern Territory were more likely to drink at levels that place them at risk of long-term harm (30 per cent) and short-term harm (60 per cent for males and 42 per cent for females) than those living in other States and Territories.
    - Indigenous Australians were 1.4 times as likely as non-Indigenous Australians to abstain from alcohol; however, they were also 1.5 times as likely to drink at levels that placed them at risk of short- or long-term harm.

7. Some population groups face disproportionate harms when consuming alcohol. This may be because they are more likely to engage in risky or harmful drinking behaviour, or because they face different health issues to other consumers.

Young adults and adolescents

8. As noted above young adults (those aged 18-29 years) are more likely to drink at harmful levels than any other age group. This age group faces an increased risk of harm from alcohol consumption due to a greater risk of accidents and injuries (risk-taking behaviour), a lower alcohol tolerance than older adults, and an increased risk of cognitive impairment and alcohol dependence in later life.[29] Alcohol is responsible for the majority of drug-related deaths and hospitalisations among this age group.[30]

[28] AIHW (2011)
[29] NHMRC (2009)
[30] AIHW (2012)

9. Younger adolescents, those aged between 12 and 17 years are also at risk from harmful alcohol consumption. The NHMRC Alcohol Guideline 3 recommends that for children and young people under 18 years of age, not drinking alcohol is the safest option. According to the results of a recent survey[31], approximately three in every four Australian secondary students aged between 12 and 17 years had tried alcohol at some time in their lives and 51 per cent had consumed alcohol in the preceding year. The proportion of current drinkers — those reporting alcohol consumption in the seven days prior to the survey — increased with age from 5 per cent of 12-year-olds to 37 per cent of 17-year-olds. The proportion of students aged between 12 and 17 years reporting drinking in 2011 was lower than the levels found in the 2008 and 2005 surveys.[32]

Indigenous Australians

10. Indigenous Australians — those who consume alcohol — are more likely to drink at harmful levels than non-Indigenous Australians. The National Aboriginal and Torres Strait Islander Social Survey (NATSISS) provides further information on harmful drinking patterns among Indigenous Australians. The 2008 survey found that:[33]
    - 17 per cent of Indigenous people (aged 15 years and older) were drinking at long-term risky/high-risk levels (as defined in the 2001 NHMRC Alcohol Guidelines – now superseded) in the last 12 months. Men were more likely to drink at long-term risky/high-risk levels than women and those aged 35–44 years were more likely to drink at risky/high-risk levels than other age groups;
    - 37 per cent of Indigenous people (aged 15 years and older) were drinking at acute (short-term) risky/high-risk levels (in the two weeks prior to interview). Men were more likely to drink at short-term risky/high-risk levels than women and those aged 25–44 years were more likely to drink at risky/high-risk levels than other age groups; and
    - These rates are similar to those in reported in the 2002 NATSISS.

Pregnant women

11. The NHMRC alcohol Guideline 4 recommends that for women who are pregnant or planning a pregnancy, not drinking is the safest option.[34] A recent report[35] based on data from the *2010 National Drug Strategy Household Survey* found that:
    - 47 per cent of women drank while pregnant, before knowledge of their pregnancy;
    - 20 per cent of women drank while pregnant, after knowledge of their pregnancy; and
    - women who were older and with a higher household income were more likely to continue drinking after learning of their pregnancy.

12. Drinking alcohol during pregnancy has been linked with preterm birth, low birth weight and Foetal Alcohol Spectrum Disorders (FASD).[36] FASD is an umbrella term that refers to a range of adverse effects caused by exposure to alcohol during pregnancy. FASD encompasses a

[31] White, V., Bariola, E. (2012). Australian secondary school students' use of tobacco, alcohol, and over-the counter and illicit substances in 2011. Centre for Behavioural Research in Cancer. The Cancer Council Victoria
[32] ibid
[33] Australian Bureau of Statistics (2010). *The Health and Welfare of Australia's Aboriginal and Torres Strait Islander Peoples.* Retrieved 19 April 2012 from: http://www.abs.gov.au/AUSSTATS/abs@.nsf/lookup/4704.0Chapter756Oct+2010
[34] NHMRC (2009)
[35] Callinan, S and Room, R (2012). *Alcohol consumption during pregnancy: Results from the 2010 National Drug Strategy Household Survey.* Foundation for Alcohol Research and Education.
[36] ibid

range of clinically significant effects, some of which include growth retardation, facial anomalies and development abnormalities of the central nervous system. The risk of FASD increases with greater exposure to alcohol,[37] and although the risks of low-level drinking are likely to be low, a 'safe' or 'no-effect' level has not been established.[38] This uncertainty is reflected in the NHMRC Guideline noted above.

Older people

13. Although older people generally consume less alcohol than younger people, alcohol is still an enjoyable part of life for many. The incidence of daily drinking generally increases with age, with those aged 70 and older the most likely to drink daily (18 per cent of males and 12 per cent of females).[39] While older drinkers may derive some health benefits from light to moderate alcohol consumption, some individuals may be at increased risk from alcohol consumption.[40] Older people may be less tolerant to alcohol, may have the presence of co-morbid conditions and may experience adverse interactions with medication. Further, alcohol can increase the risk of falls and fall-related injury.[41]

Additional analysis of the National Drug Strategy Household Survey data

14. In order to further establish the patterns of harmful alcohol consumption in Australia, the Agency commissioned Marsden Jacob Associates, to conduct additional analysis on data from the 2010 NDSHS (see Appendix 4). The key findings of this analysis are:
    - The 19.6 per cent of the adult population who are the heaviest drinkers consume 64 per cent of self-reported alcohol consumption.
    - The higher the average level of consumption, the higher the proportion of alcohol consumed in episodes of high-risk drinking.
    - Moderate drinkers are likely, at times, to engage in drinking behaviours which put them at risk of short-term harm.
    - The extent to which individuals engage in harmful drinking varies by age and gender.

15. The Marsden Jacob analysis of the unit record data from the NDSHS for 2010 confirms that alcohol consumption levels differ significantly by age and gender. The analysis also shows that a significant amount of alcohol is being consumed at harmful levels by particular segments of the population. Further, it demonstrates that short-term episodic drinking in excess of NHMRC Guidelines is not solely confined to heavy drinkers, with moderate drinkers accounting for 16 per cent of short-term episodic drinking.

[37] Commonwealth of Australia (2012). *FASD: The hidden harm. Inquiry into the prevention, diagnosis and management of Fetal Alcohol Spectrum Disorders*. House of Representatives Standing Committee on Social Policy and Legal Affairs. Canberra
[38] Australian Government Preventative Health Taskforce (2009) *Australia: The Healthiest Country by 2020. Technical Report 3, Preventing alcohol-related harm, a window of opportunity*. Commonwealth Government of Australia.
[39] AIHW (2011)
[40] NHMRC (2009)
[41] ibid

Factors influencing the levels and patterns of alcohol consumption in Australia

16. In examining responses to address the harmful consumption of alcohol, it is important to consider the factors that drive consumption. Evidence suggests that price, access and availability are strong drivers of consumption, for example:
    - A qualitative study of young drinkers, commissioned by Drinkwise Australia, found that the three main cultural drivers of alcohol consumption were friends, easy access and cheap drinks.[42]
    - Increased trading hours have been associated with increased levels of alcohol consumption and/or alcohol-related harm.[43]
    - Babor *et al* (2010)[44] note that:

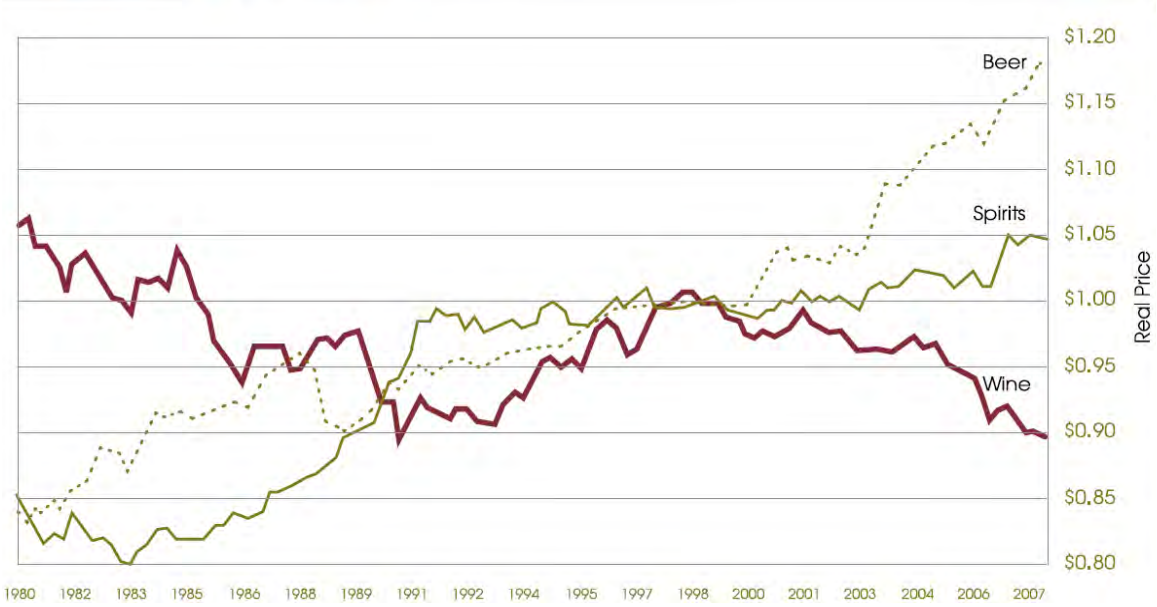
> In general, research strongly indicates that when alcohol is readily available through commercial or social sources, consumption and associated problems increase (p.128).

17. Factors influencing the levels and patterns of alcohol consumption in Australia include: the increased affordability of alcohol due to the faster rise of incomes compared with the rise in prices of alcohol.
    - Over the past 20 years alcohol, particularly wine, has become more affordable in Australia. While the overall per capita consumption of alcohol has remained relatively similar between 1990 and 2010, the proportion of average weekly expenditure on alcoholic beverages decreased from 3.4 per cent (1989–90) to 2.6 per cent (2009–10).[45] Analysis conducted by the New South Wales Bureau of Crime Statistics found that between 1995 and 2008 the affordability of alcohol increased by over 40 per cent.[46] The authors noted that since 1990, alcohol prices have increased 16 per cent more than the Consumer Price Index (CPI); however, real disposable income has increased at a faster rate.

    The change in prices of different beverages compared with other consumption items.
    - Spirits and beer have become more expensive (increasing in price at a higher rate than CPI), whilst wine has become substantially less expensive. This is consistent with data from the Australian Bureau of Statistics prepared for the National Preventative Health Taskforce (see figure 4).[47]

[42] Lindsey, J., Kelly, P., Harrison, L., *et al* (2011). 'What a great night': The cultural drivers of drinking practices among 14-24 year-old Australians. Accessed, 24 April 2013 via http://drinkwisewebsite.s3-ap-southeast-1.amazonaws.com/2011/10/The-cultural.pdf
[43] Australian Government (2009)
[44] Babor, T., Caetano, R., Casswell, S., *et al* (2010). *Alcohol: No Ordinary Commodity, Research and Public Policy,* 2nd Edition, UK: Oxford University Press.
[45] Australian Bureau of Statistics (2011). *Household Expenditure Survey, Summary of results 2009-10.* Canberra: Australia Bureau of Statistics
[46] Carragher, N and Chalmers, J (2011). What are the options? Pricing and taxation policy reforms to redress excessive alcohol consumption and related harms in Australia. Published by NSW Bureau of Crime Statistics and Research. Available online at: http://www.bocsar.nsw.gov.au/lawlink/bocsar/ll_bocsar.nsf/pages/bocsar_pub_byyear
[47] Australian Government (2009)

Figure 4: Prices of alcoholic beverages relative to other consumption (June 1999 $1.00), Australia, September 1980 to March 2008



Source: Australian Government: Technical Report 3 Preventing alcohol-related harm, a window of opportunity (p9)[48]

The fall in prices of packaged liquor compared with the prices of drinks on licensed premises.

- Detailed pricing information for alcoholic beverages in Australia is limited as data for two segments of the market, packaged liquor and on-licence sales, are not publicly available. While private sources can provide information on elements of these segments, a comprehensive review cannot be completed. However, it is important to note that a price differential exists between packaged liquor and on-licence liquor sales, with packaged liquor generally being cheaper to purchase.
- The introduction and expansion of supermarkets and liquor barns into packaged liquor sales promotes greater availability and lower prices for consumers. This widespread availability and affordability of packaged liquor is likely to influence consumption patterns. For example, 'pre-loading' — drinking heavily at someone's home before going out[49] — is thought to be partially driven by the price differential between packaged liquor and on-licence liquor (see Box 3). This issue was highlighted in a submission from Western Australian Police:

> The price differential between cheap alcohol from liquor stores and drinks in licensed premises has been identified as a factor contributing to the practice of "pre-loading" at home before visiting licensed premises (Issues paper: submission. 22, p.3).

The Drug and Alcohol Office of Western Australia cited findings from a Western Australian online survey investigating 'the relationship between packaged liquor price, convenience and alcohol consumption'. Key findings from the study included:

> Just over a quarter of respondents (26%) claimed to buy more often than usual if cheap alcohol was available [and] nearly one in five (18%) claimed they would drink more if buying cheap alcohol (Issues paper: submission. 19, p.3)

[48] ibid.

[49] National Drug Law Enforcement Research Fund (NDLERF) (2012). *Dealing with alcohol-related harm and the night-time economy – Final Report.* Accessed 17 March 2013, http://www.ndlerf.gov.au/pub/Monograph_43.pdf

Box 3: Pre-loading

Pre-loading, or pre-drinking involves the heavy consumption of alcohol at someone's home before going out (e.g. to a nightclub, party, or bar).[50] While there is little research available on pre-loading in Australia, the available evidence suggests that it is becoming both more common and more intense. A recent Australian study found a *"strong relationship between pre-drinking and 'extreme bingeing'",* (with 'extreme bingeing' being defined as consuming 11 or more standard drinks in a session at least once a month over the last year).[51]

Interviews conducted with young drinkers in two recent Australian studies suggest that the price differential between packaged liquor and alcohol purchased in licensed venues is a significant factor influencing pre-loading. For example:

> Interviewees…reported high levels of pre-loading and reported that they did this primarily because of price. (p.170)[52]
>
> Interview participants explained that they pre-load because it is cheaper to buy alcohol from bottle shops than from clubs and pubs, particularly alcoholic-energy drinks, wine and alcopops.[53]

18. More broadly, people consume alcohol for a wide range of reasons in a variety of different social and cultural contexts. They may drink for enjoyment, relaxation, social or cultural reasons, as a result of peer pressure, or out of boredom, habit or addiction.[54] A number of factors can influence consumption levels and patterns including: family, friends, colleagues, price, access to, and availability of alcohol and advertising. The reasons that people chose to drink are likely to be multifaceted and may change throughout life.

19. While increased affordability impacts positively in relation to consumer benefit, evidence suggests that drinkers who have access to a large supply of cheap alcohol are likely to drink both more regularly and to consume a greater amount of alcohol.[55] It is also known that increased consumption at risky and harmful levels brings increased harms.

20. There are a number of drivers of consumption that can be examined and altered to affect when, where and how much alcohol is consumed. In considering the impact of a minimum price, this report focuses primarily on affordability and price effects.

[50] ibid
[51] Turning Point Alcohol and Drug Centre (2012). *Preloading booze danger*. Media release, accessed 17 March 2013, http://www.turningpoint.org.au/Media-Centre/Latest_News/Experts-warn-against-alcohol-preloading.aspx
[52] NDLERF (2012)
[53] Turning Point Alcohol and Drug Centre (2012)
[54] NHMRC (2009)
[55] ScHARR (2008)[a]. *Independent Review of the effects of alcohol pricing and promotion. Part A: Systematic Reviews.* Sheffield: ScHARR, University of Sheffield.

CHAPTER 3: THE IMPACTS OF HARMFUL ALCOHOL CONSUMPTION

Key points

- **Harmful alcohol consumption is associated with a range of harms that can affect the individual drinker, other people and the wider community.**
- **Consistent with differences in consumption patterns, the harms associated with alcohol consumption can fall disproportionately on some groups.**

1. Harmful alcohol consumption is associated with a range of harms that can affect the individual drinker, other people and the wider community (the latter two categories often described as harm to others). Harm to the individual includes impacts on health and wellbeing, while harm to others encompasses a wide range of social impacts including public safety (violence and antisocial behaviour) and the health and wellbeing of others.

Impacts on health and wellbeing

2. Harmful alcohol consumption is associated with an increased personal risk of morbidity and mortality. In 2010, alcohol use was the third leading risk factor for global burden of disease, responsible for 4.9 million global deaths and 5.5 per cent of global disability-adjusted life years.[56] Alcohol use is associated with a wide range of chronic and acute health harms including: alcohol abuse, cardiovascular disease, cancer, liver disease and injuries from assault, falls and accidents.[57] The most visible and well known health harms associated with alcohol consumption are generally those that arise from acute (e.g. motor vehicle accidents, assault) or chronic (e.g. liver cirrhosis) high level consumption. However, there is increasing evidence that relatively low levels of alcohol consumption are associated with negative chronic health outcomes, such as cancer (see Box 4).

3. In 2003, the last year for which a total burden of disease analysis was conducted, alcohol consumption accounted for 3.2 per cent of the total burden of disease in Australia; 4.9 per cent in males and 1.6 per cent in females.[58] Two-thirds of the harms attributable to alcohol were the result of alcohol abuse, road traffic accidents and suicide.[59] Between 1996 and 2005 an estimated 32,696 Australians aged 15 years and older died from alcohol-attributable injury and disease caused by harmful alcohol use. Over the same period (1996-2005) 813,072 people aged 15 years and older were hospitalised for alcohol-attributable injury and disease. A major cause of death was alcoholic liver cirrhosis, whilst the most common reasons for hospitalisation were alcohol dependence, falls and assaults.[60]

[56] Lim, S.S., Vos, T., Flaxman, A.D., *et al* (2012). A comparative risk assessment of burden of disease and injury attributable to 67 risk factors and risk factor clusters in 21 regions, 1990–2010: a systematic analysis for the Global Burden of Disease Study 2010. *Lancet,* 380: 2224–60

[57] NHMRC (2009)

[58] Begg,S., Vos, T., Barker, B., Stevenson, C., Stanley, L., Lopez, A.D. (2007). *The burden of disease and injury in Australia 2003.* PHE 82. Canberra: AIHW.

[59] ibid

[60] Pascal, R., Chikritzhs, T. & Jones, P (2009). Trends in estimated alcohol-attributable deaths and hospitalisations in Australia, 1996 – 2005. National Alcohol Indicators, Bulletin No. 12. Perth: National Drug Research Institute, Curtin University of Technology.

Box 4: Alcohol and cancer

Research published over several decades has shown that alcohol increases the risk of certain cancers.[61] It is estimated that long-term chronic alcohol use contributes to between 2,182 and 6,620 new cases of cancer in Australia each year.[62]

> The most recent comprehensive review of the scientific evidence by the World Cancer Research Fund (WCRF) and the American Institute for Cancer Research (AICR) concluded that there is convincing evidence that alcohol is a cause of cancer of the mouth, pharynx, larynx, oesophagus, bowel (in men) and breast (in women), and probable evidence that alcohol increases the risk of bowel cancer (in women) and liver cancer[63].

There is a dose-response relationship between alcohol use and cancer risk for both men and women. That is, the risk of cancer increases with the amount of alcohol consumed on a regular basis.[64] However, recent evidence suggests that even at lower levels of regular consumption (up to 20g of alcohol or 2 standard drinks per day) alcohol may contribute to cancer risk.[65]

Research published in 2013, found that alcohol consumption is responsible for 3.2 – 3.7 per cent of all cancer deaths in the United States. While higher rates of consumption (greater than 40g of alcohol per day – 4 standard drinks) resulted in greater cancer risk and more alcohol-attributable cancer deaths, 26 – 35 per cent of alcohol-attributable cancer deaths were among persons who consumed 20g (2 standard drinks) or less of alcohol per day.[66] The pattern of alcohol-attributable cancer deaths differed between males and females. The majority of alcohol-attributable female cancer deaths were from breast cancer, while the majority of male cancer deaths were from upper airway and oesophageal cancers.[67] The authors conclude that:

> Reducing alcohol consumption is an important and underemphasized cancer prevention strategy (p.1).

4. Consistent with consumption patterns, harms associated with alcohol consumption can fall disproportionately on some groups. For example:
    - In 2003, alcohol was associated with 7 per cent of all deaths and an estimated 6 per cent of the total burden of disease for Aboriginal and Torres Strait Islander people.[68,69] This is almost double the burden of alcohol-related disease experienced by other Australians.
    - Males face a greater burden of disease from alcohol consumption than females.
        - In 2010, alcohol use was the third highest risk factor for men (7.4 per cent) compared to the eighth highest for women (3 per cent).[70]
        - In 2003, alcohol was the risk factor responsible for the greatest burden of disease in males under the age of 45 in Australia (8.1 per cent).[71]

[61] Nelson, D.E., Jarman, D.W., Rehm, J., *et al* (2013). Alcohol-Attributable Cancer Deaths and Years of Potential Life Lost in the United States. *American Journal of Public Health,* published online 14 February 2013.
[62] Cancer Council Australia Position Statement: Alcohol and cancer prevention. Accessed 24 March 2013 via http://wiki.cancer.org.au/prevention/Position_statement_-_Alcohol_and_cancer#bibkey_Winstanley2011
[63] ibid
[64] ibid
[65] Nelson, D.E. *et al* (2013)
[66] ibid
[67] ibid
[68] ABS (2010)
[69] Wilson, M., Sterane, A., Gray, D., Saggers, S. (2010). *The harmful use of alcohol amongst Indigenous Australians*. Retrieved 19 April 2012 from: http://www.healthinfonet.ecu.edu.au/health-risks/alcohol/reviews/our-review
[70] Lim, S.S. *et al* (2012)
[71] Begg, S. *et al* (2007) - Note: alcohol was responsible for the greatest burden of disease of 14 risk factors examined

- Young people face a larger burden of disease from alcohol than older people. This effect is largely due to injury. In 2010, alcohol use was the leading risk factor for burden of disease for people aged 15-49 years.[72]

5. The majority of submissions received in response to the issues paper *'Exploring the public interest case for a minimum (floor) price for alcohol'*, (the issues paper) and the draft report noted the harms discussed above. However, a couple of submissions expressed concern that neither the issues paper nor draft report discussed the potential health benefits of moderate alcohol consumption.

6. The evidence on the health benefits associated with moderate consumption is mixed (see Box 5). While there may be some benefits for older people at low levels of consumption (as little as half a standard drink per day), for harmful drinkers of all ages the harms clearly outweigh the benefits.

[72] Lim, S.S. *et al* (2012)

Box 5: Health benefits of moderate alcohol consumption

There is evidence that low to moderate alcohol consumption is protective against the risk of coronary heart disease (CHD).[73,74,75] The association between alcohol consumption and CHD is often described as a 'J-shaped curve' – that is compared with non-drinking, low to moderate consumption (up to 20g or 2 standard drinks of alcohol per day) is associated with lower CHD incidence and mortality; however, at higher levels of drinking the risk of CHD is greater than that observed in abstainers.[76] As a result, low-moderate alcohol consumption is often associated by drinkers with a health benefit.

Other studies, however, have suggested that the cardioprotective benefits of low to moderate alcohol consumption are overstated, or non-existent.[77] Further, the methodology of some of those studies that have demonstrated a benefit has been questioned. Stockwell *et al* (2012) argue that factors such as a failure to control for confounding lifestyle factors, the inclusion of former and occasional drinkers as abstainers and a short baseline period to assess baseline drinking make it difficult to draw firm conclusions on the issue of moderate drinking and health.[78]

In addition to the amount of alcohol consumed, evidence suggests that the pattern of consumption is important when considering cardioprotective effects. The World Health Organization states:

> There is a direct relationship between higher levels of alcohol consumption and the pattern of binge drinking (defined as 60 or more grams of pure alcohol per day) with the risk of CVD. Drinking at low levels without episodes of heavy drinking may be associated with a reduced risk of multiple cardiovascular outcomes (overall mortality from CVDs, incidence of and mortality from coronary heart disease and incidence of and mortality from stroke) in some segments of the population. However, these effects tend to disappear if the patterns of drinking are characterized by heavy episodic drinking (p.30).[79]

The available evidence suggests that any potential cardiovascular benefit may be achieved at low to moderate levels of consumption (i.e. within levels recommended in Guideline 1 of the NHMRC alcohol Guidelines).[80] Based on the continued debate about the level of benefit, the effect of confounding factors and association of alcohol consumption with a range of other negative health outcomes the World Health Organization (2007) states:

> …from both the public health and clinical viewpoints, there is no merit in promoting alcohol consumption as a preventive strategy (p.38).[81]

Harm to others

7. The harmful consumption of alcohol does not only impact on the individual drinker. Harmful alcohol consumption impacts on individuals, families and the wider community through increased public violence and anti-social behaviour including vandalism, increased child

[73] Bagnardi, V., Zatonski, W., Scotti, L., *et al* (2008). Does drinking pattern modify the effect of alcohol on the risk of coronary heart disease? Evidence from a meta-analysis. *J Epidemiol Community Health*, 62:615–619.
[74] NHMRC (2009)
[75] Babor, T. *et al* (2010)
[76] Room, R., Babor, T. and Rehm, J. (2005). Alcohol and Public Health. *Lancet* 2005; 365: 519–30
[77] NHMRC (2009)
[78] Stockwell, T., Greer, A., Fillmore, K., *et al* (2012). Association of alcohol consumption with selected cardiovascular disease outcomes: a systematic review and meta-analysis. Moderate alcohol consumption and health benefits: how good is the science? BMJ, accessed online at http://www.bmj.com/rapid-response/2012/01/21/re-association-alcohol-consumption-selected-cardiovascular-disease-outcome
[79] World health Organization (2011) Global Atlas on Cardiovascular Diseases Prevention and Control http://whqlibdoc.who.int/publications/2011/9789241564373_eng.pdf
[80] NHMRC (2009)
[81] World health Organization (2007) Prevention of cardiovascular disease : guidelines for assessment and management of total cardiovascular risk. http://whqlibdoc.who.int/publications/2007/9789241547178_eng.pdf

abuse and domestic violence, road accidents and decreased workplace productivity.[82,83] There is significant evidence that these harms to others are important. For example:

- A survey found that 70 per cent of Australians felt affected by a stranger's drinking in the previous 12 months, experiencing nuisance, fear or abuse. Furthermore 30 per cent reported negative effects from the drinking of someone close to them. Young adults were more likely to be negatively affected than other groups.[84]
- Australian research estimates that a significant proportion of assaults involve alcohol (ranging from 23 to as much as 73 per cent of all assaults).[85] Laslett *et al* 2010 estimated that in 2005, 70,000 Australians were victims of alcohol-related assault, of which 24,000 were victims of domestic violence.[86]
- The 2010 NDSHS reported that between 2007 and 2010 there was a statistically significant increase in the proportions of victims of alcohol-related physical abuse (from 4.5% to 8.1%) and being 'put in fear' (from 14.1 per cent in 2007 to 15.8 per cent in 2010).[87] Further, it was reported that recent drinkers were more likely to experience verbal abuse (26.5 per cent) and physical abuse (8.9 per cent) by someone under the influence of alcohol.

8. The impact of harmful alcohol consumption on others was noted in some submissions.

[82] Tobin, C., Moodie, R. and Livingston, C. (2011) A review of public opinion towards alcohol controls in Australia. BMC Public Health. 11:58
[83] Australian Government (2009)
[84] Laslett, A-M, Room, R., Ferris, J., *et al* (2011). Surveying the range and magnitude of alcohol's harm to others in Australia. *Addiction* 106: 1603-1611
[85] Australian Institute of Criminology. (2009) *Key issues in alcohol-related violence*. Research in practice no. 4. Canberra
[86] Laslett , A-M. *et al* (2010)
[87] AIHW (2011)

Alcohol-related harm to others – comment from submissions:

These alcohol-related harms directly affect the frontline resources of WA Police: For example:

- Alcohol was involved in 19,985 assaults recorded by WA Police over the last two financial years (2009-2011). This represents 44.1% of all assaults during that period.
- Earlier research from NSW indicates that alcohol was involved in 60% of calls for police attendance and 90% of calls between the hours of 10pm and 2am (Western Australian Police: Issues paper - submission. 22, p.2)

Young people are more likely to report being verbally abused, physically abused or put in fear by someone under the influence of alcohol than any other age group. One in five Australians aged 18 – 19 years old have been a victim of physical abuse by someone under the influence of alcohol; for 20 – 29 year olds, more than one in seven have been a victim (McCusker Centre for Action on Alcohol and Youth: Issues paper - submission. 28, p.3)

Despite these increases in alcohol related harm, it is also worth remembering that the impact of alcohol is not confined to the individual drinking, but also has a significant impact upon the broader Australian community […] Further, this problem extends to some of the communities' most vulnerable members. In Australia, 13.2 per cent of children aged 12 years or under are at risk of exposure to binge drinking by at least one adult in Australian households [and in] Victoria, alcohol use was involved in 33% of substantiated child abuse cases (Vic Health: Issues paper - submission. 33, p.5)

As well as the cost borne by individual consumers and their families, CHF notes the growing body of research showing that harmful alcohol consumption carries a significant cost to the health system and community (Consumers Health Forum of Australia: Issues paper – submission. 7, p2)

9. In addition to the harms noted above, the collateral damage imposed by drinkers on others also includes:[88]
    - increased costs of funding Australia's criminal justice, child protection and insurance systems;
    - health system costs;
    - property damage and theft; and
    - loss of quality of life, time and cost associated with looking after drinkers.

10. Harm to others represents a significant consideration when examining policy programs to reduce the harmful consumption of alcohol. Reducing harmful alcohol consumption is not only beneficial for the health and wellbeing of individual drinkers, but for their families, friends and the wider community. The social costs associated with the harmful consumption of alcohol are discussed in the following section.

The magnitude of costs resulting from harmful use of alcohol

11. Alcohol consumption provides a range of benefits and costs on individuals and society more broadly. Benefits include the enjoyment or pleasure gained from consumption, socialisation and relaxation. Costs include the health costs incurred by individual drinkers and the costs associated with the social harms noted above, such as alcohol-related violence, child abuse, loss of workplace productivity, vandalism and road accidents. As noted in the government review *'Australia's Future Tax System'* (the Henry Review):

[88] Marsden Jacob Associates (2012)

> Spillover costs of alcohol abuse include foetal damage and child abuse, domestic violence, road accidents, crime and violence, increased mortality and a range of diseases and medical conditions. These costs can arise directly (for example, in the form of costs on victims of alcohol-related violence) and indirectly (for example, in the form of the cost to the community of additional demand on a publicly-funded health care system).[89]

12. It is difficult to quantify the exact magnitude of costs resulting from harmful use of alcohol and a range of estimates exist. Estimates provided to the Agency in submissions range from $3.8 billion to $36 billion. The issues paper and draft report cited an annual cost of $15.3 billion based on estimates from an Australian study by Collins and Lapsley (2008) *'The costs of tobacco, alcohol and illicit drug abuse to Australian society in 2004/05*.'[90] A number of submissions from industry expressed concern at the use of this figure, arguing that it was unreliable and too large. Conversely, some public health submissions considered the costs to be higher.

Costs associated with harmful consumption of alcohol – comment from submissions:

The Brewers Association objects to the use of the Collins and Lapsley figure in the Issues Paper which claims that the total social costs of alcohol in 2004 – 05 was $15.3 billion. A recent critique of the Collins and Lapsley figure by Crampton, Burgess and Taylor (the Crampton study) has found that the cost of $15.3 billion per annum is meaningless from an economic and policy perspective and at most only $3.8 billion per annum is accurate (Brewers Association of Australia and New Zealand: Issues paper - submission. 18, p.6)

DSICA strongly opposes the methodologies used by Collins and Lapsley to estimate the social costs of alcohol consumption to the Australian community and Laslett et. al. to estimate the costs of alcohol harm to others as they grossly overestimate the true costs of alcohol misuse (Distilled Spirits Industry Council of Australia Inc. Draft Report – submission 22. p.13)

PWB also questions the ANPHA's use of the $15 billion figure for the cost to society of alcohol abuse as found in work conducted by Collins and Lapsley. We note the criticisms of the econometric methodologies used by Collins and Lapsley made by Access Economics, the Henry Review and in work funded by NABIC and led by Eric Crampton from the University of Canterbury. We…do not feel that this flawed work should be used to inform policy making (Premium Wine Brands: Issues paper - submission. 13, p.2)

Occasional or weekend excessive drinking is known to pose the greatest risk in relation to alcohol-related violence, accidents and injury, thus contributing exponentially to the overall social costs of alcohol misuse in Australia - a base figure of approximately $15 billion annually. The Alcohol Education and Rehabilitation Foundation [AERF - now the Foundation for Alcohol Research and Education (FARE)] estimates that an additional $14 billion per annum could be attributed to the tangible costs of harm to others and more than $6 billion to intangible costs. This places the true annual cost of alcohol to society at around $36 billion (Alcohol and Other Drugs Council of Australia: Issues paper - submission. 27,p.2–3)

The total costs of alcohol-related harms in Australia are estimated to be between $15 and $36 billion each year (Australian Medical Association: Issues paper – submission 31, p.3).

13. Given the wide range of estimates provided in submissions, the Agency commissioned Marsden Jacob Associates to examine the basis on which the differing cost figures were determined (see Appendix 7). Marsden Jacob analysed the range of figures provided to the agency and the differing assumptions and value judgements that underpin them. Five

[89] Australia's Future Tax System Review Panel (The Henry Review). (2010) *Australia's future tax system: Report to the Treasurer, part two: detailed analysis, volume 2 of 2.* Canberra: Commonwealth of Australia, p.435

[90] Collins, D.J., and Lapsley, H,M. (2008). The costs of tobacco, alcohol and illicit drug abuse to Australian society in 2004/05. Australian Department of Health and Ageing. Canberra

available studies were examined in this analysis.[91] The analysis concluded that caution should be exercised when using figures at either extreme of the range provided. In particular it was noted that:

> Great caution should be exercised in using the work of Crampton *et al* on which the industry submissions largely rely. The assumptions in this cost analysis do not accord with widely held Australian norms. For example, this work excludes costs that would derive to the society from a child born with foetal alcohol syndrome on the basis that this is a "private cost"; other inappropriate assumptions have meant that this analysis yields costs ($3.8 billion) well below those derived from an analysis based on assumptions and value judgements reflecting community preferences including as expressed in legislation (Appendix 7, p.1).
>
> Caution should also be exercised in relation to figures submitted by a number of the public interest groups. Figures, such as costs of $36 billion, are obtained by adding together separate analyses reflecting different purposes and different concepts and methodologies and some double counting. These figures inflate the assessment of likely costs. (Appendix 7, p.1).

14. The consideration of assumptions and value judgements used in economic analysis are essential when considering public policy. As noted by Marsden Jacob:

> …when analyses of costs are being conducted, the detail and, in particular, the value judgements and assumptions used by the analysts are crucial. In economic analyses of benefits and costs in particular, some assumptions would be dubiously acceptable for policy decision making (for example the inclusion of criminal gains as benefits, or the assumption that loss of life or costs borne by the drinker are not relevant to policy making). Such assumptions need to be made explicit in order for others to assess whether they are inconsistent with either societal norms and/or governments expressed values or actions.[92]

15. The Agency did not request a definitive figure on the cost of harms from misuse of alcohol; however, it notes the conclusion reached by Marsden Jacob that "*taken as a whole, the policy relevant costs of harmful alcohol consumption in Australia appear to be conservatively well in excess of $15 billion a year".*[93]

[91] The 5 studies examined were:

- Collins and Lapsley (2008). *The costs of tobacco, alcohol and illicit drug abuse to Australian society in 2004/05.*
- Laslett *et al* (2010). *The Range and Magnitude of Alcohol's Harm to Others*.
- Crampton *et al* (2011). *The Cost of Cost Studies*
- Doran *et al* (unpublished). *How much does alcohol really cost Australian drinkers and others affected by drinking?*
- Marsden Jacob Associates (2012). *Bingeing, collateral damage and the benefits and costs of taxing alcohol rationally*

[92] Marsden Jacob Associates (2012)

[93] Marsden Jacob Associates (2013). *A note on the role of value judgements in public interest tests on alcohol policy.* Appendix 7, p20

CHAPTER 4: INVESTIGATING THE CASE FOR A MINIMUM PRICE FOR ALCOHOL

Key points

- **Measures to increase alcohol prices can influence alcohol consumption. In general, an increase in the price of alcohol leads to a decrease in consumption.**
- **Harmful drinkers are generally less price responsive than moderate drinkers. However, as harmful drinkers have a tendency to switch to cheaper beverages when the price of their preferred beverage increases, a minimum pricing policy may be comparatively effective in reducing alcohol consumption among harmful drinkers where it increases the prices of all cheap alcohol and limits switching opportunities.**
- **Further, evidence suggests that increases in the price of alcohol are associated with a decrease in alcohol-related harm.**
- **There is substantial variation in the price per standard drink of different alcoholic beverages in Australia ranging from around $0.25 for cask wine to at least $3.50 for drinks in licensed premises.**
- **Around 40 per cent of wine sales in Australia have a price below $1 per standard drink. This is equivalent to at least 14 per cent of Australian alcohol sales. Analysis indicates that beer and most other beverage prices, for non-discounted sales, would not be generally affected until the level of a regulated minimum price reaches $1.30 - $1.50 or greater.**
- **Equity and distributional issues, such as the impact on low-income drinkers and the increase in retailers' profits as a result of a minimum price, are also important considerations. While a minimum price is potentially an effective measure of reducing alcohol consumption and alcohol-related harms, this does not necessarily mean it is the best policy measure to do so.**

Introduction

1. A minimum (or floor) price sets a minimum price per standard drink (or unit of alcohol) at which alcoholic beverages must be sold. Minimum pricing is not a taxation measure, but rather a regulatory measure used to increase the price of the cheapest alcohol products and prevent discounting of cheaper products. There is a significant difference between the effects of a minimum price in comparison with using taxation measures. While both measures increase prices, critically, a minimum price cannot be circumvented by discounting, loss-leading or below cost selling, because retailers cannot sell below the mandated unit price.[94] By comparison, the impact of alcohol tax increases can be mitigated, especially by large retailers.

2. The general premise of employing a pricing mechanism to address harmful alcohol consumption is not new; many studies have examined the relationship between the price of alcohol, alcohol consumption and the extent of alcohol related harms. In investigating the public interest case for a minimum (floor) price for alcohol in Australia, the following section of the report discusses the evidence for:
    - the link between alcohol prices and consumption levels;
    - the link between alcohol price and alcohol-related harms;

[94] Carragher N and Chalmers J (2011)

- the extent of the preference for low-price alcohol in drinker decisions on harmful consumption;
- the extent to which harmful drinkers would be affected by, and responsive to, a minimum price; and
- the likely impact of introducing a minimum price policy in Australia.

The link between alcohol prices and consumption levels

3. There is strong and significant evidence that an increase in the price of alcohol will lead to a reduction in overall consumption at a population level. The Preventative Health Taskforce's technical report on alcohol reviewed more than fifty studies from around the world indicating that when alcohol increases in price, consumption is reduced.[95] An international review of the use and impacts of alcohol across the world, sponsored by the World Health Organization, concluded that price and taxation policies, along with policies to restrict the physical availability of alcohol, were the most effective in addressing alcohol related harms.[96] It states:

> Dozens of studies conducted in both developed and developing countries have demonstrated that alcohol prices do have an effect on the level of consumption and related problems, including mortality rates, crime and traffic accidents. Consumers of alcoholic beverages respond to changes in alcohol prices and the evidence suggests that this applies to all groups of drinkers, including young people and heavy or problem drinkers. [97]

4. While there was general agreement with this premise in the submissions received, there was significant disagreement regarding the differential impact of price increases on different consumer groups. A number of submissions argued that a minimum price would not be effective in reducing consumption among harmful drinkers, as harmful drinkers are less responsive to price changes than moderate drinkers. In contrast, other submissions argued that the available evidence suggests that heavy drinkers do respond to price increases.

[95] Australian Government (2009)
[96] Babor, T. *et al*., (2010)
[97] ibid (p.124)

The impact of minimum price on harmful drinkers – comments from submissions:

A minimum floor price will not influence the purchasing behaviour of individuals who are committed to consuming alcohol in a risky fashion. Heavy drinkers have an incessant demand for alcohol and are the least responsive to price change (Clubs Australia: Issues paper - submission. 5, p.2)

…there is no evidence that a minimum price on alcohol would have any effect on alcohol misuse as evidence shows that heavier consumers are the least responsive to price increases. A minimum price may only impact moderate consumers (Carlton & United Breweries: Issues paper - submission.8, p.3)

Available evidence indicates that heavy drinkers are the least responsive to price changes, and will therefore be largely unaffected by a minimum price, while there is very limited (and conflicting) evidence available to suggest that a minimum price will reduce alcohol consumption by young people (Distilled Spirits Industry Council of Australia Inc: Issues paper - submission. 24, p.48)

Although the magnitude of price effects may vary, the basic relationship between price and consumption is consistent: alcohol prices affect the consumption of all types of alcoholic beverages, and the drinking behaviours of all types of drinker (Australian Medical Association: Issues paper - submission.31, p.3)

There is significant evidence that confirms that price and taxation strategies related to the alcohol content in a standard drink are more likely to reduce harmful alcohol use (Drug and Alcohol Office of Western Australia: Issues paper - submission. 19, p.3)

An increase in the price of alcohol reduces alcohol consumption, hazardous and harmful alcohol consumption, alcohol dependence, the harm done by alcohol and the harm done by alcohol to others than the drinker. The exact size of the effect will vary from country to country and from beverage to beverage. (Alcohol and Other Drugs Council of Australia (citing research from Anderson and Baumberg (2006) [98]: Issues paper - submission. 27, p.5)

5. In examining a minimum price in the United Kingdom, the Home Office observed that:

> Minimum unit pricing will raise the price of very cheap alcohol and therefore limit its availability. This will lead to a reduction in the harmful consumption of alcohol, curb practices such as 'pre-loading' at home before a night out and lead to reductions in alcohol-related health harms and crimes.
>
> The impact of minimum unit pricing will depend on the price level. However, there is evidence to suggest that harmful drinkers will be most affected by a minimum unit price and moderate drinkers least affected.[99]

6. Given the divergent viewpoints on the effectiveness of minimum pricing, it is important to consider the available evidence on the impact of price on alcohol consumption.

[98] Anderson, P. and Baumberg, B. (2006). *Alcohol in Europe, A public health perspective. A report for the European Commission*. Accessed 3 October 2012 via: http://ec.europa.eu/health/ph_determinants/life_style/alcohol/documents/alcohol_europe.pdf

[99] UK Home Office (2012). Alcohol pricing. http://old.homeoffice.gov.uk/drugs/alcohol/alcohol-pricing/

The responsiveness to price change among all consumers

7. In general, the evidence shows that demand for alcohol is responsive to price, albeit less than proportionately. That is, an increase in the price of alcohol of 1 per cent would result in a fall in demand of less than 1 per cent. Economists refer to the relationship between price and demand as the price elasticity of demand (see Box 6). As the demand for alcohol falls less than proportionately in response to a price increase, demand for alcohol is considered *price inelastic*.

Box 6: Price elasticity of demand

As a general rule if the price of a product increases, demand for that product decreases; however, the extent of this decrease can vary significantly. Price elasticity is used to measure this response to changes in price. Products can be described as *(price) inelastic* or *(price) elastic* depending on whether a change in price results in a small or large change in demand. If the price elasticity of a product is less than one (absolute value) it is usually described as *price inelastic.* If the price elasticity of a product is more than one it is usually described as *price elastic.* Alternatively price inelastic products could be described as 'not price sensitive', whilst price elastic products could be described as 'price sensitive'.

Price elasticity is calculated using the formula: Elasticity = $\frac{\%\text{ change in demand}}{\%\text{ change in price}}$

Example: A bottle of wine increases in price from $14 to $14.70, an increase of 5 per cent.

- If demand for the bottle of wine decreases by 5 per cent, then the price elasticity is -1. The wine has *unit elasticity*. The percentage change in quantity demanded is equal to the percentage change in price.

- If demand for the bottle of wine decreases by 2 per cent, then the price elasticity is -0.4. Therefore the wine would be described as *price inelastic,* as demand for the wine is less responsive to a change in price.

- If demand for the bottle of wine decreases by 8 per cent, then the price elasticity is -1.6. Therefore the wine would be described as *price elastic*, as demand for the wine is more responsive to a change in price.

8. There are a number of different measures of elasticity, and in understanding the evidence on the impact of price on alcohol consumption, it is important to distinguish between them. They include:
    - Aggregate price elasticity: refers to the overall price elasticity of demand for a particular group of related products (in this case, alcoholic beverages), when the prices of all these related products increases proportionately.[100]
    - 'Own price elasticity of demand' is defined as the percentage change in the quantity consumed of a specific beverage that results from a 1 per cent change in price of that beverage.[101] Own-price elasticity determines how much the demand for different beverage types change when their own prices change;
    - Cross-price elasticities of demand for different beverages. As the price of a good rises people tend to substitute cheaper alternatives for that good. Cross-price elasticites can determine how much consumption of beverage *y* changes when the price of beverage *x* changes by one per cent.

[100] Centre for Economics and Business Research (2009). *Minimum Alcohol Pricing: A targeted Measure? Final Report.* Available online at: http://80.82.117.178/wp-content/uploads/Minimum-Pricing-Final-report-June-2009.pdf Note: This report was commissioned by SABMiller

[101] Carragher, N and Chalmers, J (2011)

9. The magnitude of the effect of alcohol price increases on consumers' consumption varies in different population groups. Factors that can affect this response include the consumer's age, income and drinking habits[102] which, in turn, affect price elasticity.[103]

Evidence on the price elasticity of demand

10. Evidence for the impact of price on alcohol consumption includes natural experiments and a number of statistical and econometric studies that examine the link between price and alcohol consumption.

Econometric studies

11. In examining the link between price and demand, there is evidence from two recent meta-analyses (Wagenaar, A.C. *et al* 2009[104] and Gallet, C.A. 2007[105]) as well as the Sheffield Study – a study into policy options for alcohol price regulation in the United Kingdom (see Box 7).[106]

12. The two meta-analyses suggest that a 10 per cent increase in the price of alcohol is associated with a 5 per cent decline in overall consumption (price elasticity = -0.5). This suggests that while alcohol is price responsive, it is relatively price inelastic.[107,108] Along with providing an overall price elasticity of demand for alcohol, the meta-analyses also demonstrate that there is a difference in demand for different alcoholic beverages, with demand for beer being more inelastic than demand for wine or spirits (see Table 1).[109]

Table 1: Price elasticity for alcohol reported in three meta-analyses

	Median price elasticity			
Study	**Alcohol (all)**	Beer	Wine	Spirits
Wagenaar, *et al* (2009)	-0.51	-0.46	-0.69	-0.80
Gallet (2007)	-0.52	-0.36	-0.70	-0.68
Fogarty (2006)	NA	-0.38	-0.77	-0.70

Source: Adapted from Babor, T., *et al* (2010). Table 8.1, p113
NA = not available

13. A 2010 meta-analysis (Fogarty, 2010) confirms the results of other meta-analyses that the demand for alcohol is inelastic and that there are differences across beverage types. The study also presents a new finding that "the demand for alcoholic beverages has become less inelastic since the mid-1950s."[110]

[102] New Zealand Law Commission (2010). *Chapter 17: Reducing demand: the role of price.* Alcohol in our lives: curbing the harm. A report on the review of the regulatory framework for the sale and supply of liquor. Wellington, New Zealand.
[103] Preferably, for policy analysis, own-price elasticities of demand would be directly estimated for finely disaggregated types of beverage sales and distinguished between different types of consumers. This ideal requires the integration of expenditure, income and consumption data which is currently not available for Australia. Instead, price elasticities are typically derived for broad groups of beverages only, such as beer, wine and spirits, using average prices across beverage categories.[103]
[104] Wagenaar, A. *et al* (2009) Effects of beverage alcohol price and tax levels on drinking: a meta-analysis of 1003 estimates from 112 studies. *Addiction* (2009);104(2):179-190
[105] Gallet, C.A. (2007). The demand for alcohol: a meta-analysis of elasticities. *The Australian Journal of Agricultural and Resource Economics.* 51: 121 – 135.
[106] ScHARR (2008)[b]. Independent Review of the effects of alcohol pricing and promotion. Part B: Modelling the Potential Impact of Pricing and Promotion Policies for Alcohol in England: Results from the Sheffield Alcohol Policy Model Version 2008(1-1). Sheffield: ScHARR, University of Sheffield.
[107] Wagenaar, A.C., *et al.* (2009)
[108] Gallet, C.A. (2007)
[109] Carragher, N and Chalmers J (2011)
[110] Fogarty, J. (2010), 'The demand for beer, wine and spirits: A survey of the literature', *Journal of Economic Surveys.*

Box 7: University of Sheffield study

In 2008, the School of Health and Related Research (ScHARR) at the University of Sheffield was commissioned by the National Institute for Health Research — Department of Health, to conduct a two part study into policy options for alcohol price regulation in the United Kingdom. Part A consisted of a systematic review of the evidence on the link between the price and promotion of alcohol and patterns of consumption and alcohol-related harm. In addition it examined the effectiveness of related policy interventions. Part B consisted of a model which sought to identify the potential implications of changes to current policies, especially the impact on health, crime, and employment.

The model used in the Sheffield Study compared the effects of setting a minimum price for alcohol, using general price increases, and banning of off-trade discounting altogether. The effect of a minimum price was analysed at a range of values between 30 pence and 70 pence. For example, a minimum price of 30 pence was shown to decrease consumption by 0.6 per cent, while a general price increase of 10 per cent was predicted to reduce consumption by 4.4 per cent. A total ban in off-trade discounting was predicted to result in a 2.8 per cent decrease in consumption.

In early 2012, at the request of the Scottish Parliament, an updated version of the Sheffield Study was released. The aim was to re-examine the effect of a 45 pence minimum price. The findings are summarised below:[111]

- Overall weekly alcohol consumption would decrease by 3.5 per cent. This is an estimated decrease of 25.3 units per drinker per year;
- The decrease in consumption would be greater for harmful drinkers than moderate drinkers. Harmful drinkers would consume 278.3 less units per year compared to 4.8 less units for moderate drinkers;
- Alcohol-attributable deaths would reduce by approximately 36 within the first year, increasing to 196 fewer deaths per annum after 10 years;
- There would be a decrease in crime (2,160 fewer offences per annum), workplace harm (909 fewer people unemployed) and sick days (19,646 fewer sick days per year).
- A £0.45 minimum price would increase a moderate drinker's annual alcohol expenditure by £6, but a harmful drinker's by £98;
- The decrease in consumption is likely to be greatest for beer, cider and spirits bought off-trade (sold outside of pubs/clubs) and there would be a substantial absolute increase in on-trade beer and cider (sold within pubs/clubs); and
- The estimated increase in revenue by retailers is £69 million (split 70:30 off-trade and on-trade).

Natural experiments

14. Evidence from a recent study of minimum pricing in the province of British Columbia suggests that a 10 per cent increase in the minimum price of an alcoholic beverage reduces consumption of all alcoholic drinks by 3.4 per cent.[112] As previously noted, price changes may have different effects on different alcoholic beverages. This effect was observed in this study. A 10 per cent increase in minimum price resulted in:
    - a reduction in the consumption of spirits and liqueurs by 6.8 per cent;
    - a reduction in the consumption of wine by 8.9 per cent;
    - a reduction in the price of alcoholic sodas and ciders by 13.9 per cent; and
    - a reduction in consumption of beer by 1.5 per cent

[111] ScHARR (2012). Model-based appraisal of alcohol minimum pricing and off-licensed trade discount bans in Scotland: A Scottish adaptation of the Sheffield Alcohol Policy Model version 2. Sheffield: ScHARR, University of Sheffield.
[112] Stockwell, T., Auld, C., Zhao, J. and Martin, G. (2012). Does minimum pricing reduce alcohol consumption? The experience of a Canadian province. *Addiction.* 107(5): 912-920

15. On April 2010, the Saskatchewan Liquor and Gaming Authority introduced a comprehensive set of new and increased minimum prices on alcohol, including adjustments based on percentage of alcohol content. The impacts were recently reported in a study that showed that a 10 per cent increase in the minimum price of alcohol significantly reduced consumption of all alcoholic drinks by 8.43 per cent. Specifically:
    - beer consumption decreased by 10.6 per cent; spirits by 5.87 per cent and wine by 4.58 per cent;
    - significant decreases were also seen in the consumption of coolers (13.2 per cent), cocktails (21.3 per cent) and liqueurs (5.3 per cent);
    - consumption on-premise (e.g. bars, restaurants) had significantly lower effects than off-premise sales (e.g. liquor stores); and
    - consumption of higher strength products declined the most; for example, higher strength beer declined by 22.0 per cent as compared to 8.17 per cent for lower strength beers. [113]

16. In addition to the international evidence there is evidence from the Northern Territory that price is an effective means of reducing alcohol consumption (see Box 8).

[113] Stockwell, T., Zhao, J., Giesbrecht, N., *et al.* (2012) The Raising of Minimum Alcohol Prices in Saskatchewan, Canada: Impacts on Consumption and Implications for Public Health, *American Journal of Public Health*, published on line ahead of print 18 October 2012.

Box 8: Experience with pricing policies in the Northern Territory

In the Northern Territory, the Living with Alcohol (LWA) program, introduced in 1991, aimed to reduce alcohol-related harm using strategies such as education, increased controls on alcohol availability and expanded treatment and rehabilitation services. The LWA program was funded by a special levy (introduced in 1992) on beverages with greater than 3 per cent alcohol content by volume; this added five cents to the cost of a standard drink.[114,115] The levy was removed in 1997 following a High Court ruling which disallowed States and Territories from using licensing fees to raise tax revenue; the Commonwealth Government continued to fund the program until 2000.

In 1995, in addition to the LWA levy, the Northern Territory Government introduced a $0.35 per litre levy on the sale of cask wine. The aim of the cask wine levy was to reduce alcohol consumption and to raise revenue for the LWA program.[116] As with the LWA levy, the cask wine levy was removed in 1997. Prior to the introduction of the levy, mean quarterly per capita consumption of cask wine was 0.73 litres (per person aged ≥15 years). This dropped to 0.49 litres per person following the introduction of the levy. During this time there was no corresponding shift (or switching) to other beverage types, such as beer. In the period after the removal of the levy, consumption increased to 0.58 litres per person.[117]

The National Drug Research Institute (NDRI) examined the impact of various alcohol control measures introduced into Central Australia over the period 2000-2010. The final report *'A longitudinal study of influences on alcohol consumption and related harm in Central Australia: with a particular emphasis on the role of price'* was released in October 2012.[118] The report concluded that:

> The imposition of additional alcohol control measures has made a significant contribution to the reduction of estimated per capita consumption in central Australia. The evidence demonstrates that the most effective of these measures have been those which indirectly increased the average price per litre of alcoholic beverages (i.e. the removal of lower priced cask table and fortified wines from the market) and which directly increased the average price (i.e. the so-called 'alcopops tax'). This finding with regard to the impact of price is consistent with the international evidence and with evidence from the Greater Darwin region over the same time period (p.xii)

17. The Agency considers that there is strong evidence that an increase in the price of alcohol will lead to a reduction in overall consumption at a population level. The critical question, however, for a consideration of whether to implement a minimum price is the impact of price increases on consumers who drink at harmful levels.

The responsiveness to price change among harmful consumers

18. There is a substantial body of evidence that high-risk drinkers are responsive to price, albeit to a lesser extent than moderate drinkers. The meta-analysis conducted by Wagenaar *et al* (2009) found that heavy drinkers have a price elasticity of -0.28 compared with -0.51 for aggregate alcohol consumption.[119] This result is similar to that found by the Sheffield Study, which indicated that harmful drinkers had a price elasticity of -0.21, compared with -0.47 for

[114] Chikritzhs T, Stockwell T, Pascal R. (2005). The impact of the Northern Territory's Living With Alcohol program, 1992 – 2002: revisiting the evaluation. *Addiction*. 100: 1625-1636

[115] Skov SJ. (2009). Alcohol taxation policy in Australia: public health imperatives for action. *Medical Journal of Australia.* 190 (8): 437-439

[116] Gray, D., Chikritzhs, T., Stockwell, T. (1999). The Northern Territory's cask wine levy: health and taxation policy implications. *Australian and New Zealand Journal of Public Health.* 23 (6): 651-653

[117] ibid

[118] Symons, S., Gray, D., Chikritzhs, T., *et al* (2012). *A longitudinal study of influences on alcohol consumption and related harm in Central Australia: with a particular emphasis on the role of price'*. National Drug Research Institute, Curtin University, Perth. Available at: http://www.fahcsia.gov.au/sites/default/files/documents/11_2012/ndri_report.pdf

[119] Wagenaar, A.C., *et al.* (2009)

moderate drinkers.[120] One suggestion advanced in relation to these findings is that a proportion of harmful drinkers have some dependency on alcohol. This dependency factor coupled with social factors (e.g. drinking more often socially than moderate drinkers) may make heavy drinkers more resistant to price changes.[121]

19. In contrast to the aggregate price elasticities discussed previously, the Sheffield Study found heavy drinkers have higher price responsiveness than moderate drinkers for individual beverages (Table 2). One proposed reason is that harmful drinkers may be more likely to switch between products than moderate drinkers.[122]

Table 2: Own price elasticities calculated in the Sheffield Study

	Lower	**Upper**
Overall	-0.36	-0.62
Moderate drinker	-0.23	-0.52
Hazardous drinker	-0.30	-0.61
Harmful drinker	-0.41	-0.70

Source: ScHARR (2008)[b]

20. Marsden Jacob in its cost-benefit analysis for FARE developed new elasticity estimates for Australia based on studies by Fogarty (2011) and Manning *et al* (1995) and its own analysis of NDSHS data.[123] These estimates reflect the general finding that moderate drinkers are more price responsive than hazardous or harmful drinkers (Table 3). This analysis uses long-term drinking patterns to distinguish long-term moderate consumers from consumers drinking at hazardous and harmful levels.

Table 3: Updated estimates for short run, own-price elasticities by drinker and beverage category in Australia

Beverage	**Moderate**	**Hazardous[1]**	**Harmful[2]**	**Overall**
Beer	-0.50	-0.39	-0.26	-0.37
Wine	-0.54	-0.42	-0.28	-0.40
Spirits	-1.29	-1.02	-0.68	-0.96
RTDs	-0.89	-0.71	-0.47	-0.67

Source: Marsden Jacob, 2012, p. 29.

Note: *Hazardous* levels: those who consume more than two standard drinks or more per day but less than for 40 standard drinks per week for males and 28 standard drinks per week for females; and

Harmful levels: those who consume 40 or more standard drinks per week for males and 28 standard drinks per week for females.

[120] ScHARR (2008)[b]

The definitions of harmful, hazardous and moderate drinkers from the Sheffield Study are:

- Moderate drinker: ≤ 14 units for women; ≤ 21 units for men per week
- Hazardous drinker: 14 – 35 units for women; 21 – 50 units for men per week
- Harmful drinker: > 35 units for women; > 50 units for men per week

[121] Centre for Economics and Business Research (2009)

[122] Meier, P.S., Brennan, A., Purshouse, P. (2010) Policy Options for Alcohol Price Regulation: The Importance of Modelling Population Heterogeneity. *Addiction* 105(3):383-393

[123] Marsden Jacob Associates (2012)

Beverage substitution/switching behaviour

21. As the price of a product rises people tend to substitute cheaper alternatives for that product. Hence an (across the board) rise in the price of alcohol can see drinkers substitute other cheap alcohol (as well as non-alcoholic beverages) for their previously preferred drink.

22. Harmful drinkers may be more likely to switch between products than moderate drinkers.[124] For example, if the price of beer increases but the price of all other products remains the same, harmful drinkers may be more likely than moderate drinkers to 'switch' their consumption from beer to alternative alcohol products which now provide a relatively cheaper option.[125] There is evidence of switching behaviour, both in Australia and other jurisdictions.

23. Two examples of switching behaviour observed in Australia are the response to the Ready-to-Drink 'alcopops' tax and the response to the removal from sale of four and five litre casks of wine in the Northern Territory (see Box 9).

Box 9: Examples of 'switching' behaviour in Australia

Tennant Creek
In March 1996, following a trial (and evaluation) of increased restrictions on the availability of alcohol in Tennant Creek, the Northern Territory Liquor Licensing Commission amended the licences of Tennant Creek hotels and takeaway outlets to include several restrictions. One of these restrictions was the prohibition of sales of all wine in casks >2 litres in volume. A review conducted after two years found that in the period following the introduction of the restrictions, mean quarterly purchases for fortified wines increased by 573 litres (570 per cent) compared to the mean for the previous four quarters; however, it was noted that this switching behaviour offset only 14 per cent of the mean quarterly decline of 4,153 litres of pure alcohol purchased as cask wine.

Alice Springs
In March 2002 the Northern Territory Liquor Licensing Commission varied licence restrictions in Alice Springs. Similar to Tennant Creek, one of the restrictions was to prohibit the sales of all liquor in containers >2 litres in volume. In an evaluation of the trial it was noted that the aim of this restriction was to restrict the sale of four and five litre wine casks; however, the trial report stated "It is clearly demonstrated within the reports and other material put before the Commission that those denied their drink of first choice shifted immediately to two-litre casks of port and that, at least in the early months of the trial, there were increased levels of alcohol-related harm and anti-social behaviour" (p13). Following the trial evaluation the ban on containers > 2 litres in volume was lifted.

Ready-to-drink (RTD) alcohol beverages tax
In the first full year that the RTD alcohol beverages tax (the "alcopops" tax) was in effect 2008-09, there was a 30 per cent decrease in sales of RTDs. This was followed by a further decline in 2009-10. Over the same period there was an increase in the sales of other spirits; however, this increase accounted for less than half of the decrease in RTD sales.

[124] ScHARR (2008)[b]

[125] Research work has recently commenced in Australia on the International Alcohol Control study, a multinational collaborative project studying drinking patterns in the context of market and social influences. The study will compare patterns and changes between different Australian population segments and alcohol categories and model the effect of different policy mechanisms on these. This research will provide detailed evidence for the cross-price elasticities between alcohol categories across Australian consumer groupings. Research funded by the National Preventive Health Research Fund (administered by ANPHA), January 2011. The project title is: Drinking patterns, regulation and market influences in Australia: the international alcohol control study. Chief Investigator for this project is Professor Robin Room (University of Melbourne).

24. The exact effects of a minimum price on switching behaviour, as distinct from a restriction on the availability of a particular size or type of product, may be less than the effect of these types regulatory interventions. Effectively, a floor price increases the price of the cheapest available products and reduces the ability of retailers and licensed premises to loss lead or discount. This may limit the ability of consumers looking to switch to the cheapest available alcohol.

25. In summary, the Agency concludes that harmful drinkers are responsive to price, albeit to a lesser extent than moderate drinkers. This is not to suggest that pricing measures are not a relevant policy option for harmful drinkers. Given the evidence that harmful drinkers are more likely to switch between products than moderate drinkers, a minimum price could be a highly effective way of addressing harmful consumption. This is because a minimum price raises the cost of the cheapest alcohol, reducing switching opportunities.

Price, consumption and alcohol-related harm

26. When considering pricing policies from a public policy perspective, it is important to examine both the changes in alcohol consumption and alcohol-related harms. While econometric evidence suggests that harmful drinkers are less responsive to price changes than moderate consumers, a clearer picture can be provided by studying the effects of pricing policy on health outcomes related to harmful alcohol use, such as liver cirrhosis.

27. A number of studies have linked increases in alcohol prices to reductions in alcohol-related harms. For example:
    - Studies of cirrhosis mortality have found that tax increases reduce mortality, whilst a study of suicide rates found that increases in beer tax were associated with a reduced rate of male suicides (particularly among young males).[126]
    - Conversely, when the Finnish Government cut alcohol taxes by 33% to reduce cross-border shopping, domestic consumption increased by 10% and there was an increase in alcohol-related sudden deaths, with an estimated 17 per cent increase in mortality.[127] In addition, crime and hospitalisations increased in Finland following the tax decrease.[128]
    - In Alaska, excise tax increases in 1983 and 2002 were associated with reductions in alcohol-related mortality of between 11 and 29 per cent. These effects were observed immediately following the tax increase and were observed over the study period.[129]
    - In Australia, an evaluation of the Living with Alcohol program (see Box 8) found that between 1992 and 1997 there was a significant decline in acute alcohol-attributable deaths in the Northern Territory. Furthermore there was a significant decline in chronic alcohol-attributable deaths between 1998 and 2002. The authors concluded that the impact of the program *"reduced the burden of alcohol-attributable injury in the Northern Territory in the short term and may have contributed to a reduction in chronic illness in the longer term."* [130]
    - A recent study examining increases in minimum alcohol prices and changing densities of liquor stores in British Columbia found that a 10 per cent increase in the average

[126] Babor, T., *et al.* (2010)
[127] Reported in Scottish Government (2012), *Framework for Action: Changing Scotland's Relationship with Alcohol*, p. 27.
[128] Babor, T., *et al.* (2010)
[129] Wagenaar, A.C., Maldonado-Molina, M.M, and Wagenaar, B.H. (2009). Effects of Alcohol Tax Increases on Alcohol-Related Disease Mortality in Alaska: Time-Series Analyses from 1976-2004. *American Journal of Public Health,* 99: 1464-70.
[130] Chikritzhs, T., *et al* (2005)

minimum price for all beverages was associated with a 31.72 per cent decrease in wholly alcohol attributable deaths.[131] However, one analysis of this study has questioned the robustness of methodology.[132]

28. A number of submissions pointed to the evidence that alcohol pricing policies can reduce alcohol-related harm.

Pricing policies and alcohol-related harm - comment from submissions:

Where longitudinal data is available is in studies of the effects of changes in price on rates of alcohol-related problems such as cirrhosis, traffic injuries and homicides… changes in the rates of these alcohol-related problems reflect primarily the behaviour of very heavy drinkers. From a public health point of view, the effects on such measures of harm are arguably more important than effects on purchasing behaviour per se (National Alliance for Action on Alcohol: Issues paper - submission. 25, p.10)

There is evidence that increasing price can reduce traffic crash outcomes, violence and crime (as well as alcohol-related disease and injury) (Western Australian Police: Issues paper - submission. 22, p.1)

Increasing the price of alcohol not only reduces alcohol consumption, but also reduces alcohol-related harms. A number of literature reviews have supported an association between increases in alcohol price and reductions in harm, with increased prices correlating with reduced healthcare costs, fewer alcohol-related hospital admissions, and reductions in alcohol-related crime and violence (Australian Medical Association: Issues paper - submission. 31, p.4)

29. In summary, the Agency notes that the international and national econometric and empirical evidence on the magnitude with which price can affect the purchasing and consumption behaviour of particular consumer groups is mixed, but the analyses and interventions focused on public health outcomes have indicated that price-related strategies are effective in reducing alcohol-related harms.

What do harmful drinkers drink – a preference for low-price alcohol?

30. As previously noted, a minimum price would increase the cost of the cheapest alcoholic beverages. Therefore, the effectiveness of a minimum price in reducing harmful alcohol consumption depends, in part, on the amount of low cost alcohol consumed by harmful drinkers. Evidence of a preference for low-price alcohol among harmful drinkers is not uniform. Some studies report that the higher the level of consumption, the lower the price paid per standard drink. Conversely, there is some evidence that drinkers who consume at harmful levels are more likely to drink regular strength beer or ready-to-drink alcohol[133] — which are generally more expensive.

31. Overseas evidence suggests that drinkers who have access to a large supply of cheap alcohol are likely to drink both more regularly and to consume a greater amount of alcohol, and that binge drinkers, harmful drinkers and younger drinkers tend to choose cheaper alcoholic beverages.[134,135] For example:

[131] Zhao, J., Stockwell, T., Martin, G., *et al* (2013). The relationship between minimum alcohol prices, outlet densities and alcohol-attributable deaths in British Columbia, 2002-09. *Addiction.* Published online 21 March 2013
[132] Goldin, R, (2013), 'Will minimum pricing reduce alcohol deaths?', STATS, http://www.stats.org/stories/2012/Alcohol_Pricing_feb26_13.html
[133] Srivastava, P. and Zhao, X. (2010). *What Do the Bingers Drink? Microeconometric Evidence on Negative Externalities of Alcohol Consumption by Beverage Type.* Wine Economics Research Centre, Working Paper No. 0170. Accessed via http://www.adelaide.edu.au/wine-econ/papers/0710_Zhao_Alcohol_EP_0410.pdf
[134] UK Home Office (2011). The likely impacts of increasing alcohol price: a summary review of the evidence base. Available at: http://www.homeoffice.gov.uk/publications/alcohol-drugs/alcohol/impacts-alcohol-price-review?view=Binary

- A US study based on the 2000 National Alcohol Survey found the heaviest 10 per cent of drinkers spent under $US0.80 per drink (0.6 ounces), compared with higher amounts in other groups – e.g. $US4.75 per drink for the lightest 50 per cent of drinkers.[136] The authors concluded that the lower price paid by heavier consumers per drink, suggested a tendency to seek out cheaper alcohol:

  > Lower expenditures per drink by the heaviest drinkers suggest substantial downward quality substitution, drinking in cheaper contexts or other bargain pricing strategies (p.1)[137]

- Analysis of data from UK household and expenditure and food surveys indicates that people drinking at harmful levels pay 37 per cent less per unit of alcohol than moderate drinkers.[138]
- The Institute of Fiscal Studies (United Kingdom) report a clear negative relationship between the amount of alcohol purchased and the average price paid per unit. Those buying small amounts of alcohol, less than 2 units per adult, per week, pay on average more than 40 pence per unit compared to under 34 pence per unit for those buying 25 units or more.[139]

32. The Australian evidence on this issue is limited; however, there is some evidence that heavy drinkers have a preference for cheaper alcohol. For example:
    - a recent study of 'long grassers' (a homeless persons' community in Darwin) found that men and women respectively were consuming a median of 90.5 and 35 standard drinks per week. Port *"cheap and strong"* comprised 72 per cent of all the alcohol consumed, while beer comprised 23 per cent. One study participant commented that *"the doctor said don't drink port but beer is too expensive."* [140]
    - A survey of nearly two thousand 18-30 year olds conducted by the National Drug and Alcohol Research Centre at the University of New South Wales suggests that some younger drinkers tend to target cheap alcohol.[141]

      > On average the heaviest drinkers consumed 21 standard drinks between 6pm – 6am, drank cheap alcohol, many kinds of alcohol, and at multiple locations. …these findings suggest heavy drinkers are able to circumvent policies that target a particular kind of alcohol (e.g. the 'alcopop tax') or drinking location (e.g. bars).
      >
      > "These drinkers consumed a bit of everything on the Saturday night – beer, wine, spirits, and ready-to-drink alcohol. If the price of one type of alcohol goes up, it appears they could shift to drinking another type." (Dr Matthew Sunderland, 2012)

    - As noted previously, cheap alcohol — particularly packaged liquor — is thought to be associated with pre-loading (drinking heavily at someone's home before going out).

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[135] ScHARR (2008)[a]
[136] Kerr, W. and Greenfield, T. (2007), 'Distribution of alcohol consumption and expenditures and the impact of improved measurement on coverage of alcohol sales in the 2000 National Alcohol Survey', Alcohol Clinical and Experimental Research, vol. 31, pp. 1714-1722.
[137] ibid (p.1)
[138] Meier, P.S, *et al.* (2010)
[139] Griffith, R. and Leicester, A. (2010). The impact of introducing a minimum price on alcohol in Britain. Institute for Fiscal Studies
[140] Taylor, P (2012, April 16). 90 grogs a week for men in long grass. *The Australian.* Retrieved from http://www.theaustralian.com.au/national-affairs/indigenous/grogs-a-week-for-men-in-long-grass/story-fn9hm1pm-1226327260844
[141] National Drug and Alcohol Research Centre (2012) Heavy drinkers likely to elude targeted alcohol policies. http://ndarc.med.unsw.edu.au/news/heavy-drinkers-likely-elude-targeted-alcohol-policies

33. In contrast to the evidence presented above, there is some evidence that binge drinkers and young drinkers consume more expensive alcohol. For example:
    - Micro-level analysis of the NDSHS conducted by Srivastava and Zhao (2010) found that drinkers of regular strength beer and ready-to-drinks (RTDs) in a can have the highest incidences of heavy binge drinking, while drinkers of low alcohol beer and fortified and bottled wine were least likely to binge.[142] Further, the authors reported that bottled spirits, regular strength beer and RTDs in a can are the most likely alcohol types for individuals involved in risky behaviour such as drink-driving, property damage and physical abuse.
    - An analysis conducted by the Centre for Alcohol Policy Research found that spirits and RTDs are the preferred drink among 14 – 19 years olds while beer and bottled wine are the most popular drinks among 20 – 29 year olds.[143]

34. On balance, the evidence supports the proposition that heavy drinkers tend, in general, to purchase cheaper alcohol than light and moderate drinkers. However, for young drinkers and binge drinkers, evidence of a preference for lower priced alcohol is mixed. It is important to note that there is likely to be some interaction between these groups of drinkers. As a result of people drinking at risky levels disproportionately drinking cheap alcohol, measures that target the cheapest alcohol, such as minimum pricing, may also disproportionately impact on alcohol consumption at harmful levels.

How would various minimum prices affect retail prices in Australia?

35. As previously noted, the effectiveness of minimum pricing depends on its proportional impacts on the prices of different beverages, and hence the proportional change in alcohol consumption it would result in. A national minimum pricing policy would extend to all beverage types across Australia. It is important therefore to analyse the potential price impacts on a wide range of beverage types. To demonstrate the impact of a minimum price on retail prices in Australia, the Agency commissioned Marsden Jacob Associates to provide it with a set of scenarios similar to those developed in Scotland.[144]

36. In order to examine the effect of various minimum price options, Marsden Jacob examined the impact of setting a minimum price at levels ranging from $1 to $1.50 per standard drink. The current variation in Australian standard drink prices means that, depending on the level at which a minimum price were set, it would have a substantially different proportional impact on the prices of different beverages. At levels between $1 and around $1.30, minimum pricing would have the greatest proportional impacts on the prices of the cheapest alcohol products, notably cask wine and a lesser impact or no impact on the price of more expensive products (see Table 4).

37. As progressively higher minimum prices are applied, different beverages at different prices points are affected. It is important to note that the analysis is based on the price of off-license liquor.[145]

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[142] Srivastava, P. and Zhao, X. (2010)

[143] Callinan, S and Ferris, J. (2012) *What do Australians drink? Analyses by demographic and social characteristics.* Centre for Alcohol Policy Research. Accessed via: http://www.fare.org.au/wp-content/uploads/2012/09/What-Australians-Drink.pdf

[144] Scottish Government (2012). http://www.scotland.gov.uk/News/Releases/2012/05/minimum-pricing14052012 and http://www.scotland.gov.uk/Topics/Health/Services/Alcohol/minimum-pricing

[145] On-license average prices are typically higher than those for off-license sales. While this does not guarantee that on-license prices will not be as low as those reported for off-license sales, it is unlikely. Overall on-license represents only some 21 per cent by volume of total sales.

Table 4: The impact of setting a minimum price at levels ranging from $1 to $1.50 per standard drink on various alcoholic beverages in Australia

Indicative Product	Litres	Alcohol by Volume (ABV)	Number of Standard drinks	Retail Price 2013	Price 2013 $/Standard drink	Effect of minimum price (% change)		
						$1.00 per SD	$1.30 per SD	$1.50 per SD
BEER								
VB Stubbies	9	4.90%	35.28	$42.99	$1.22	–	+6.69	+23.
Tooheys New Stubbies	9	4.60%	33.12	$41.99	$1.27	–	+2.54	+18.
XXXX Gold	9	3.50%	25.20	$32.50	$1.29	–	+0.80	+16.
Hahn Premium Light	9	2.60%	18.72	$30.90	$1.65	–	–	
WINE (Bottle)								
Jacobs Creek Shiraz	0.75	13.50%	8.10	$6.55	$0.81	+23.66	+60.76	+85.
Yellow Tail Chardonnay	0.75	12.50%	7.50	$7.90	$1.05	–	+23.42	+42.
McLaren Vale Cabernet Sauvignon	0.75	14.50%	8.70	$16.50	$1.90	–	–	
WINE (Cleanskin)								
WE2 Chardonnay	0.75	12.00%	7.20	$5.63	$0.78	+27.85	+66.20	+91.
Marlborough Sauvignon Blanc	0.75	12.00%	7.20	$2.81	$0.39	+156.38	+233.29	+284.
WINE (Cask)								
Berri Estates Traditional Dry Red	5	13.00%	52.00	$13.88	$0.27	+274.77	+387.21	+462.
Stanley Wines Fresh Dry White	4	10.50%	33.60	$11.75	$0.35	+185.96	+271.74	+328.
WINE (Fortified)								
Penfolds Club Reserve	0.75	18.00%	10.80	$9.39	$0.87	+15.01	+49.51	+72.
Brown Bros Australian Tawny	0.75	18.00%	10.80	$14.09	$1.30	–	–	+14.
WINE (Sparkling)								
Moet & Chandon Brut Imperial	0.75	12.00%	7.20	$46.85	$6.51	–	–	
Yellowglen Yellow Chardonnay	0.75	11.00%	6.60	$5.75	$0.87	+14.78	+49.22	+72.
SPIRITS								
Jim Bean White Label	0.7	37.00%	20.72	$29.90	$1.44	–	–	+3.
Johnny Walker Red label	0.7	40.00%	22.40	$29.90	$1.33	–	–	+12.
READY-TO-DRINK								
Jim Beam White label & cola	2.25	4.80%	8.64	$18.23	$2.11	–	–	
Bunderburg UP rum and cola cans	9	4.60%	33.12	$69.99	$2.11	–	–	
CIDER								
Strongbow Original	8.52	5.00%	34.08	$48.99	$1.44	–	–	+4.
Bulmers Original	7.92	4.70%	29.78	$62.99	$2.12	–	–	
Tooheys 5 Seeds	0.345	5.00%	1.38	$1.66	$1.20	–	+7.91	+24.

Source: Adapted from Marsden Jacob Associates 2013 (Appendix 5). Euromonitor (2012), www.danmurphy.com.au - accessed week of 18 March 2013

38. A more detailed analysis of the estimated impact of a minimum price at levels b $1.50 per standard drink (SD) is summarised below.
    - **Up to $1.00 / SD**: At this price point cheap wine is mostly affected – almost al amount cleanskin and some 'label' table wines – will be impacted; these repre per cent of off-license table wine sales. In addition, a proportion fortified win be affected;
    - **$1.01 to $1.10 / SD**, a slightly greater proportion of table and fortified wines a There may be some impact on deep discounting for full-strength domestic lag Domestic lager represents some two-thirds of off-license beer sales and 30 p overall off-license sales;
    - **$1.11 to $1.20 / SD**, a further slight increase in the proportion of table and fo sales affected. Domestic full-strength lagers can only undertake limited disco 'average' prices for these beers will also be affected. Significant discounts for may be affected;
    - **$1.21 to $1.30 / SD**, around two-thirds of off-license table wine sales are likel affected. It is likely that all domestic full-strength lager brands would be affec Discounting of popular spirits is likely to be affected, though not their 'averag Some ciders may also be directly affected; and
    - **$1.31 to $1.50 / SD**, around three-quarters of off-license table wine is affecte full-strength lagers will be affected. Ciders and popular spirits are likely to be discounting restricted. Discounting on popular light beers and some premium beers may be affected.

39. In addition to the stepped analysis presented above, Marsden Jacob also calcula price per standard drink across a range of beverages. Averages ranged from drink for still white wines to $3.05/standard drink for Ready-to-drinks. The aver off-trade alcohol was $1.37 per standard drink.[146] Marsden Jacob noted that wh prices provide a basis for determining the impact of a minimum price, it is determine how much of alcohol sales would be affected by a particular minir $1.00/standard drink) as more information on the distribution of sales around th required.

40. In summary, a minimum price would have the greatest impact on the cost of cas wine, while beer and most other beverage prices would not be generally affecte of a regulated minimum price reached $1.30 - $1.50 or greater. This analysis information regarding the type of alcoholic beverages that would be affected price; however, to fully establish the impact of a minimum price on cons information — such as estimates of the changes in alcohol consumption volumes various price points among moderate and harmful consumers — is required.

The financial impact of a minimum price on consumers

41. The differential impacts of a minimum price on different consumer groups a consideration. These impacts include benefits, such as reductions in alcohol-rel violence, alcohol-related disease and productivity losses; and costs, such as regulatory impacts and the loss of consumer satisfaction arising from reduced c the absence of Australian modelling similar to that conducted in the United Kin data are not currently collected/reported publicly to easily enable similar work i

[146] Marsden Jacob Associates (2013), see Appendix 5

a full benefit-cost analysis, it is difficult to establish exactly how Australian consumers would respond to a minimum price. However, it is possible to briefly discuss the likely impacts a minimum price would have on low-risk, young and low-income consumers.

42. In addressing this issue, a number of submissions to the Agency only considered the costs associated with implementation of a minimum price, primarily the financial costs. They did not consider the benefits that may be achieved for the drinker or wider community. There was significant disagreement among stakeholders regarding the financial impact of a minimum price on low-risk, young and low-income consumers.

Low-risk drinkers

43. One of the main arguments raised against the introduction of a minimum price is that it will not address harmful consumption of alcohol and will adversely impact on low risk drinkers, commonly referred to as 'moderate' or 'responsible' drinkers in the literature and submissions. A number of submissions argued that a minimum price for alcohol would adversely or unfairly impact on the majority of responsible consumers. Conversely, other submissions argued that a minimum price would have little to no impact on moderate consumers.

44. As noted earlier, there is some research supporting the proposition that moderate drinkers (rather than harmful drinkers) would be the group primarily disadvantaged (in terms of costs) by a minimum price.
    - Expenditure data from the United Kingdom suggests that all income groups tend to purchase low-price off sales (off licence) alcohol and that middle income earners tend to purchase the most low-price alcohol.[147]
    - The Centre for Economics Business and Research (United Kingdom) concluded that whilst minimum pricing would have the effect of targeting heavier drinkers due to their preference for cheaper, stronger alcohol products, it is likely to have a similar proportionate effect on moderate and harmful drinkers in terms of consumption levels.[148]

45. However, a significant proportion of the available evidence suggests that moderate drinkers may only be marginally affected by a minimum price as harmful drinkers appear in general to choose cheaper alcoholic beverages than moderate drinkers.[149,150] For example:
    - Record and Day (2009)[151] examined the effect of introducing a minimum price of £0.50 per unit on off-trade alcohol purchasing in the United Kingdom. Using data from the 2006 General Household Survey the authors found that a minimum price would have the largest effect on the 30 per cent of the population who consume 80 per cent of the alcohol. For the top 30 per cent of consumers, off-trade alcohol purchasing would decrease by 16 units per week (32 per cent) compared to an overall fall of 3.4 units per week (for all consumers).[152]

[147] Carragher N and Chalmers J (2011)
[148] Centre for Economics and Business Research (2009)
[149] UK Home Office (2011)
[150] ScHARR (2008)[a]
[151] Record, C. and Day, C. (2009). Britain's alcohol market: how minimum alcohol prices could stop moderate drinkers subsidising those drinking at hazardous and harmful levels. *Clinical Medicine.* 9:5, 421-425
[152] ibid

47. Furthermore, research from the World Health Organization indicates that:

> Younger drinkers are affected by price, and heavy drinkers are more affected than light drinkers; in fact, if a minimum price were established per gram of alcohol, light drinkers would hardly be affected at all (p.1)[153]

48. As moderate consumers, by definition, consume less alcohol than harmful drinkers it is likely that the financial impact of a minimum price would be lower on those drinkers who consume less. This issue was examined in the Sheffield study which found a £0.45 minimum price would increase a moderate drinker's annual alcohol expenditure by £6, but a harmful drinker's by £98.[154]

49. In addition to the evidence noted above, there is also some evidence that moderate drinkers, rather than harmful drinkers, are responsible for the greatest burden of alcohol-related harm.[155] While the heaviest drinkers have a significantly higher risk for alcohol-related harm compared to moderate drinkers, they are small in number, thus the majority of harms arises from moderate drinkers. For example, Poikolainen *et al*. (2007) reported that 70% of alcohol-related hospitalizations, 64% of all alcohol-related deaths, and 64% of the premature life-years lost before age 65 occurred among the lower 90% of Finnish men classified by their drinking volume.[156] As noted by Babor *et al* (2010):

> …with respect to alcohol-related harms it is often found that most of the harms are not attributable to the heaviest drinkers, who constitute a minority, but rather the remaining majority of light or moderate drinkers. (p.69)

50. Further, drinkers whose overall consumption is low or moderate, but who occasionally drink heavily are likely to account for a large part of this finding.[157] As noted earlier, analysis by Marsden Jacob found that moderate drinkers accounted for 16 per cent of short-term episodic drinking in Australian in 2010. Therefore, it is not only the heaviest drinkers that should be considered when examining policies to reduce alcohol related harms as it is possible that more harm may be prevented by targeting the whole population, rather than focusing on those groups who are most risk. This is often referred to as the 'prevention paradox'.[158]

Low-income drinkers

51. The evidence for the effect of a minimum price on low-income individuals and households is limited. The available evidence suggests that low-income households have a lower weekly average expenditure on alcoholic beverages and are more likely to abstain from alcohol than high-income households. Although it is likely, it is uncertain whether low-income Australian households purchase cheaper alcohol than other households.[159,160]

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[153] World Health Organization, Regional Office for Europe (2009). *Evidence for the effectiveness and cost–effectiveness of interventions to reduce alcohol-related harm.* World Health Organization, Copenhagen
[154] ScHARR (2012).
[155] Babor, T. *et al* (2010)
[156] Poikolainen, K., Paljarvi, T., and Makela, P. (2007). Alcohol and the preventive paradex: Serious harms and drinking patterns. *Addiction.* 102: 571-8
[157] Babor, T. *et al* (2010)
[158] Australian Government (2009)
[159] Australian Bureau of Statistics (2011)
[160] AIHW (2011)

52. Several submissions to both the issues paper and the draft report considered the impact of a minimum price on low-income earners and older Australians on fixed incomes. Issues raised include the potential for a disproportional impact on low-income earners, concern that alcohol would continue to be purchased at the expense of other household goods, and the disproportional impact of alcohol-related harms on low-income groups.

53. Particular concern was expressed in submissions to the Draft Report about the effect of a minimum price on cask wine prices and the effect this may have on pensioners. For example National Seniors noted:

> Many members saw such [pricing] strategies as an invasion of their right to take responsibility for their own consumption of alcohol and to maintain their current lifestyle on budgets which are under constant pressure from increases to their cost of living. For example, they felt that a potential increase of quadruple or double the cost of a cask of wine would impact on their ability to socialise and offer hospitality to their family and friends (Draft Report – submission 12, p.2).

54. As highlighted in the analysis above, cask wine is the product that would be most affected by the introduction of a minimum price. Therefore, consumers who preferentially consume cask wine would face increased costs. However, it is difficult to quantify what these costs may be in the absence of publicly available sales data and detailed consumption data. As previously noted, drinkers who consume less alcohol are likely, by definition, to incur a lower financial impact. Additionally, the current price context influencing consumer consumption is in itself distorted by current anomalies in taxation policy.

55. In considering the impact of a minimum price on low-income consumers it is important to note that there is some evidence that some low-income drinkers face disproportionate alcohol-related harms compared to other groups. For example, when the price of alcohol in Finland was substantially reduced (a 33 per cent tax cut), the associated increase in alcohol-related mortality disproportionately affected the unemployed, early retired or those with low education or income.[161,162]

56. The magnitude of the impact of a minimum price on low and fixed income drinkers remains uncertain. To the extent that low-income households consume low-price alcohol, the increase in in expenditure on alcohol may come at cost to other household goods and services. Further, it is possible that some low-income consumers will reduce or forgo consumption at the expensive of enjoyment and socialisation. However, increasing the price of alcohol through a minimum price will also reduce the disproportionate harms, and related costs, faced by low-income drinkers.

Young drinkers

57. As previously discussed, young drinkers aged 18 -29 years are more likely than the rest of the population to drink at harmful levels, therefore it is important to establish the impact of a minimum price on this group of drinkers. There was disagreement among the submissions received as to whether young drinkers are responsive to price and whether a minimum price would be effective in reducing rates of risky or binge drinking. Some submissions argued that young drinkers are particularly price sensitive, while others considered that price is not a key determinant of purchasing behaviour.

[161] Babor, T. *et al* (2010), see 48
[162] Ludbrook A. (2009). Minimum Pricing of Alcohol. *Health Economics*. 18: 1357-1360

58. A recent Australian study conducted by Byrnes *et al* (2012)[163], suggests that young consumers respond to price increases by reducing the number of occasions of moderate drinking, rather than by reducing occasions of risky consumption.

> [These results suggest that] in response to price increases, Australian drinkers achieved an average reduction in their overall level of alcohol consumption mostly by increasing the number of occasions on which they do not drink at all and by decreasing the number of occasions of low intensity drinking, rather than by significantly reducing their frequency of moderate and high intensity drinking.[164]

59. The World Health Organization expert committee on Problems Relating to Alcohol Consumption concluded that "policies that increase alcohol prices have been shown to reduce the proportion of young people who are heavy drinkers, to reduce underage drinking, and to reduce per occasion binge drinking. Higher prices also delay intentions among younger teenagers to start drinking and slow progression towards drinking larger amounts".[165]

60. As noted earlier, a number of submissions focussed solely on the costs associated with the implementation of a minimum price — this is reflected in the preceding discussion. However, focussing on the costs alone provides an incomplete analysis of the impacts that would arise from a minimum price. It is important that the benefits, such as harm reduction are not excluded from analysis of this issue. One study, conducted by Marsden Jacob Associates (2012)[166] examines both the costs and benefits of increasing alcohol taxation. The study concluded that while moderate consumers would pay higher costs if alcohol taxes were increased, the bulk of the benefits would also flow to moderate consumers: thus moderate drinkers would be the largest net beneficiaries of such a policy.[167]

61. As can be seen by the evidence presented in the issues paper, draft report and the submissions, the precise effect of a minimum price in a market depends significantly on the price point selected and the subsequent behaviour of various consumer groups. On balance, the evidence supports the proposition that heavier drinkers tend, in general, to purchase cheaper alcohol than light and moderate drinkers, and that lower income groups purchase less alcohol than higher income groups; however predicting the potential magnitude of the price effects on each group, in the Australian context, requires detailed sales data which are not publicly available.

The response of consumers to new policy

62. In addition to the impact on consumers, it is important to consider the response consumers will have to any new policy. The level of public support for increasing the price of alcohol to reduce alcohol-related harm is relatively low in Australia. The 2010 NDSHS found that increasing the price of alcohol was the least supported measure to reduce alcohol-related harm (28.5 per cent).[168] However, this represented a statistically significant increase from 2007. There was

[163] Byrnes J, Shakeshaft A, Petrie D, Doran C. (2012). Can harms associated with high-intensity drinking be reduced by increasing the price of alcohol?, *Drug and Alcohol Review*
[164] ibid
[165] World Health Organization (2007). *Expert committee on problems related to alcohol consumption, Second report.* WHO Technical Report Series 944, provisional edition. World Health Organization, Geneva. Accessed 2 October 2012 via: www.who.int/substance_abuse/activities/expert_comm_alcohol_2nd_report.pdf
[166] Marsden Jacob Associates (2012)
[167] ibid
[168] AIHW (2011)

stronger support for increasing tax on alcohol to pay for health, education and treatment of alcohol-related problems (42.5 per cent).[169]

63. There is currently little research on the response of consumers to a minimum price. However, one recent study conducted by Hagger *et al*[170] in the United Kingdom regarding the impact of a minimum price, found that many participants did not regard the introduction of a minimum price per unit as an effective, long term solution to curb excess alcohol consumption. Importantly, the reasons for this belief seem to arise from misunderstandings regarding the way a minimum price policy would work. In a submission to the draft report Professor Martin Hagger noted:

> Many participants equated minimum price in the similar way to duty (i.e., uniform rises in tax on alcohol), rather than as a policy targeted at reducing extremely discounted and cheap alcohols (like cask wine), and also viewed it as ineffective because they did not understand the principal of population level reductions in alcohol that the policy would bring about. (Professor Martin Hagger: Draft Report – submission 15. p.1).

64. This study highlights the importance of providing information and education to consumers about the rationale and potential benefits of any new policy.

What is the impact of a minimum price on business, retail and trade?

65. A minimum price would impact on producers, other suppliers and retailers. While higher expenditure on alcohol represents a cost to consumers, this is offset by the additional revenue a higher price generates for the retailers of low cost alcohol. The transfer of surplus from consumers to alcohol retailers is most likely to impact off-license premises, such as bottle shops. As noted by VicHealth:

> Alcohol is sold at a much cheaper rate per volume from off premise outlets than from on premise outlets. Subsequently, as a minimum price would have the most impact upon cheap alcoholic beverages, it can be assumed that the impact of a minimum price would fall most heavily on this sector of the alcohol industry (Issues paper: submission 33, p.10).

66. However, as any increase in price would not be fully offset by a decrease in consumption, the total expenditure on alcohol is likely to increase, leading to an increase in profit for retailers of cheap alcohol. It is difficult to determine the magnitude of this transfer in Australia in the absence of detailed sales data. Further, the impacts would be dependent on the level at which a minimum price was set. Estimates from the United Kingdom suggest that the implementation of a minimum price of 45 pence per standard drink would result in additional profit to retailers of between £700 million and £2.2 billion.[171,172] Whether the benefit of higher profits for off-license retailers would be passed onto producers is unclear. Some industry members in both the United Kingdom and Australia have expressed concern about the impact of this policy on producers, arguing that non-retail suppliers of alcohol are unlikely to benefit from the increase in price.

67. Analysis in the UK alcohol market indicates that major retailers of alcohol (supermarkets) have a stronger bargaining position than producers and will therefore be able to negotiate prices and

[169] ibid
[170] Hagger M.S., Lonsdale A.J., Baggot R., and Penny G. *The Cost of Alcohol: The Advocacy for a Minimum Price per Unit in the UK*, Draft report: submission 15
[171] Griffith, R. and Leicester, A. (2010)
[172] Centre for Economics and Business Research (2009)

volumes in their favour. During interviews with the alcohol industry there, interviewees stated that:

> ...if these (pricing) policies led to increased profits it would be difficult for producers to increase prices because: a) major retailers would know that producer costs have not increased; and b) due to the large volumes sold through these few major retailers, retailers know that producers will agree not to raise prices.[173]

68. Similar views are expressed by Australian alcohol manufacturers in Australia. The Distilled Spirits Industry Council of Australia noted in their submission that:

> In light of the negotiating position and leverage that the two major retailers have in Australia, the additional margins derived through the imposition of a minimum price are likely to flow through to those retailers only, rather than other parties in the supply chain – particularly manufacturers and wholesalers (Issues paper: sub 24, p.49)

69. A few submissions stated that while there is potential for adverse effects on retailers and trade from the implementation of a minimum price, these issues should be considered in the context of benefits to the community and public health, not just in terms of profit margins. For example, the Alcohol and Other Drugs Council of Australia noted that:

> The priorities in arguing for a minimum price for alcohol relate to public health and safety issues and reducing alcohol related harm, rather than industry profit margins (Issues paper: sub. 27, p.7).

Similarly, The National Alliance for Action on Alcohol stated that:

> …the potential for adverse effects on retailers and trade from a minimum price should be considered in the context of the benefits to communities and population health (Issues paper: sub. 25, p3).

70. More broadly, some submissions expressed a philosophical concern that a minimum price is an intervention into the free market economy which may have unintended consequences for both industry and consumers. Other issues, such as the effect of a minimum price on industry employment and product innovation and legal issues of minimum pricing in relation to competition/trade law were identified in the issues paper, but are not the primary focus of this analysis. The issues raised in the submissions are important considerations that would need to be examined in detail if a minimum price measure were to be introduced nationally.

71. The submissions received are broadly consistent and if a minimum price were introduced, impacts on industry and others would need to be examined by Government.

What is the international experience?

72. To further assist in understanding the impacts of a minimum price it is useful to examine the experiences of other jurisdictions. There are relatively few countries in which minimum pricing policy exists, although the interest in minimum pricing as a health policy tool appears to be growing worldwide. To date, the majority of research into minimum pricing has been conducted in Canada and the United Kingdom where minimum pricing policies have been implemented or are currently under consideration, respectively.

[173] UK Home Office (2011)

Canada

73. Minimum pricing, also referred to as 'social reference pricing' (SRP) has been in place in eight of the ten Canadian provinces (Nova Scotia, Newfoundland and Labrador, New Brunswick, Prince Edward Island, Ontario, Manitoba, British Columbia and Saskatchewan) since the 1990s.[174] Social reference prices are established either through the provincial government regulations, under the authority of provincial liquor control/licensing statutes or through administrative policies/guidelines of provincial liquor regulators (Liquor Control Boards, Liquor Licensing Agencies).[175]

74. As noted previously, studies into the effectiveness of minimum pricing in British Columbia and Saskatchewan, have found that increases in minimum prices result in decreases in consumption and alcohol related harm.[176,177,178] At a national level, the Centre for Economics and Business Research examined data from *Statistics Canada* and compared trends on consumption, crime and health related data for those provinces with minimum pricing and those without.[179] The study found that alcohol consumption in provinces that have instituted minimum pricing has fallen relative to those that do not have minimum pricing.

75. The Canadian experience with minimum price recommends careful consideration of minimum pricing as part of a comprehensive strategy to reduce alcohol related harm. It is worth noting that in most Canadian provinces, governments are the leading retail providers of alcohol so minimum prices can potentially serve both public health and financial goals. In Australia, where alcohol retailing is managed by private businesses, most increased profits from minimum pricing would flow to the private sector.

Scotland

76. On 24 May 2012 the Alcohol Minimum Pricing Bill was passed by Parliament and the Health Secretary Nicola Sturgeon announced that the preferred minimum price for alcohol would be 50 pence per unit.[180] Implementation of the policy was scheduled for April 2013 at the earliest.[181] Evidence for the introduction of minimum pricing in Scotland was largely based on the results of the Sheffield Study.

77. The Health and Sports Committee of the Scottish Parliament conducted an inquiry into the Alcohol (Minimum Pricing) (Scotland) Bill.[182] In its conclusions the report stated that:

> A majority of the Committee are persuaded by the Scottish Government's assertion that the Bill will help reduce alcohol consumption in Scotland, because they consider the evidence received to be both overwhelming and compelling, in particular reducing the consumption of alcohol by harmful drinkers… (p.58)

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[174] Carragher N and Chalmers J (2011)
[175] Brewers Association of Canada. Submission to the Scottish Parliament on the Alcohol etc. (Scotland) Bill. Retrieved from: http://archive.scottish.parliament.uk/s3/committees/hs/inquiries/AlcoholBill/documents/019BrewersAssociationofCanadaBAC.pdf
[176] Stockwell, T., Auld, C., Zhao, J. and Martin, G. (2012)
[177] Stockwell, T., Zhao, J., Giesbrecht, N., *et al.* (2012)
[178] Zhao, J. *et al* (2013)
[179] Centre for Economics and Business Research (2009)
[180] Scottish National Party. (2012). Sturgeon announces minimum price for alcohol. Accessed 15 2012 May from http://www.snp.org/media-centre/news/2012/may/sturgeon-announces-minimum-price-alcohol
[181] Scottish Government (2012). Alcohol minimum pricing bill passed. Accessed 28 May 2012 from http://www.scotland.gov.uk/News/Releases/2012/05/alcohol24052012
[182] Health and Sport Committee (2012). *2nd Report, 2012 (session 4). Stage 1 Report on the Alcohol (Minimum Pricing) (Scotland) Bill*. Scottish Parliament.

> Some members remain unconvinced by the efficacy of minimum pricing and believe a universal approach may penalise moderate drinkers and also those in lower income groups. They question whether the Bill's policy aspirations of reducing the harm and social cost associated with alcohol misuse can be achieved to the extent envisaged (p.59).[183]

78. Concerns were raised about the 'substantial windfall' to retailers and the legality of the Bill within the European Union (EU). On 22 October 2012 it was reported that implementation of a minimum price was going on hold pending the outcome of legal challenges.[184]

79. In November 2012 the European Commission released a communication on the issue of minimum pricing legislation in Scotland. It noted that while price is an effective measure in reducing the harmful consumption of alcohol, a minimum price was a disproportionate response that would impact on imports and trade. It further noted that *"the increase of excise duty appears to be a better option to reach the goals sought."*[185] However, the Scottish Government does not have the legislative power to independently vary alcohol tax rates in Scotland.[186]

England and Wales

80. In March 2012, the United Kingdom Coalition Government released a new alcohol strategy - *The Government's Alcohol Strategy.*[187] The strategy contains many proposals for reducing harmful alcohol consumption and alcohol-related harm in the United Kingdom, with a particular focus on binge drinking. One of these proposals is the introduction of minimum pricing. At this stage an actual minimum price has not been set, but a frequently cited amount is 40 pence per unit (approximately 63 cents).[188] The Prime Minister, David Cameron, stated that a 40 pence per unit minimum price *"could mean 50,000 fewer crimes each year and 900 fewer alcohol related deaths per year by the end of the decade".*[189]

81. In March 2013 media reports suggested that England may be moving away from the introduction of a minimum price.[190] One of the arguments raised in opposition to a minimum price was that "it would reduce tax revenues at a time when the public finances remain strained."[191]

82. Similarly to the situation in Scotland, the flexibility of the United Kingdom Government to set duty rates on alcohol is limited by rules set through the European Union (EU). While the UK can set duty levels, it is bound by EU directives. The EU sets a minimum excise rate for certain products (such as beer, spirits and fortified wines) but no minimum for wine. Further, for still and sparkling wine, the EU directs that excise rates must be set on the basis of volume not alcohol content.

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[183] ibid
[184] Cook, J (2012). Analysis: Legal challenge to Scotland's minimum alcohol price plan. BBC News, retrieved from: http://www.bbc.co.uk/news/uk-scotland-20028728
[185] Goodliffe, J. (2013). Minimum alcohol pricing and EU Law. *Institute of Alcohol Studies.* http://www.ias.org.uk/newsroom/uknews/2013/news200313/news200313.html
[186] Health and Sport Committee (2012)
[187] HM Government (2012). The Government's Alcohol Strategy. London
[188] HM Government, The official site of the British Prime Minister's Office (2012). Retrieved 20 April 2012 from: http://www.number10.gov.uk/news/minimum-unit-price-for-alcohol/
[189] HM Government (2012)
[190] Triggle, N. (2013) Minimum alcohol pricing plan 'may be dropped'. *BBC News,* retrieved from: http://www.bbc.co.uk/news/uk-politics-21760806; Wintour, P. (2013) Plans for minimum alcohol pricing reportedly dropped after cabinet revolt. *The Guardian,* http://www.guardian.co.uk/society/2013/mar/12/alcohol-health
[191] Kirkup, J (2013). David Cameron abandons plans for a minimum alcohol price. *The Telegraph,* retrieved from: http://www.telegraph.co.uk/news/politics/9926045/David-Cameron-abandons-plans-for-minimum-alcohol-price.html

Other countries

83. In 2008, the Ukraine introduced minimum pricing and in 2010, Russia, Uzbekistan and the Republic of Moldova followed suit.[192] Limited details are available at this point on the implementation or success of these strategies.

Comments on the international evidence

84. A number of submissions commented on the strength of the international evidence and its relevance to the Australian regulatory environment. Some submissions considered that while the evidence on minimum pricing from Canada demonstrates a decrease in consumption, it does not differentiate between an effect on overall consumption and harmful consumption.

85. While evidence from other countries cannot be directly translated into an Australian setting due to differences in regulation, culture and drinking patterns, the international experience nevertheless provides useful and relevant guidance regarding the impact of a minimum price in markets.

Should Australia implement a minimum price for alcohol?

86. Based on the evidence presented earlier, one can conclude that:
    - Introducing a minimum price for alcohol would result in a decrease in alcohol consumption and in alcohol-related harms.
    - A minimum price would have the greatest impact on the cost of cask and cleanskin wines, while beer and most other beverage prices would not be generally affected until the level of a regulated minimum price reached $1.30 - $1.50 or greater.
    - There would be differential impacts of a floor price on various groups of consumers. Given that a minimum price would raise the cost of the cheapest alcohol, it would disproportionately affect those heavy drinkers who drink cheaper alcohol regularly at harmful levels in excess of the NHMRC Guidelines. These are not necessarily low income consumers such as pensioners – as a group, lower income consumers tend to buy less alcohol.
    - In a private retail system such as Australia's, the increased revenue from minimum price regulation would flow to the private sector, as distinct from the use of tax policy where any increases in revenue would flow to government.

87. As a result, this initial analysis suggests that minimum pricing is potentially an effective instrument for reducing the consumption of alcohol among those drinking at harmful levels. Full analysis of reductions in consumption for various consumer segments – in particular for risky drinkers – and analysis of consumer switching behaviour would require access to detailed sales data enabling a complete economic modelling (similar to the Sheffield study[193]). Such a complete analysis, however, is not necessary to respond to the Government's request for advice.

88. While minimum pricing is undoubtedly an effective policy option for reducing harmful use of alcohol, the task requested by the Government was an examination of the public interest case for minimum alcohol pricing. Whether a minimum price is in the public interest depends upon

[192] Carragher N and Chalmers J (2011)
[193] ScHARR (2008)[b]

the economic benefits and costs to the community. Benefits include such things as reductions in alcohol-related crime and violence, alcohol-related disease and productivity losses, while costs include business regulatory impacts and the loss of satisfaction from reduced consumption by low-risk drinkers (a reduction in consumer surplus). An outline of a full benefit-cost framework is at Appendix 6.

89. Even in the absence of a full benefit-costs exercise, sufficient analysis has been carried out to make an initial judgement on whether it is in the public interest to introduce a minimum price for alcohol. Since a regulated minimum price (as distinct from an excise) provides no revenue to government which can be used for public purposes (either in investment in further reduction of alcohol harms or other areas of government expenditure), such benefits are not available to offset the costs of minimum price regulation. Price increases in the market, as noted earlier, would flow solely to the private sector under such regulation. Further, given that about 80% of Australians consume alcohol, the loss of consumer surplus is substantial in a benefit-costs exercise examining such a policy change in alcohol pricing.[194] Even with extensive benefits from reductions in alcohol harms which would result from the implementation of a regulated minimum price, the loss of major offsetting benefits makes it very difficult for this policy to result in net benefit to the community. **Thus, the Agency advises the Commonwealth Government that a minimum (floor) price for alcohol should not be introduced nationally at this time.**

90. While the analysis earlier has noted that increases in market prices derived from minimum price regulation would flow to the private sector, a further consideration in this analysis is the effect of a minimum price on government revenues – reduced consumption of alcohol implies reduced revenue. In comparison to a regulatory price approach, a tax instrument would not only raise alcohol prices – thus obtaining not dissimilar results in harm reductions as a minimum price – but by providing revenue and the benefits of expenditures of this revenue to offset the loss to consumers, a taxation instrument would likely result in overall net benefits to the community. Taxation of alcohol is explored further in the next chapter.

[194] Marsden Jacob Associates (2012)

CHAPTER 5: ARE THERE OTHER PRICING OPTIONS THAT MAY ACHIEVE THE OBJECTIVES OF A MINIMUM PRICE?

Volumetric taxation

1. Although the issues paper examined the public health case for a minimum (floor) price for alcohol, a significant number of submissions raised volumetric taxation as an alternative policy reform. A volumetric tax applies a common rate of tax on all alcoholic beverages based on alcohol content. Volumetric taxation of alcohol has been raised in several previous government reviews, the most recent of which were the *'Australia's Future Tax System'* (the Henry Review) (2010) and the National Preventative Health Taskforce Report (2009). [195,196]

2. The Henry Review concluded that the social costs associated with alcohol abuse were not effectively targeted by current taxation and subsidy arrangements. The review recommended that

> All alcoholic beverages should be taxed on a volumetric basis, which, over time should converge to a single rate, with a low-alcohol threshold introduced for all products. The rate of alcohol tax should be based on evidence of the net marginal spill over cost of alcohol.[197]

3. In its report 'Australia: the healthiest country by 2020', the National Preventative Health Taskforce[198] recommended a tiered volumetric taxation approach. Unlike a common volumetric tax, a tiered volumetric tax increases the tax rate both within and between beverages. This approach would result in spirits remaining more heavily taxed than wine and beer. The Taskforce recommended:

> …a 'tiered' volumetric system… This system would be inclusive of stepped increases in tax rates that provide economic incentives for the production and consumption of lower strength alcohol products, and disincentives for the production and consumption of the highest-risk alcohol products. In this way, taxation would reflect the negative externalities attributable to certain products.[199]

The current alcohol taxation system in Australia

4. The current alcohol taxation system in Australia is complex with four different types of tax treatments which can affect different alcohol products in different ways:
    - Goods and Services Tax (GST) - imposed at a flat rate of 10 per cent;
    - The 5 per cent *ad valorem* general customs duty – applies to some imported alcohol;
    - Excise and equivalent customs duties - collected as a set amount per litre of alcohol content, with rates varying by beverage type (beer, wine, spirits, etc.). Excise rates are increased in February and August every year in line with the Consumer Price Index (CPI); and

[195] Henry Review (2010)
[196] National Preventative Health Taskforce. (2009). *Australia: the healthiest country by 2020 – National Preventative Health Strategy – the roadmap for action.* Canberra: Commonwealth of Australia.
[197] Henry Review (2010) p.442
[198] National Preventative Health Taskforce. (2009)
[199] ibid. p.255

- Wine Equalisation Tax (WET) – an *ad valorem* tax, collected at a rate of 29 per cent of wholesale price according to the value of the wine rather than the alcohol content.

Beer

5. Beer is subject to excise and GST and is taxed at eight different rates (see Table 5). Excise duties vary according to alcohol strength, packaging type (bottles or kegs) and the purpose of sale (commercial or non-commercial). The first 1.15% of alcohol in beer is excise-free.

Table 5: Excise rates for beer as of 1 February 2013

Product	Alcohol by volume	Excise rate per litre of alcohol
Beer packaged in an individual container not exceeding 48 litres	Not exceeding 3%	$38.70
	Exceeding 3% but not 3.5%	$45.08
	Exceeding 3.5%	$45.08
Beer packaged in an individual container exceeding 48 litres	Not exceeding 3%	$7.73
	Exceeding 3% but not 3.5%	$24.25
	Exceeding 3.5%	$31.74
Beer produced for non-commercial purposes using commercial facilities or equipment	Not exceeding 3%	$2.72
	Exceeding 3% but not 3.5%	$3.14

Source: Australian Tax Office

Spirits

6. Bottled spirits and pre-mixed spirits (otherwise known as Ready-To-Drink (RTDs) or "Alcopops") are subject to excise and GST. As at 1 February, 2013 they are taxed at the rate of $76.37 per litre of alcohol. Brandy is taxed at a concessional rate compared to other spirits, attracting an excise rate of $71.13 per litre of alcohol (Table 6).

Table 6: Excise rates for spirits as of as of 1 February 2013

Product	Alcohol by volume	Excise rate per litre of alcohol
Brandy	All	$71.31
Other excisable beverages	not exceeding 10%	$76.37
Spirits; Other excisable beverages	Exceeding 10%	$76.37

Source: Australian Tax Office

Wine

7. Wine is subject to GST and the Wine Equalisation Tax (WET). The WET is collected at a rate of 29 per cent of wholesale price according to the value of the wine (*ad valorem* tax) rather than the alcohol content. The WET applies to the following beverages, provided they contain more than 1.15% by volume of ethyl alcohol:[200]
    - grape wine, including sparkling and fortified wine
    - grape wine products (such as marsala)
    - fruit wines or vegetable wines
    - cider, perry, mead and sake

[200] Australian Tax Office. Wine equalisation tax: the operation of the wine equalisation tax system. Accessed 29 May at http://law.ato.gov.au/atolaw/view.htm?Docid=WTR/WT20091/NAT/ATO/00001. See also, Spirits and other excisable beverages. Accessed 29 May at http://law.ato.gov.au/atolaw/view.htm?locid='SAV/ALCOHOL/12.3.1'#12.3.1

Cider

8. Cider can be classified as traditional cider (apple and pear cider) or flavoured cider (cider that has additional flavouring or alcohol added, such as blackcurrant or lemon). These different cider products attract a different tax regimen. Traditional cider is taxed under the WET and pays approximately 23 cents per standard drink, while flavoured cider is taxed at the equivalent rate to ready-to-drink alcoholic beverages.[201,202]

Complexity and other concerns with the current taxation system

9. Under the current taxation system the tax paid on different beverages varies significantly:
    - Cask wine, with a typical alcohol by volume of 11 – 13 per cent, pays 8 cents per standard drink;
    - Mid-strength draught beer pays 20 cents per standard drink;
    - Traditional cider pays 23 cents per standard drink;
    - Full-strength draught beer pays 30 cents per standard drink;
    - Full-strength packaged beer pays 42 cents per standard drink;
    - Spirits, ready-to-drink alcoholic beverages and flavoured cider pay 95 cents per standard drink.[203,204]

10. A number of submissions noted that the current taxation system is complex, with many further arguing that it is inconsistent and inequitable.

The current alcohol taxation system – comments from submissions:

Development of the Australian alcohol taxation system has been incremental and ad hoc, resulting in a medley of inconsistencies, which adversely influence alcohol consumption and related harm. Although from a public health perspective, some tax disparities are desirable — for example, reduced tax on low-strength beer acts as an incentive for its production and consumption — other disparities are problematic, especially where they encourage the production and consumption of higher strength products and make them cheaper than mid-strength products (Cancer Council Australia: Issues paper - sub. 30, attachment A, p.3)

The current system is complex and inequitable, resulting in a range of inconsistencies and disparities, and is not well suited to reduce social harm (Alcohol and Other Drugs Council of Australia: Issues paper: sub. 27, p.3).

The existing Australian alcohol taxation regime is incoherent, riddled with anomalies and fails to achieve desirable economic, health and social policy outcomes (Distilled Spirits Industry Council of Australia : Issues paper - sub. 24, p.32).

[201] Australian Tax Office
[202] Alcohol Policy Coalition (2012). Leading health groups call for Federal Budget to equalise alcohol taxation. APC calling for: volumetric taxation, abolition of Wine Equalisation Tax & Introduction of floor price.
[203] Alcohol Policy Coalition (2012) – federal budget input http://alcoholpolicycoalition.org.au/http://alcoholpolicycoalition.org.au/wp-content/uploads/2012/04/apc_calls_for_tax_reform_in_fed_budget.pdf
[204] Distilled Spirits Industry Council of Australia Inc., Submission 24, p.31

Support for volumetric taxation

11. As noted above, the majority of submissions raised volumetric taxation as an alternative or a complementary policy to minimum pricing. A volumetric tax on all alcoholic beverages was supported by a range of both health groups and some industry organisations. Some submissions supported the introduction of a common volumetric tax, as suggested in the Henry Review, whilst others supported the introduction of a tiered volumetric taxation system, as recommended by the National Preventative Health Taskforce.

Support for a volumetric tax – comments from submissions.

We note the Issues Paper makes reference to the Henry Review, which recommended that all alcohol drinks should be taxed at common rate according to alcohol content. The SWA fully supports this approach and considers it the fairest and most responsible way of taxing alcoholic beverages (Scotch Whisky Association: Issues paper - submission. 9, p.8)

The 2009 Henry Review recommended, and PAAC also supports, the volumetric taxation of alcohol… (People's Alcohol Action Coalition: Issues paper - submission.10, p.7)

As suggested by the National Preventative Health Taskforce a tiered volumetric tax should be considered… [it] effectively incorporates a minimum price as well as providing financial incentives for the purchase of low strength beverages (Nepean Blue Mountains Local Health District: Issues paper - submission. 17, p.1)

…a tiered volumetric taxation system, with some flexibility to allow the maintenance of the higher tax on RTDs (ready-to-drink), should be in place along with a minimum floor price (Women's Christian Temperance Union of Australia: Issues paper - submission. 4, p.3)

We strongly believe there should be a volumetric approach to alcohol taxation, whereby products with higher alcohol volumes attract a higher rate of taxation, with regular increases to the real price of alcohol (McCusker Centre for Action on Alcohol and Youth: Issues paper - submission. 28, p.6)

Reform of the current taxation system would have the dual effect of establishing a minimum price per unit of alcohol, while simplifying the existing taxation arrangements. This would also generate revenue that could be drawn upon by the government in addressing and ameliorating the significant harm caused by alcohol misuse (Consumers Health Forum of Australia: Issues paper - submission. 7, p.1)

The Australian General Practice Network (AGPN), from which the AML Alliance has evolved, provided a submission to the Committee Inquiry into the Alcohol Toll Reduction Bill 2007 recommending a volumetric tax on alcohol…providing an incentive to the public to consume drinks with lower alcohol content (Australian Medicare Local Alliance: Issues paper - submission. 35, p.5)

12. The majority of submissions supported reform of the current alcohol taxation system. Several submissions also discussed the potential advantages of volumetric taxation as opposed to a minimum price. These included additional revenue flowing to the government rather than to retailers, which would potentially allow for hypothecation or linking of tax revenues and encouraging the consumption of lower strength alcohol products. Illawarra Shoalhaven Local Health District Drug and Alcohol Services considered that a tax may be better received by community members than a minimum price:

> [Minimum price] is expected to be less well received by community members than a hypothecated tax. Community members may resist such a move that can potentially financially benefit retail, rather than being reinvested into further reducing harm within their community (Issues paper: submissions.11, p.2)

13. However, volumetric taxation can be circumvented by discounting, loss-leading or below cost selling. Additionally a common, or flat, rate of volumetric taxation may result in the average price of spirits decreasing and the price of low-strength beer increasing unless careful implementation measures prevented that.[205]

14. A number of submissions argued that both minimum pricing and volumetric taxation should be introduced.

Support for a volumetric tax and minimum price – comments from submissions:

The combination of both measures will have the greatest impact in reducing alcohol related harms (Drug and Alcohol Office of Western Australia: Issues paper – submission. 19, p.4)

The introduction of a floor price, in conjunction with a volumetric taxation regime, would prevent alcohol retailers from undermining the effect of such a tax through heavy discounting and product bundling and reduce alcohol related harm. The dual issues of an alcohol floor price and the alcohol taxation regime are complementary (Alcohol and Other Drugs Council of Australia: Issues paper –submission. 27, p.3)

…an optimal mix of pricing policy would combine both a volumetric taxation regime and a minimum floor price. The AMA supports this comprehensive reform of alcohol taxation, which would result in a more equitable and efficient volumetric taxation system underpinning a minimum price for alcohol (Australian Medical Association: Issues paper – submission. 31, p.5-6)

15. Thus, the Agency concludes that there is strong support among a wide range of stakeholders for a volumetric tax on all alcohol. The issue of volumetric taxation was outside the initial scope of this task and as such not all issues relevant to the introduction of a common or tiered volumetric tax are discussed in this Report. Like a minimum price regulation, a common or tiered volumetric tax requires further analysis to determine *inter alia* the rate(s) at which the tax should be set, as well as consideration of the impact on consumers and business, and necessary industry transition arrangements.[206]

Reform of the wine equalisation tax

16. The wine equalisation tax (WET) is an ad valorem tax, collected at a rate of 29 per cent of the wholesale price according to the value of the wine, rather than the alcohol content. Because wine is taxed on a value basis, wines with the same alcohol content are subject to different levels of taxation. The cheaper the wine, the less it is taxed. The WET effectively preferences cheaper wines.

17. Since introduction in July 2000, the WET has raised almost $6.7 billion in net revenue. In October 2004, a rebate scheme for Australian wine producers was introduced. The rebate entitles eligible produces to a rebate of 29 per cent, which is typically the price for which the producer sells the wine, excluding the WET and the GST. The maximum rebate that can be claimed for each financial year from July 2006 is $500,000 per eligible producer. Since July 2005 a producer rebate has been made available to New Zealand producers, where that wine is subject to dealing in Australia on which the WET is paid.[207]

[205] National Preventative Health Taskforce. (2009)
[206] Henry Review (2010)
[207] Australian National Audit Office (2010) Administration of the Wine Equalisation Tax, Australian Taxation Office, The Auditor-General Audit Report No.20 2010-11 Performance Audit.

Proposals for reform

18. As noted above, many submissions considered that the current taxation system is inconsistent and inequitable. The majority argued that this inequity largely arises due to the differential treatment of wine and cider under the WET. Further, a number of submissions argue that the WET encourages production and consumption of cheap alcohol products.

The Wine Equalisation Tax – comments from submissions:

In light of the overwhelming evidence of the complexity and incoherence of the existing taxation arrangements, CHF believes that the WET should be changed to a volumetric tax (Consumers Health Forum: Issues paper – submission 7, p.4)

The Brewers Association recommends that Government considers changes to the taxation treatment of wine to maximise the capacity of the taxation system to promote safer consumption of alcohol through a category-based approach (Brewers Association of Australia: Issues paper – submission 18, p.13)

The consequence [of the WET] is to encourage the production of bulk, cheap wine, and in particular, cask wine (National Alliance for Action on Alcohol: Issues paper - submission. 25, p.8)

The WET is the most inequitable component of the alcohol taxation system because it results in wine and other fruit-based products such as cider being taxed based on their wholesale value rather than their alcohol content. This encourages the production of wine that is sold as cheaply as 25 cents per standard drink, allowing people to purchase 40 standard drinks for just $10 (Foundation for Alcohol Research and Education: Issues paper - submission. 36, p8)

…a volumetric taxation regime enables consumers to make more responsible consumption decisions, as the amount of tax paid relates directly to a product's alcohol content. Conversely, the existing ad valorem WET arrangements encourage production and consumption of cheap products, irrespective of alcohol content or quality (Distilled Spirits Industry Council of Australia: Issues paper - submission. 24, p.62-63)

19. A few submissions to both the issues paper and the draft report argued that although cask wine is the cheapest alcohol available for purchase, sales of cask wine have been decreasing over time. For example:

    Woolworths stated:

    > Despite the very material retail price advantage that cask wine enjoys over all other categories of alcoholic beverage the market share of cask wine has been declining steadily since the early 1990's, while spirits which have by far the highest retail pricing on a cost per standard drink basis are showing the highest growth (Issues paper: submission - 23, p.3)

    However, the Foundation for Alcohol Education and Research noted that:

    > …cask wine accounts for 45 per cent of domestic sales of Australian produced wine and approximately 65 per cent of all wine sold in Australia is less than $8.00 per bottle (Issues paper: submission - 36, p16)

20. As previously noted, many submissions supported the Henry Review recommendation that all alcoholic beverages should be taxed on a volumetric basis. Of those submissions supporting a volumetric tax on alcohol, the majority considered that reform or removal of the Wine Equalisation Tax (WET) would be the favoured approach to achieving this outcome. This change requires those beverages taxed under the WET, currently wine and traditional cider, to be moved into the excise system alongside beer and spirits.

21. The Henry Review considered that the WET is *"not well suited to reducing social harm"* and that: *"…a volumetric tax on wine products should be introduced as a matter of urgency to raise the tax paid on cheap wine — effectively introducing a 'floor price' on alcohol".*[208] This view was reflected in a number of submissions.

22. In relation to reform to the WET, interestingly, some submissions considered that there is evidence that the WET is contributing to concerns within the wine industry about the wine glut. The National Alliance for Action on Alcohol highlighted that:

> The WET and WET Rebate are contributing to the oversupply of wine in Australia, encouraging the production of cheap wine and acting as a disincentive to wine industry restructuring. Two of Australia's major wine producers have now publicly supported the abolition of the WET to be replaced with a volumetric tax for these reasons (Issues paper: submission. 25, p.8)

While the Foundation for Alcohol Research and Education noted:

> Analysis of the WET by the Allen Consulting Group demonstrates that the WET and WET rebate are contributing to the wine glut. (Issues paper: submission. 36, p.9)

23. As with the conclusion regarding volumetric taxation, there is a similar set of views, amongst the majority of submissions (with some industry exceptions), that reform of the WET is desirable from a range of perspectives including efficiency, equity and public health.

24. The Foundation for Alcohol Research and Education (FARE) commissioned a benefit cost analysis to examine tax reform scenarios in Australia, prepared by Marsden Jacob Associates. This report states:[209]

> There are very large benefits available to the majority of the Australian population from alcohol taxation reform. Alternatively expressed, the current system and level of alcohol taxation imposes multi-billion dollar costs on Non-drinkers and Moderate drinkers (almost 85 per cent of adult population) (p.vii).

Conclusion

25. A majority of the submissions received by the Agency observed that the introduction of a minimum (floor) price was not the only price-related mechanism available to government and that current alcohol taxation arrangements should also be considered. A prime purpose of alcohol taxation is the reduction of harms caused by alcohol misuse; thus, a coherent system of alcohol taxes would target the content of alcohol in beverages.

26. Further, the majority of submissions to this review pointed to the current Wine Equalisation Tax (WET) as a measure in need of reform. The WET is a tax based on the value (*ad valorem*) of the wine: the cheaper the wine, the less it is taxed, irrespective of alcohol content. Further, a WET rebate (up to $500,000 per financial year) is provided to eligible New Zealand and Australian producers. There was strong endorsement from a wide range of stakeholders for a volumetric tax on all alcohol products and many noted, referring to the Henry Tax Review, that reform of the WET could have similar effects in reducing alcohol-related harms as those of a minimum price.

[208] Henry Review. (2010)
[209] Marsden Jacob Associates (2012)

27. When the price affordability of one product over another appears to be partially as a result of a distortion in the market due to government revenue measures, consideration of reform becomes a public health issue (not simply an economic consideration).

28. There are many methods by which alcohol taxation reform could be achieved, and many considerations in such a process involving additional economic and social analyses and consideration of transition measures – these questions do not form part of the task given to the Agency. From a public health perspective, however, the current WET as an *ad valorem* tax does not target alcohol content effectively. Preferential treatment of wine, particularly at the lower value end, favours production of cheaper wines and such an arrangement may well be contributing to social and health harms. **Therefore, based on public health considerations, the Agency finds that the current operation of the Wine Equalisation Tax is of concern and requires reappraisal by the Government.**

CHAPTER 6: WHAT ARE THE OTHER OPTIONS AVAILABLE TO REDUCE HARMFUL ALCOHOL CONSUMPTION?

Overview

1. In addition to pricing and taxation policies such as those discussed above there are a number of other policies and programs that are used internationally to reduce the harmful consumption of alcohol. These include: regulating the availability of alcohol; drink-driving countermeasures; modifying the drinking context; community programs; restrictions on alcohol marketing and; education and information programs.[210,211] The effectiveness of these different policies and programs has been examined in several published studies.[212] Overall, the evidence suggests that regulatory and fiscal policies (those focusing on economic and physical availability such as restricting the days and hours of sale, restricting outlet density and taxation), drink-driving countermeasures and policies that target the whole population are more effective than those targeting high-risk groups (see Table 7).[213,214,215] In general, less effective policies (such as alcohol education and awareness campaigns) attract the greatest public support, whereas more effective policies related to pricing tend to be less popular.[216] A brief summary of other measures is provided below.

Table 7: Key to the rating scales shown in Table 8

RATING	EVIDENCE OF EFFECTIVENESS	BREADTH OF RESEARCH SUPPORT	TEST ACROSS CULTURES	AUSTRALIAN EVALUATION
0	Lack of effectiveness	No studies undertaken	Not tested	Limited investigation
*	Limited effectiveness	1 well-designed study completed	Tested in 1 country	Evidence for implementation
**	Moderate effectiveness	2–4 studies completed	Tested in 2–4 countries	Evidence for outcome effectiveness
***	High degree of effectiveness	5+ studies completed	Tested in 5+ countries	Evidence for effective dissemination
?	No evidence available			N/A
●				Warrants further research
✖				Evidence is contra-indicative

Source: Adapted from: Australian Government: Technical Report 3 *Preventing alcohol-related harm in Australia: a window of opportunity. Table 6, p.18*[217]

[210] Alcohol and Public Policy Group (2010). Alcohol: No Ordinary Commodity – a summary of the second edition. *Addiction*, 105: 769 - 779
[211] Anderson, P., *et al*. (2009). Effectiveness and cost-effectiveness of policies and programmes to reduce the harm caused by alcohol. *The Lancet,* 373: 2234 – 46.
[212] ibid
[213] ibid
[214] Alcohol and Public Policy Group (2010)
[215] Australian Government (2009)
[216] Giesbrecht, N and Greenfield, T. (1999) Public opinions on alcohol policy issues: a comparison of American and Canadian surveys. *Addiction* 94(4):521-531
[217] Australian Government (2009)

Table 8: Ratings of policy-relevant strategies and interventions

STRATEGY OR INTERVENTION		EFFECTIVENESS	BREADTH OF RESEARCH	CROSS-CULTURAL TESTING	COST TO IMPLEMENT	AUSTRALIAN EVALUATION
Regulating physical availability	Total ban on sales	***	***	**	High	**
	Minimum legal purchase age	***	***	**	Low	
	Hours and days of sale restrictions	**	**	**	Low	**
	Restrictions on density of outlets	**	***	**	Low	●
	Server liability	***	*	*	Low	*
	Different availability by alcohol strength	**	**	*	Low	
Taxation and pricing	Alcohol taxes	***	***	***	Low	**
	Hypothecated tax to pay for treatment / prevention					***
	Setting floor prices / banning discounting					**
Drink-driving counter-measures	Sobriety checkpoints	***	***	***	Moderate	
	Random breath testing	***	***	*	Moderate	***
	Lowered BAC limits	***	***	**	Low	
	Administrative licence suspension	**	**	**	Moderate	
	Low BAC for young drivers	***	**	*	Low	*
	Graduated licensing for novice drivers	**	**	**	Low	
	Designated drivers and ride services	O	*	*	Moderate	*
Treatment and early intervention	Brief intervention in primary health settings	**	***	***	Moderate	***
	Alcohol problems treatment	*	***	***	High	***
	Mutual help/self-help attendance	*	*	**	Low	
	Mandatory treatment of repeat drink drivers	*	**	*	Moderate	
Altering the drinking context	Bans on serving intoxicated persons	*	***	**	Moderate	
	Training staff to prevent intoxication / aggression	*	*	*	Moderate	** (x if not enforced)
	Voluntary codes of bar practice	O	*	*	Low	** (x if not enforced)
	Enforcement of on-premises regulations and laws	**	*	**	High	
	Promoting alcohol-free events	O	**	*	High	
	Community mobilisation	**	**	*	High	**
Regulating promotion	Advertising bans	?	●	●	Low	
	Advertising content controls	?	●	●	Low	●
Education and persuasion	Alcohol education in schools	O	***	**	High	*
	Parent education	?	●	●	Moderate	●
	Public service messages / Mass media campaigns	●	●	●	Moderate	*
	Warning labels / National drinking guidelines	O	*	*	Low	*

Source: Adapted from: Australian Government: Technical Report 3 *Preventing alcohol-related harm in Australia: a window of opportunity. Table 6, p.19*

Regulating the physical availability of alcohol

2. Availability of alcohol generally refers to the ease or convenience of obta Evidence suggests that when alcohol is readily available, consumption and a harms increase.[218] For example:
    - Chikritzhs and Stockwell (2006, 2007) found that increased trading hour Perth, Western Australia were associated with a 70 per cent increa assaults (in and around hotels with extended trading hours) and a increase in drink driver road crashes.[219,220]
    - A longitudinal study by Livingston (2011) examining changes in alcohol across Melbourne found that for every 10 per cent increase in the ra outlets in an area there was a 0.6 per cent increase in the rate of hospit for assaultive injuries.

3. There are a number of policies that seek to reduce consumption and alcohol-re regulating that availability of alcohol including: restricting the days and h restrictions on outlet density; introducing a minimum legal purchase age; lockou (on all alcohol or a particular type of alcohol) and dry community declarati recent example of a successful policy implemented in Australia is the restr closing times and the introduction of a lockout in pubs in Newcastle NSW following complaints about violence, damage to property and disorderly beh Newcastle CBD the Liquor Administration Board restricted opening hours of 1 CBD from 5 am to 3 am, with a 1 am lockout, effective from 21 March 2008. introduction of this policy there was a 37 per cent decrease in assaults compare location that did not have the same restrictions imposed.[224]

Drink-driving countermeasures

4. Drink-driving countermeasures and the associated programs of enforcement a to be a great success in reducing road crashes, injuries and fatalities.[225] Ra testing is considered to be particularly effective, with research suggesting that r to comply with drink-driving laws in jurisdictions where it is implemented.[people, lower blood alcohol concentration (BAC) levels (i.e. 0.00%), gradua systems and other driving restrictions can be effective in reducing drink drivir fatalities.[227] The 2010 NDSHS found that stricter enforcement of drink-driving re strong community support.[228]

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[218] Babor, T., Caetano, R., Casswell, S., *et al* (2010).
[219] Chikritzhs, T. and Stockwell, T. (2007). The Impact of Later Trading Hours for Hotels (public houses) on Breat Apprehended Impaired Drivers. *Addiction* 102: 1609-1917
[220] Chikritzhs, T. and Stockwell, T. (2006). The Impact of Later Trading Hours for Hotels on Levels of Impaired Driver Breath Alcohol Levels. *Addiction,* 101:1254-1264.
[221] Australian Government (2009)
[222] Babor, T., Caetano, R., Casswell, S., *et al* (2010).
[223] Kypri, K., Jones, C., McElduff, P. and Barker, D (2010). Effects of restricting pub closing times on night-time assaul city. *Addiction.* 106: 303 - 310
[224] ibid
[225] Australian Government (2009)
[226] ibid
[227] Babor, T., Caetano, R., Casswell, S., *et al* (2010).
[228] AIHW (2010)

Modifying the drinking context

5. Alcohol consumption takes place in a social, cultural and community context, therefore the relationship between drinking and alcohol-related harm may be influenced by strategies that modify this context.[229] Strategies that modify the drinking context can be targeted at an individual licensed premise or its employees; a group of establishments or a whole community. They include: bans on serving underage and intoxicated persons, responsible service of alcohol (RSA) programs for staff, targeted (or intelligence led) policing, liquor accords (voluntary codes of practice introduced at a local community level), serving of alcohol in plastic glasses and the provision of food.[230,231] A number of these strategies are already in place in Australia. The evidence suggests that modifying the drinking context can have a modest impact on alcohol-related harm;[232] however, it is important that they are well enforced and managed. Further, these strategies can only influence consumption that occurs in licensed premises.

Treatment and early intervention

6. Treatment and early intervention is often considered as the first line of response to alcohol-related problems; however, it should also be considered as part of prevention. Treatment and early intervention strategies include: brief interventions in primary health care settings, workplace interventions, alcohol problem treatment (such as Alcoholics Anonymous), pharmacotherapies for alcohol dependence and sobering up centres.[233] Brief interventions can be particularly useful as a prevention tool as they are inexpensive, quick and can be implemented by a wide range of health and welfare professionals.[234]

Summary

7. In summary, there are a number of strategies to reduce harmful alcohol consumption and alcohol-related harms, many of which have been successfully introduced in Australia. There is no single strategy that can address the harmful consumption of alcohol in isolation. An integrated approach that seeks to combine strategies that are known to be effective and suitable for the context in which they are being implemented is required. Further, it is important to consider the quality, rather than simply the quantity of interventions.[235] The Agency considers that any strategy to reduce harmful alcohol consumption and its associated harms must include a range of cost-effective measures and approaches, not only price measures.

[229] Anderson *et al* (2009)
[230] Babor, T., Caetano, R., Casswell, S., *et al* (2010).
[231] Australian Government (2009)
[232] Babor, T., Caetano, R., Casswell, S., *et al* (2010).
[233] Australian Government (2009)
[234] ibid
[235] National Drug Research Institute (2007). Restrictions on the sale and supply of alcohol: evidence and outcomes. Perth: National Drug Research Institute, Curtin University of Technology, 2007. Available from: www.ndri.curtin.edu.au/pdfs/publications/R207.pdf

CHAPTER 7: INFORMATION GAPS

1. As noted previously, a comprehensive benefit cost analysis of the potential effects of introducing a minimum price is not currently possible given the data gaps outlined throughout this report. The following data would assist in improving the evidence base around alcohol consumption, alcohol-related harm and the ability to assess the impact of alcohol regulatory polices:
    - improved collection of, and access to, alcohol sales data;
    - collection of cider consumption data;
    - household expenditure on alcohol;
    - emergency room attendance data;
    - aetiological fractions for emergency room data; and
    - police assault data.

Data on alcohol consumption

2. Preventive health policies and programs relating to alcohol are informed by sound data on alcohol consumption and alcohol-related harm. The World Health Organization has recommended that public health monitoring of alcohol use should include credible estimates of per capita alcohol consumption, derived from alcohol sales data, in addition to well-conducted general population surveys of drinking patterns.[236]

3. Currently, information on levels and patterns of alcohol consumption in Australia comes from two main sources, national estimates of per capita consumption and survey-derived estimates of alcohol consumption. National estimates of per capita consumption are produced by the Australia Bureau of Statistics (ABS). These estimates, based on Commonwealth tax collections cannot be disaggregated below the national level.[237] Survey data, such as that collected by the ABS and Australian Institute of Health and Welfare, can provide more detailed information such as how consumption varies between states, communities and people of different ages. While these data sources provide a good basis for monitoring trends in drinking and related harm, and the possible opportunities for intervention, there is scope for improved data collection in Australia.

4. Unfortunately, some of the most significant and valuable data are not readily available to the public health field. For example, alcohol sales data, while known to be collected and analysed by the alcohol beverage industry, is not available or easily accessed for public health purposes.[238] There are several important reasons why the collection of alcohol sales data in Australia should be improved. Such data can be used *inter alia* to:
    - monitor trends in per capita alcohol consumption (at state and local levels), which is strongly related to adverse health outcomes such as liver cirrhosis, motor vehicle crashes and suicide;
    - to develop and evaluate policy initiatives to mitigate the effects of harmful alcohol consumption;

[236] World Health Organization, (2007) WHO expert committee on problems related to alcohol consumption. Technical report series 944, World Health Organization: Geneva
[237] ABS (2012). *Apparent consumption of alcohol, Australia 2010-11*, No 4307.0.55.001. http://www.abs.gov.au/AUSSTATS/abs@.nsf/Lookup/4307.0.55.001Explanatory%20Notes12010-11?OpenDocument
[238] Australian Government (2009)

- facilitate studies of the relationships between changes in the level of per capita alcohol consumption and both population health outcomes and social harms (for example, arrests for assault and public disorder);
- provide a benchmark to gauge the accuracy of national alcohol consumption surveys[239];
- enable the sales volumes of each beverage type to be estimated at local levels;
- facilitate evidence-based liquor licensing decision making by state and territory authorities; and
- evaluate the effectiveness of government community initiatives to reduce alcohol-related harm and the effects of liquor licensing changes on alcohol consumption.[240]

5. There are a range of options for collecting alcohol sales data. Sales data can be collected at a national, wholesale or retail level. Further, data can be obtained through tax receipts, market research, industry sources or trade figures.[241] The level of accuracy of the data differs according to the level at which it is collected. The World Health Organization considers retail sales data to be the most accurate measures of per capita alcohol consumption within a given year.[242] However, data collected at a wholesale level can provide similar (albeit less detailed) information while also reducing burden on retailers — as there are fewer wholesalers than retail outlets.

6. There have not been accurate records of actual consumption in Australia since the collection of wholesale alcohol sales data ceased in some jurisdictions in 1997.[243] Wholesale alcohol sales data are currently collected by governments in Western Australia, Queensland and the Northern Territory with some other jurisdictions in the process of considering mechanisms for doing this (e.g. the Australian Capital Territory (ACT) recently enacted new legislation and is likely to begin collection in the next 12 months). The collection of wholesale sales data across all states and territories would allow more refined analysis of consumption patterns and trends across Australia.

7. It is important to note that the collection of sales data alone can result in a misinterpretation of trends. This is because retailers may purchase in bulk and stockpile; not all alcohol purchased will be consumed (either in the year of purchase or at all); and the growth of large liquor outlets may result in retailers purchasing from outlets that are not considered wholesalers. The collection of a range of other data is also important for appropriate planning, monitoring and evaluation of alcohol policies and programs. This includes data on places of drinking, the duration of a drinking occasion, and reasons for drinking; data on the harm to drinkers and harm to others, such as police data; child and family welfare agency data; health service data; and a range of other data that capture the impact of alcohol on sectors such as local government, emergency services and insurance.[244]

8. A number of submissions to the draft report supported the collection of sales data across all jurisdictions to support evidence based policy decisions. However, a few submissions noted that the changing nature of wholesale liquor and the cost burden on retailers/wholesalers would need to be taken into consideration.

[239] It is important to note that not all alcohol purchased is consumed by the purchaser at, or around the time of purchase. It may be cellared, gifted, used in cooking or wasted. Any data collection would need to take this into account.
[240] National Preventative Health Taskforce (2009)
[241] World Health Organization (2000). International guide for monitoring alcohol consumption and related harm. Available at: http://whqlibdoc.who.int/hq/2000/who_msd_msb_00.4.pdf
[242] ibid
[243] Commonwealth of Australia (2006) National Alcohol Strategy 2006-2009: Towards Safer Drinking Cultures. Ministerial Council on Drug Strategy (May)
[244] National Preventative Health Taskforce (2009)

Collection of sales data – comments from submissions:

Alcohol sales data needs to be collected and reported on by every jurisdiction in order to obtain an accurate estimate of per capita consumption. Alcohol sales data is essential to monitor national levels of alcohol consumption, as well as consumption patterns associated with specific population groups and beverage choices. It is also necessary to evaluate the impact of different alcohol policies on consumption at local, state and national levels (Foundation for Alcohol Research and Education: Draft report: submission 25, p.19).

MCAAY strongly supports ANPHA's encouragement of state and territory governments to continue, or to initiate, the collection of wholesale sales data to enable and improve the research required to inform evidence-based policy decisions. This information is already collected and analysed by the alcohol industry; however, access to researchers and policy-makers is limited. Access to alcohol sales data is essential for alcohol policy modelling and research specific to the Australian situation (McCusker Centre for Action on Alcohol and Youth: Submission 23, p.3).

WFA supports the Agency's finding for further and better collection of alcohol sales data, but cautions its use in a policy setting. Large distribution centres and the changing nature of wholesale liquor resulting in smaller licensed premises sourcing their liquor from retailers for further on-sale are major confounders to using such data with confidence. We support ANPHA's recommendation that encourages state and territory jurisdiction to collect wholesale sales data (Winemakers' Federation of Australia: Draft Report – submission 18, p.8).

…the AHA supports the concept of gathering evidence on consumption patterns but cautions the Government against placing excessive credence on wholesale sales data. In recent years the proportion of alcohol purchased by hotels from traditional wholesale providers has decreased, with many hotels making bulk purchases directly from major liquor retailers which are not identified as 'wholesale'. The AHA also has concerns about significant cost and red tape burdens being placed on its members if data were to be collected at the licensee level… (Australian Hotels Association: Draft Report – submission 19, p.2)

9. There is a significant body of evidence based research conducted in Australia on alcohol policy matters, however, the available data for both economic and health research could be significantly improved. The lack of data from all jurisdictions severely hampers more refined analyses. Further, as noted previously, cider consumption in Australia is growing rapidly. The exclusion of cider consumption data when calculating Australia's apparent per capita consumption makes it difficult to determine the effect of cider on overall consumption and trends. **Thus the Agency:**
    - **Strongly encourages state and territory governments to continue, or to initiate, the collection of wholesale sales data in order to enable and improve the essential research and analysis required to inform evidence-based public policy decisions. Such data should be available in the public domain.**
    - **Recommends that, in future, the Australian Bureau of Statistics includes cider consumption data in its Apparent Consumption of Alcohol publication.**

CONCLUSION AND FINDINGS

1. In conclusion, the Agency advises the Commonwealth Government that a minimum price for alcohol should not be introduced nationally at this time.

2. Furthermore, based on public health considerations, the Agency finds that the current operation of the Wine Equalisation Tax is of concern and requires reappraisal.

3. And finally, the Agency:
   - Strongly encourages state and territory governments to continue, or to initiate, the collection of wholesale sales data in order to enable and improve the essential research and analysis required to inform evidence-based public policy decisions. Such data should be available in the public domain.
   - Recommends that, in future, the Australian Bureau of Statistics includes cider consumption data in its Apparent Consumption of Alcohol publication.

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Appendix 1: Submissions received – Exploring the public interest case for a minimum (floor) price for alcohol – Issues paper

1. Mr Malcolm Jenkinson – Individual
2. Mr Ian Pitt – Individual
3. Dr Christina Naylor – Individual
4. Women's Christian Temperance Union (WCTU) Australia
5. Clubs Australia
6. The Tasmanian Interagency Working Group on Drugs (Department of Health and Human Services, Tasmanian Government)
7. Consumers Health Forum of Australia
8. Carlton & United Breweries
9. The Scotch Whisky Association (UK)
10. People's Alcohol Action Coalition (PACC)
11. Illawarra Shoalhaven Local Health District Drug and Alcohol Services
12. Confidential
13. Premium Wine Brands (Pernod Ricard)
14. Lion
15. Martin Hagger - Curtin University, School of Psychology and Speech Pathology
16. Single Mothers, Youth and Family Reform Organisation Inc.
17. Nepean Blue Mountains Local Health District
18. Brewers Association of Australia and New Zealand Inc.
19. Western Australian Drug and Alcohol Office
20. Australian Health Promotion Association – Western Australian Branch
21. Australian Hotels Association
22. Western Australia Police
23. Woolworths Limited
24. Distilled Spirits Industry Council of Australia Inc.
25. National Alliance for Action on Alcohol
26. Public Health Association of Australia
27. The Alcohol and other Drugs Council of Australia
28. McCusker Centre for Action on Alcohol and Youth
29. Public Health Association of Australia – Western Australia Branch
30. Cancer Council Australia
31. Australian Medical Association
32. Winemakers' Federation of Australia
33. VicHealth
34. Alcohol Policy Coalition
35. Australian Medicare Local Alliance
36. Foundation for Alcohol Research and Education

All submissions can be accessed at:
http://anpha.gov.au/internet/anpha/publishing.nsf/Content/min-floor-price-alc

Appendix 2: Submissions received – Exploring the public interest case for a minimum (floor) price for alcohol – Draft Report

1. Mr J Pettigrew
2. Mr Peter Thorn
3. Mr Bob Dove
4. Mr John Goldrick
5. Mrs Suzanne Goldrick
6. Ms Heidi Schum
7. Mr Ray Packard
8. Mr Kevin Scharenberg
9. Mr Keith Chester
10. Consumers Health Forum of Australia
11. Victorian Farmers Federation – Sunraysia Branch
12. National Seniors Australia – Cover letter
    National Seniors Australia – Submission
13. Confidential
14. People's Alcohol Action Coalition
15. Professor Martin Hagger
16. VicHealth
17. Brewers Association of Australia & New Zealand Inc
18. Winemakers' Federation of Australia
19. Australian Hotels Association
20. The Scotch Whisky Association (UK)
21. Confidential
22. Distilled Spirits Industry Council of Australia (DSICA)
23. McCusker Centre for Action on Alcohol
24. Alcohol and other Drugs Council of Australia (ADCA)
25. Foundation for Alcohol Research and Education
26. National Alliance for Action on Alcohol
27. Alcohol Policy Coalition
28. Cancer Council Australia
29. The Hon Jenny Macklin MP
30. Confidential

All submissions can be accessed at:
http://www.anpha.gov.au/internet/anpha/publishing.nsf/Content/draft-report-min-alcohol-price

Appendix 3: Number of standard drinks in various alcoholic beverages in Australia

Source: NHMRC http://www.nhmrc.gov.au/_files_nhmrc/file/your_health/healthy/alcohol/std-drinks-large.jpg

Appendix 4: Additional analysis of the National Drug Strategy Household Survey data[245]

Marsden Jacob Associates

1. In order to further establish the extent of harmful alcohol consumption, the Agency commissioned Marsden Jacob Associates, to conduct additional analysis on Australian drinking patterns from the NDSHS 2010. For the purposes of this analysis, Marsden Jacob classified drinkers into three categories: Moderate, Heavy and Very Heavy. Moderate drinkers consume 2 or fewer standard drinks per day on average. This is consistent with the NHMRC Guidelines with respect to harm from long-term consumption of alcohol. For those consuming more than two standard drinks per day on average, Marsden Jacob adopted the Sheffield[246] definitions, which are referred to here as Heavy and Very Heavy drinkers. These UK definitions distinguish between the consumption of males and females.[247] Heavy drinkers are defined as those who exceed moderate consumption but drink less than 40 standard drinks per week for males and 28 standard drinks per week for females. Very Heavy drinkers are those who drink more than heavy drinkers.

2. In addition to the categories described above, Marsden Jacob also considered short-term harmful consumption, or bingeing. Marsden Jacob define bingeing as consumption in excess of the NHMRC short-term consumption Guideline (i.e. more than four drinks in any session). As such, some moderate drinkers occasionally binge. The extra classification of long-term consumption between heavy and very heavy drinkers used above allows a useful differentiation for bingeing: while heavy drinkers engage in significant bingeing and do so more regularly than moderates, for very heavy drinkers, almost all consumption is bingeing.[248]

3. The Marsden Jacob analysis found that approximately 59.9 per cent of drinkers consume alcohol at a moderate level, 14.5 per cent consume at heavy levels and 5.1 per cent consume at very heavy levels (see Table 1A). The analysis of drinking patterns indicates that:
    - The 19.6 per cent of the adult population who are the heaviest drinkers (heavy + very heavy) consume 64 per cent of self-reported alcohol consumption.
    - The higher the average level of consumption, the higher the proportion of alcohol consumed in episodes of high-risk drinking. For persons who report their average levels of drinking as moderate (i.e. below NHMRC Guidelines for reduced risk of long-term harm), just more than 20 per cent of their total consumption is episodic at risky levels. In contrast, some 97 per cent of consumption by very heavy drinkers is in episodes at risky levels.

[245] Marsden Jacob Associates undertook further analysis of the NDSHS daya and extended their work in Marsden Jacob Associates (2012) Bingeing, collateral damage and the benefits and costs of taxing alcohol rationally, report to the Foundation for Alcohol Research and Education, October.

[246] The Sheffield definitions are expressed in UK standard drinks (10ml of alcohol) – MJA have translated these into Australian standard drinks (10mg of alcohol). Heavy drinkers are those that consume more than two standard drinks per day but less than 5 ½ for males and four standard drinks per day for women. Very heavy drinkers are those consuming more than Hazardous drinkers on average.

[247] In addition, the UK definition of 'moderate' differs slightly from the NHMRC definition. MJA have used the NHMRC to define the broad categories of Moderates and 'the rest'. They then use the Sheffield to categorise these others.

[248] It is important to emphasise that there are three different statistics being used throughout here. First, there are the number of drinkers (and non-drinkers) across the population, including, for drinkers, the extent of binge drinking. Second, there is the volume of alcohol consumed in bingeing and that consumed in non-risky consumption. Finally, there are the number of bingeing 'events', that is, the number of occasions that a drinker engages in bingeing consumption. Each statistic provides a different insight into the nature of drinking and drinkers.

Table 1: Australian drinking patterns - drinking at moderate, heavy and very heavy levels

A: Proportion of adults aged 14 and over

	Long-term drinking pattern			
	Moderate	**Heavy**	**Very Heavy**	**Total**[1]
	% of adult population			
Maximum consumption in any drinking session in previous year[2]				
4 or fewer drinks in a session	36.7	1.7	0.0	38.9
More than 4, up to 6 drinks	9.1	2.3	0.2	11.7
More than 6, up to 10 drinks	8.0	2.9	0.8	11.8
More than 10, up to 20 drinks	3.3	2.8	0.8	6.9
More than 20 drinks	2.8	4.9	3.3	11.0
TOTAL	59.9	14.5	5.1	100.0

Note:

[1] The total adult population includes the proportion of the population that abstain. In close agreement with the AIHW (2011) analysis, the survey questionnaire on actual volumes drunk (Question E17) suggests that 20.5 per cent of the adult population did not drink. The estimates have not been scaled to align with the 19.5 per cent estimate.

[2] The sub-totals are mutually exclusive.

B: Proportion of total alcohol consumed

	Long-term drinking pattern			
	Moderate	**Heavy**	**Very Heavy**	**Total**
	% of total alcohol consumed - across all categories			
Short-term drinking sessions				
4 or fewer drinks in a session	27.8	14.2	1.1	43.1
More than 4, up to 6 drinks	3.1	8.2	5.0	16.2
More than 6, up to 10 drinks	2.3	4.5	7.9	14.7
More than 10, up to 20 drinks	1.4	3.5	7.9	12.9
More than 20 drinks	1.2	2.7	9.1	13.1
TOTAL	35.8	33.1	31.1	100.0

Note: Drinks refers to standard drinks

C: Proportion of alcohol consumed for each drinker category

	Long-term drinking pattern			
	Moderate	**Heavy**	**Very Heavy**	**Total**
	% of alcohol consumed - across each drinker category			
4 or fewer drinks	77.6	42.9	3.5	43.1
More than 4 drinks	22.4	57.1	96.5	56.9
TOTAL	100.0	100.0	100.0	100.0
"very risky" - 10 or more drinks	7.4	18.8	54.9	25.9

Note: The two components (4 or fewer and More than 4 drinks) sum to 100%. For example, Moderate drinkers consume 35.8% of alcohol from Table 1B. Of this, 27.8% is consumed in sessions where 4 or fewer standard drinks or 77.6% (27.8/35.8).

4. There is significant overlap between the groups of drinkers at risk of short and long-term harm (see Table 1A). Almost all drinkers who consume alcohol at levels which risk long-term harm also consume in excess of the short-term Guideline at least once a year. The analysis also indicates that almost 40 per cent of moderate drinkers are likely, at times, to engage in drinking behaviours which put them at risk of short-term harm.[249]

5. When moderate drinkers who binge frequently or regularly (drinking at risky short-term levels at least 12 times a year) are included with those drinking at levels that risk long-term harm, the survey responses suggest that over one-third of Australian of the adult population and 45 per cent of drinkers regularly drink in excess of medical guidelines.

6. The extent of risk associated with short term harms reflects not only the number of drinks in a session, but also how frequently these occur. As the drinker categories are based on average consumption, it is possible that each category of drinkers includes some short-term episodic drinking in excess of NHMRC Guidelines.
   - As previously noted, moderate drinkers are likely, at times, to engage in drinking behaviours which put them at risk of short-term harm.[250] While these moderate drinkers have a lower risk/incidence of harm than heavier drinkers, the fact that they represent the majority of drinkers means that they can cause significant harms to their health and productivity and to others.
   - In 2010, moderate drinkers alone accounted for 16 per cent of the total bingeing events in that year; however heavy and very heavy drinkers accounted for significantly more, with very heavy drinkers alone accounting for 44 per cent of bingeing events (see Table 2).

Table 2: The pattern of bingeing events across drinkers – Bingeing events by drinker category, Australia; 2010

	Moderate	Heavy	Very Heavy
Episodes of consumption over:	**Number of episodes ('millions)**		
4 drinks	94.3	230.4	256.2
6 drinks	37.5	78.8	164.0
10 drinks	12.2	28.6	75.8
20 drinks	4.5	9.9	33.1
Episodes of consumption:	**Proportion of bingeing episodes (%)**		
More than 4, up to 6 drinks	9.8	26.1	15.9
More then 6, up to 10 drinks	4.4	8.6	15.2
More than 10,up to 20 drinks	1.3	3.2	7.3
More than 20 drinks	0.8	1.7	5.7
All bingeing	**16.2**	**39.7**	**44.1**

Marsden Jacob (2013) analysis of NDSHS 2010

7. As noted above, the extent to which individuals engage in harmful drinking varies by age and gender. The additional analysis of the NDSHS data indicates that (see Table 3):
   - On average, males have more heavy and very heavy long-term drinking patterns than females, at 21% compared to 7%. This holds across all age groups.
   - Heavy consumption among females is steady at around 8% for ages up to 64 years. Females 65 years or older consume less heavily at 4%.
   - Females consume alcohol at very heavy levels mostly when they are under 25 than later in life. Very heavy consumption for females declines as they get older.

[249] ibid. This is equivalent to 17% of the adult population
[250] ibid

- Heavy and very heavy male consumption peaks at 25-44 years, remaining almost as high from 45-64 years before dropping back at 65+ years. However, 18% of males still drink at heavy levels over the age of 65, compared with 4% of females.

Table 3: How harmful long-term alcohol consumption varies across gender and age group

	Long-term drinking pattern % of adult population					
	Moderate		**Heavy**		**Very Heavy**	
	M	F	M	F	M	F
<25 years	73.9	85.8	18.9	8.7	7.2	5.6
25-44 years	69.3	88.8	23.0	7.6	7.7	3.6
45-64 years	70.6	88.6	22.7	8.0	6.7	3.4
65+ years	79.9	95.0	17.6	3.6	2.5	1.4
Average	73.5	89.5	20.6	7.0	6.0	3.5

Marsden Jacob (2013) analysis of NDSHS 2010

8. In summary, the Marsden Jacob analysis of the unit record data from the NDSHS for 2010 confirms that alcohol consumption levels differ significantly by age and gender. The analysis also shows that a significant amount of alcohol is being consumed at harmful levels by a small proportion of the population. Further, it demonstrates that short-term episodic drinking in excess of NHMRC Guidelines is not solely confined to heavy drinkers, with moderate drinkers accounting for 16 per cent of short-term episodic drinking.

Appendix 5: Impact of a minimum price for alcohol - Marsden Jacob Associates (2013)

Segment and brand	Brand share of market [1]	Indicative product	Litres	ABV	Number of Standard Drinks	Retail Price 2013	Price 2013 $/SD	Effect of minimum price (% change)			Excise or WET per SD	Proportion of price
								$1.00 per SD	$1.30 per SD	$1.50 per SD		
Packaged liquor												
Beer												
Victoria Bitter	12.90%											
		VB Stubbies	9	4.90%	35.28	$42.99	$1.22	–	+6.69%	+23.10%	$0.43	35.4%
		VB Gold	9	3.50%	25.20	$38.99	$1.55	–	–	–	$0.38	24.5%
Toohey's New	10.00%											
		Tooheys New Stubbies	9	4.60%	33.12	$41.99	$1.27	–	+2.54%	+18.31%	$0.42	33.3%
XXXX Gold	7.30%											
		XXXX Gold	9	3.50%	25.20	$32.50	$1.29	–	+0.80%	+16.31%	$0.38	29.3%
		XXXX Light bitter	9	2.30%	16.56	$30.99	$1.87	–	–	–	$0.24	12.9%
Other												
		Hahn Premium Light	9	2.60%	18.72	$30.90	$1.65	–	–	–	$0.27	16.3%
Wine												
Berri Estates	4.60%											
		Fruity Gordo Mozelle 5l	5	11.00%	44.00	$13.88	$0.32	+217.12%	+312.25%	+375.68%	$0.05	16.3%
		Traditional Dry Red	5	13.00%	52.00	$13.88	$0.27	+274.77%	+387.21%	+462.16%	$0.04	16.3%
Stanley Wines	3.90%											
		Shiraz Carbernet	4	13.00%	41.60	$9.95	$0.24	+318.09%	+443.52%	+527.14%	$0.04	16.3%
		Fresh Dry White	4	10.50%	33.60	$11.75	$0.35	+185.96%	+271.74%	+328.94%	$0.06	16.3%
		Tawny Port	2	16.50%	26.40	$10.44	$0.40	+152.93%	+228.81%	+279.40%	$0.06	16.3%
Jacob's Creek	3.40%											
		Shiraz	0.75	13.50%	8.10	$6.55	$0.81	+23.66%	+60.76%	+85.50%	$0.13	16.3%
		Chardonnay Pinot Noir	0.75	11.50%	6.90	$7.85	$1.14	–	+14.27%	+31.85%	$0.19	16.3%
Other												
		Moet & Chandon Brut Imperial	0.75	12.00%	7.20	$46.85	$6.51	–	–	–	$1.06	16.3%
		Yellowglen Yellow Chardonnay	0.75	11.00%	6.60	$5.75	$0.87	+14.78	+49.22	+72.17	$0.14	16.3%

Segment and brand	Brand share of market [1]	Indicative product	Litres	ABV	Number of Standard Drinks	Retail Price 2013	Price 2013 $/SD	Effect of minimum price (% change)			Excise or WET per SD	Proportion of price
								$1.00 per SD	$1.30 per SD	$1.50 per SD		
		Yellow Tail Chardonnay	0.75	12.50%	7.50	$7.90	$1.05	–	+23.42	+42.41	$0.17	16.3%
Cleanskins		McLaren Vale Cabernet Sauvignon	0.75	14.50%	8.70	$16.50	$1.90	–	–	–	$0.31	16.3%
		WE2 Chardonnay	0.75	12.00%	7.20	$5.63	$0.78	+27.85	+66.20	+91.77	$0.13	16.3%
		Marlborough Sauvignon Blanc	0.75	12.00%	7.20	$2.81	$0.39	+156.38	+233.29	+284.57	$0.06	16.3%
		Tawny	0.75	17.00%	10.20	$5.63	$0.55	+81.12	+135.45	+171.68	$0.09	16.3%
Fortifieds		Penfolds Club Reserve	0.75	18.00%	10.80	$9.39	$0.87	+15.01	+49.51	+72.51	$0.14	16.3%
		Morris Tawny Port	2	17.50%	28.00	$13.87	$0.50	+101.95	+162.53	+202.92	$0.08	16.3%
		Stanton & Killeen Vintage Fortified	0.75	18.50%	11.10	$28.19	$2.54	–	–	–	$0.42	16.3%
		Brown Bros Australian Tawny	0.75	18.00%	10.80	$14.09	$1.30	–	–	+14.96	$0.21	16.3%
Spirits												
Bundaberg	8.40%											
		UnderProof	1.125	37.00%	33.30	$44.90	$1.35	–	–	+11.25	$0.95	70.8%
		Overproof	0.7	57.70%	32.31	$51.48	$1.59	–	–	–	$0.95	59.9%
Jim Beam	7.60%											
		White Label	0.7	37.00%	20.72	$29.90	$1.44	–	–	+3.95	$0.95	66.2%
		White Label	1.125	37.00%	33.30	$44.95	$1.35	–	–	+11.12	$0.95	70.7%
Johnnie Walker Red Label	7.20%											
		Red label	0.7	40.00%	22.40	$29.90	$1.33	–	–	+12.37	$0.95	71.5%
		Red label	1.125	40.00%	36.00	$44.95	$1.25	–	+4.12	+20.13	$0.95	76.5%
RTDs												
Jim Beam	20.00%											
		White label & cola	2.25	4.80%	8.64	$18.23	$2.11	–	–	–	$0.95	45.3%
Bundaberg	14.30%											
		UP rum and cola cans	9	4.60%	33.12	$69.99	$2.11	–	–	–	$0.95	45.2%
Cider/Perry												

Segment and brand	Brand share of market [1]	Indicative product	Litres	ABV	Number of Standard Drinks	Retail Price 2013	Price 2013 $/SD	Effect of minimum price (% change)			Excise or WET per SD	Proportion of price
								$1.00 per SD	$1.30 per SD	$1.50 per SD		
Strongbow	37.60%											
		Original	8.52	5.00%	34.08	$48.99	$1.44	–	–	+4.35	$0.23	16.3%
Bulmers	13.80%											
		Original	7.92	4.70%	29.78	$62.99	$2.12	–	–	–	$0.35	16.3%
Mercury	12.90%											
		Cider Dry	9	5.20%	37.44	$48.99	$1.31	–	–	+14.64	$0.21	16.3%
Other												
		Old Mount Scrumpy Cider	0.75	8.00%	4.80	$8.00	$1.67	–	–	–	$0.27	16.3%
		Tooheys 5 Seeds	0.345	5.00%	1.38	$1.66	$1.20	–	+7.91	+24.51	$0.20	16.3%
		3 Oaks Summer Cider Pack	1.32	5.00%	5.28	$12.90	$2.44	–	–	–	$0.40	16.3%
On-licence												
Beer												
Coopers Pale Ale		350ml	0.350	4.50%	1.26	$6.50	$5.16	–	–	–	$0.30	5.7%
Toohey's New		425ml	0.425	4.60%	1.56	$4.50	$2.88	–	–	–	$0.30	10.3%
Victoria Bitter		425ml	0.425	4.60%	1.56	$6.50	$4.16	–	–	–	$0.30	7.2%
Wine												
Moet Champagne		750 bottle	0.750	12.00%	7.20	$100.00	$13.89	–	–	–	$1.06	7.7%
Yellowglen Yellow Chardonnay		750 bottle	0.750	11.00%	6.60	$29.00	$4.39	–	–	–	$0.14	3.2%
Spirits												
Bundaberg rum		30ml	0.030	37.00%	0.89	$8.00	$9.01	–	–	–	$0.95	10.6%
Jim Beam White		30ml	0.030	37.00%	0.89	$8.00	$9.01	–	–	–	$0.95	10.6%
Johnnie Walker Red Label		30ml	0.030	40.00%	0.96	$8.00	$8.33	–	–	–	$0.95	11.5%
Cider/Perry												
Strongbow		355ml	0.355	5.00%	1.42	$7.50	$5.28	–	–	–	$0.23	4.4%

Source: Marsden Jacob Associates 2013. Euromonitor (2012), www.danmurphy.com.au - accessed week of 18 March 2013

Appendix 5 continued: Detailed analysis of the effect of a minimum price

Marden Jacob Associates 2013

Commentary on beverage prices and putative minimum price for alcohol

In examining the potential range of products that may be affected by a minimum price, analysis is again limited by the scarcity of publicly available detailed data. Therefore we have undertaken a stepped approach to investigate these impacts.

Across the different segments, value and volume information are available which allows examination of the average price per litre of beverage and per litre of alcohol.

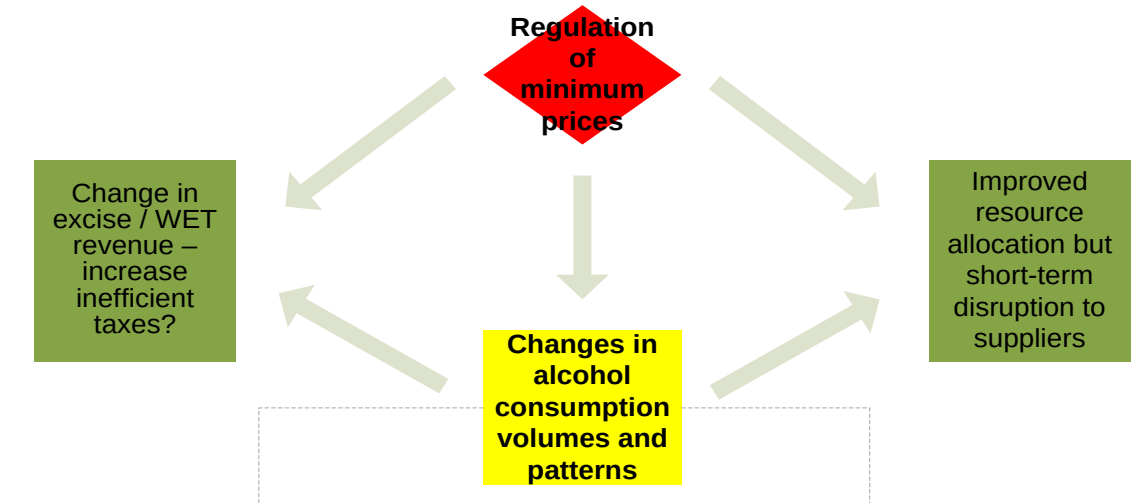
The first point is that on-trade average prices are typically at least double those for off-trade sales. While this does not guarantee that on-trade prices will not be as low as those reported for off-trade sales, it is unlikely and further it is unlikely if they do occur to be a significant element of on-trade sales. In particular, on-trade sales at, say clubs that subsidise food and drink sales, may be affected. However, in terms of the alcohol sales, on-trade represents some 21 per cent by volume.

The first point of interest is the range of prices per standard drink across market segments in the off-trade sales channel:

- beer averages $1.43/SD with the important domestic lager sub-segment averaging only $1.25/SD;
- cider/perry averages $2.05/SD;
- spirits average $1.64/SD and RTDs $3.05/SD;
- wine averages $0.87/SD with still white wines averaging as little as $0.67/SD; and
- all off-trade alcohol averages $1.37/SD

However, it is not possible to determine how much of alcohol sales would be affected by a minimum price of say $1.00/SD. From these numbers alone, we would expect a significant proportion of wine to be affected and possibly some beer. However, to provide more insight we require more information on the distribution of sales around these averages.

Appendix 6: Minimum pricing for alcohol - benefit-cost analysis outline
Marsden Jacob Associates 2013



- Health care costs paid by drinkers
- Unemployment / low productivity / earnings
- Incarceration
- Damage to own property

- Direct HTO
- Health care costs paid by others
- Other indirect HTO
- Labour supply / workplace productivity

- Loss of consumer satisfaction net of any irrational uniformed consumption

- Socialisation benefits not reflected in willingness to pay

Source: Marsden Jacob Associates (2013).
HTO = Harm to others

Appendix 7: A note on the role of value judgements in public interest tests on alcohol policy - Marsden Jacob Associates 2013

A note on the role of value judgements in public interest tests on alcohol policy

April 2013

Prepared for the Australian National Preventive Health Agency

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Key Points

The Australian National Preventive Health Agency (the Agency) in its analysis for the Australian Government on the Public Interest Case for a Minimum (floor) Price for Alcohol noted the very wide range of costs in submissions relating to harmful consumption of alcohol.

The Agency requested Marsden Jacob Associates (Marsden Jacob) to examine the basis on which stakeholder submissions determined their widely differing figures.

Marsden Jacob has examined the basis of each of the estimates submitted by participants in the Inquiry and summarised the results of this analysis below. It advises the Agency that:

- Great caution should be exercised in using the work of Crampton *et al* on which the industry submissions largely rely. The assumptions in this cost analysis do not accord with widely held Australian norms. For example, this work excludes costs that would derive to the society from a child born with foetal alcohol syndrome on the basis that this is a "private cost"; other inappropriate assumptions have meant that this analysis yields costs ($3.8 billion) well below those derived from an analysis based on assumptions and value judgements reflecting community preferences including as expressed in legislation.
- Caution should also be exercised in relation to figures submitted by a number of the public interest groups. Figures, such as costs of $36 billion, are obtained by adding together separate analyses reflecting different purposes and different concepts and methodologies and some double counting. These figures inflate the assessment of likely costs.
- More generally, in both the cost of illness studies and the cost analyses cited by most participants, criminal activity is treated like other economic activity, as welfare improving. This is highly contentious and at odds with the general social norms as expressed through legislation.
- This illustrates a broader issue for the Agency and other public policy bodies when commissioning analyses of costs (and desirably the benefits) of policy options: the validity of the estimates is dependent on the assumptions aligning with the facts and with the value judgements of Australian society.
- While the Agency has not requested a definitive figure on the costs of harms from misuse of alcohol, the Marsden Jacob examination of the range of existing work – and utilising conservative but reasonable assumptions - would suggest that the costs of alcohol harms in Australia would easily be in excess of $15 billion per year.
- A further caution is relevant. The focus on total costs is misplaced: first because it directs attention away from the potential benefits of suggested policy initiatives and can lead to erroneous conclusions; second, because the focus on costs suggests that the only benefits are those resulting from the reduction in, often narrowly conceived, measured costs; third, because the focus on costs tends to suggest reducing costs is the only benefit from reform; and fourth, it is the incremental effect that is important, not the total (or average) effect. Consistent with the Henry Tax Review, several authors identify potentially large benefits from public health initiatives which also reduce the deadweight burden of the Australian tax system and these costs and benefits should be jointly examined.

Introduction to this note[1]

1. The purpose of this note is to explore the role of differing assumptions and value judgements, particularly within the economic framework used for public interest tests relating to alcohol policy. It has been prepared at the request of the Agency as part of its further examination of the variation in costs of alcohol harms in Australia and for inclusion in the final report to inform all stakeholders.

2. While there are marked differences in approach by health and economic professionals, there are also differences between different economists. Since the purpose of benefit-cost analysis (BCA) is to measure changes in the welfare of society as a whole, a BCA must be consistent with both the physical and social constraints that define the environment within which the project's or policy's effects will occur.[2]

A wide range of estimates

3. The total costs (private plus social) of harmful alcohol consumption to the Australian community have been estimated to be in the order of $15.3 billion annually[3] but figures submitted to the Agency ranged from $3.8 billion to $36 billion.[4] The magnitude of policy relevant costs is of critical importance to the assessment of the public interest case for any potential action on alcohol consumption and behaviours. As a result of the substantial differences in estimates of the magnitudes of relevant costs, the reasons and sources of difference need to be understood and assessed and judgements made on the materiality for public policy of relevant costs.

4. Before reviewing the five most relevant studies and their estimates, it is necessary to give background on the differing frameworks and assumptions.

Differing frameworks

5. The methods for determining the social and economic costs of alcohol-related harms to individuals and communities are the subject of ongoing debate. The two major frameworks relevant to the measurement of the costs of alcohol and other abusive substances are:

   - the traditional **public health approach** applied in cost-of-illness studies which begin by measuring all relevant costs in a specific year due to drinking in that year and previous years, i.e., the consumption patterns over the lifetimes of the drinker population; and
   - the **economic public interest approach** which seeks to measure the sum, in present value terms, of the policy relevant costs of future levels of harms (such as morbidity and mortality) which are estimated to occur if current policy settings (such as tax levels, opening hours, retail site densities and venue densities) are maintained into the future.

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[1] This note draws on and extends arguments contained in Marsden Jacob (2012).

[2] See Productivity Commission (2006) *Economic Impacts of Migration and Population Growth*, Research report, 24 April.

[3] Collins, D.J., and Lapsley, H,M. (2008). *The costs of tobacco, alcohol and illicit drug abuse to Australian society in 2004/05*. Australian Department of Health and Ageing. Canberra.

[4] Note, that the original studies use different base years. These different bases have not been rescaled.

Under the public health approach, the measured costs are essentially backward-looking – since they are caused by current and historic consumption patterns – and traditionally have focussed on all costs regardless of where and by whom they are incurred. The public health approach also ignores the benefits of the pleasure of alcohol consumption and its role as a lubricant to social interaction.

Under the economic/public interest approach, the measured costs are forward-looking and are offset, at least in part, by the benefits of consumer satisfaction from drinking and associated social interaction. Importantly, the definition of policy relevant costs excludes a large range of costs, particularly those costs which are offset by benefits to the drinker. Thus, the Australian Treasury notes that:

> *These costs are more limited in scope than those used in the cost of illness methodologies that have been developed in the public health literature (for example, Collins & Lapsley 2008), which also include many of the costs that individuals bear themselves. To estimate spillover costs relevant for setting rates of tax, it is necessary to exclude private intangible costs (such as pain and suffering), and the loss of household production from premature death or sickness.*[5,6]

6. Over time the public health costings have been adapted to align more closely with the economic concepts employed in the public interest framework (see Box 1 for definitions).

[5] Henry Review (2010) *Australia's future tax system: Report to the Treasurer, Part Two: Detailed analysis – volume 2 of 2*, footnote 18, p. 435

[6] The Treasury's own arguments suggest "*the loss of household production from premature death or sickness"* will not be solely private costs; there are indirect externalities, e.g., where taxpayers must pay increased rates of tax to offset the loss of income tax revenue and increased demand for welfare payments or where, if the family decision unit assumption is rejected, children and other survivors face economic losses.

Box 1: Private, social and total costs and benefits

The total costs / benefits of alcohol to society comprise private costs / benefits (i.e., the costs / benefits for the drinker him/herself as a result of their decision to drink) and social costs / benefits (i.e., the cost / benefit to others due to that person's drinking). This standard distinction between social (or external) and private (or internal) costs and benefits is commonly applied by economists. We will focus on the costs of drinking.

Private costs comprise those costs incurred by individuals from an action that they undertake. Assuming rational and fully informed decision making, these costs are considered by the individual in making his/her decision to purchase/consume and are offset by the benefits the individual receives from consumption. These are expressed in terms of opportunity cost or highest valued option foregone. In the absence of externalities and other sources of market failure, this cost is valued at the price paid for the product plus other associated costs incurred or foreseen by the drinker including the drinker's assessment of likely future health costs. Transaction costs are also relevant including the value of time spent searching, the cost of getting to the venue or outlet, etc.

Social costs (often referred to as external or spillover costs) represent the costs incurred by others beyond those considered and incurred by the individuals in a transaction. Typically, these costs are not considered by the individuals when the action(s) of purchasing and consuming alcohol occur. These external costs are a principal source of failure of markets to deliver outcomes beneficial for society as a whole. These do not include effects transmitted through the price system.

Total costs i.e., the total costs to society, comprise the sum of private and social costs.

Intangible costs and benefits

7. The economic / public interest approach requires that the benefits and cost of projects or policy proposals are measured consistently in terms of what matters to Australians, i.e., the opportunity costs of what they might lose and their willingness to pay for potential benefits, such as improved quality of life. Where there are perfectly formed markets, opportunity cost and willingness to pay are reflected in market prices. However, where markets are imperfectly formed due to significant externalities or other forms of market failure, market prices may not be observable and/or will not reflect opportunity cost or willingness to pay for society as a whole. Consequently, non price valuations must be employed in order to examine public policy impacts on society's welfare. However, such valuations cannot be readily compared with economic and financial aggregates based on market prices such as GDP or company turnover.[7]

8. By definition, where externalities and other market and preference failures are important and market prices do not reflect social costs, non-price valuation methods are unavoidable. A significant portion of the cost of harms identified in Laslett *et al* (2010) use these willingness-to-pay estimates, for example of changes in third party quality of life. The quantum of these estimates may be subject to contention – their existence is not.

[7] Certain types of economic activity included in GDP do not contribute to economic welfare, but rather are defensive expenditures, or intermediate inputs that individuals make in order to be able to produce or consume. Some "regrettable" expenditures are included in GDP but come at an opportunity cost of preferred goods and services. Other regrettable activities come at an opportunity cost to leisure and are not therefore reflected in GDP but reduce the well-being of the individual. See Osberg and Sharpe (2006).

Broad agreement on rationales for government intervention in markets

9. The standard economic framework presumes markets are efficient but allows several major reasons for government intervention in a market.[8] Under this framework, there is basically no case for public intervention – taxation system efficiency and resource allocation efficiency aside – unless there is:

   - **market failure** to deliver efficient outcomes due particularly to externalities, i.e., benefits and/or costs which are not reflected in market prices or contracts; and/or
   - **preference failure** due to irrational preferences and imperfect information; and/or
   - **a non-efficiency objective,** typically distribution and equity being pursued.[9]

10. While terminology may vary, there is strong agreement amongst economists on this basic framework for exploring the overarching rationales and justification for government involvement in markets. Thus, the above framework is utilised in Marsden Jacob (2012) while Crampton *et al* (2011) in their working paper, *The Cost of Cost Studies*, indicate a very similar framework. Specifically, the latter state:

    > *The correct test of failure in consumer decision making is to identify the behaviours consumers undertake that would not occur but for imperfections in rationality or information, and but for the presence of externalities.*[10]

    There is also agreement that justification on any of these three overarching reasons is not sufficient unless it can be shown that the outcomes are improved by the policy intervention despite "government failure", i.e., regardless of the shortcomings and failures of governments.[11]

11. However, within this basic framework there is considerable scope for differing focusses, differing assumptions and differing value judgements and thus quite different estimates of the policy relevant magnitudes.

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[8] The standard (neoclassical) framework for government intervention is challenged by the Greenwald-Stiglitz theorem which asserts that imperfect information and incomplete markets are the norm rather than the exception and that markets are not, in general, constrained Pareto efficient. See Greenwald & Stiglitz (1986).

[9] Despite the work of Stiglitz, Sen and other Nobel Prize winning economists in examining the trade-offs between equity and efficiency, there is sometimes reluctance to comment on distributional / equity matters and an offsetting enthusiasm to focus more attentively on efficiency issues. Some problems with this latter approach include:

- first, in the real world of public policy, the principle of hypothetical compensation remains exactly that: hypothetical. As a result, policy makers and interest groups need to know how the net benefits of any proposal are distributed across the community; and
- second, the substantial net benefits offered by many policy proposals may be dismissed or lost if the equity and distributional consequences are not seen to favour a majority of voters.

[10] Crampton *et al* (2011), p. 4. Note that Crampton *et al* (2011) focus narrowly on the objective of economic efficiency alone, while ignoring the challenge posed by imperfect information and incomplete markets, and remaining silent on non-efficiency objectives, such as equity and distribution.

11 For early analyses of the interaction between the rules and processes of democracy and the impact of distributional objectives on welfare outcomes, see Downs, A (1957), Buchanan, JM and Tullock, G (1962) and Kreuger AO (1974).

12. While a main focus of economic debate on alcohol on efficiency grounds is on the definition of relevant externalities/spillovers – since "*the distinction between private costs and spillover costs is not always clear.*"[12] – there is significant evidence of both information failures and rationality issues with alcohol (see Boxes 2 and 3 below).

Box 2: The challenge for fully informed decisions from rapid change in evidence on health benefits and harms from drinking

There is evidence to suggest that the general public is not fully informed of the extent of the range (or the strength of *dose response* relationships) of diseases to which alcohol is causally related. For instance:

- a study of 1,523 Australians found that while the vast majority (between 60 per cent and 90 per cent) thought that alcohol can cause brain damage, liver cirrhosis, mental illness, heart disease and pancreatitis, only half thought that alcohol can cause cancer;[2]
- a poll of 1,009 Australians conducted by Galaxy Research in 2011 found that only 24 per cent of people surveyed knew that alcohol is linked to mouth and throat cancer, and only 11 per cent knew that alcohol is linked to breast cancer;[3] and
- data from the 2010 National Drug Strategy Household Survey suggest that many women are not fully aware of the latest NHMRC Guideline to avoid alcohol consumption during pregnancy. The survey found that 51.1 per cent of Australian women continued to consume alcohol while pregnant, with 2.6 per cent of these women reporting that they consumed either the same or more alcohol than they did before they were pregnant.[4] (There is of course the possibility that they know but choose to ignore. The survey did not ask the question as to whether they were aware.)

In summary, while the general public may be aware that alcohol involves costs beyond the immediate purchase price, they do not understand the magnitude of these costs.

Factors contributing to individuals having less than full information on the harms from alcohol consumption and possible benefits of reductions in consumption include that:

- the evidence on the links between consumption and health harms has changed over time, and continues to change with new research. This is particularly the case with the causal relationships between alcohol and cancer and alcohol and cardiovascular disease. There have also been on-going changes in the recommendations made regarding safe levels of alcohol consumption during pregnancy; and
- health professionals provide advice that is inconsistent with the NHMRC Guidelines. For instance, a study of 659 health professionals who had cared for pregnant women found that only 13 per cent provided advice consistent with the NHMRC Guidelines on alcohol consumption in pregnancy.[5]

Source: Marsden Jacob (2012),
Notes:

1. *Rehm et al (2003).*
2. *Thomsen et al (2011).*
3. *FARE (2011).*
4. *Australian Institute of Health and Welfare (AIHW) (2011).*
5. *Payne et al. (2005).*

12 Australian Treasury, Henry Review (2010).

Box 3: Alcohol and irrational decisions

Consumers may not always be rational or informed. Indeed, alcohol consumption is a learned and habit forming behaviour. Alcohol interferes with the brain development that occurs in late teens, and thus may affect both perceptions and behaviour. Age at first drink is a strong predictor of drinking levels in later life. As dependence develops in severity, choices and behaviour are affected. For a review of relevant evidence see NHMRC (2009), especially Appendix A.

Risk-taking is increased and self control reduced when intoxicated with the result that the invitation to "*have (another) drink*" is more readily accepted after a drink or two than intended when sober or after the event. Indeed, time inconsistent preferences are a widespread feature of alcohol consumption.

There is also evidence of "self-serving optimism" from surveys of health beliefs, i.e., people may agree that there are risks but attribute those risks to others. "Yes, alcohol affects other people's health but I'm okay because …" For examples of the survey evidence, see Weinstein (1982) and Clarke *et al* (2000).

Available studies on Australian costs of alcohol

13. As noted, the policy relevant costs of alcohol in Australia have been estimated to be as low as $3.8 billion to as high as $36 billion per year with a range of studies deriving or using estimates within this range. The most relevant studies include:

- Collins and Lapsley (2008). This is a cost of illness study modified, *inter alia*, to distinguish between public and private costs. The authors estimate that the social costs of alcohol are $15.3 billion in 2004/05 dollars. The usefulness and methodology employed have been subject to substantial criticism by economists including Access Economics, Crampton and Burgess (2009 and 2009a) and Crampton *et al* (2011). Marsden Jacob (2012) reviewed the Access Economics criticisms and assessed them to be largely warranted.[13] The Collins and Lapsley body of work was an important contribution, but needs to be used with care. Those categories of costs where the estimates are based on direct reporting by responsible agencies appear to be the most reliable;
- Laslett *et al* (2010). This study uses survey techniques and other data collection to estimate the costs of harms to others, i.e., persons other than the drinker. Note that the authors caution against adding the separate components of their study to obtain a total cost of harms. If we ignore this advice, the separate costs add to $34.6 billion in 2008 dollars. Analysis of underlying assumptions about dollar values, overlaps and methodologies suggests that the quantified costs of harms to others would total around $22 billion in 2008 dollars. A feature of the Laslett *et al* (2011) estimates is that many of the cost categories related not to direct expenditures but to intangible costs such as the loss of wellbeing or unpaid costs of a friend or family member caring for a drinker. There is some small overlap with the Collins and Lapsley estimates, i.e., the harms to others identified and costed are mainly independent of the Collins and Lapsley estimates and therefore potentially additive.

[13] The attachment to this note contains Appendix B2 of Marsden Jacob (2012) which sets out their assessment of the Access Economics criticisms of Collins and Lapsley (2008) and Laslett et al (2010). This attachment is reproduced with the permission of the Foundation for Alcohol Research and Education.

The Laslett *et al* (2011) study was subject to criticism by Access Economics on behalf of the National Alcohol Beverage Industries Council (NABIC). Marsden Jacob (2012) reviewed these criticisms (and the response by Room, Laslett *et al*) and found them largely unwarranted, or lacking in substance;[14]

- Crampton *et al* (2011) outline the standard (efficiency focussed) neoclassical framework for public policy intervention in markets but then restrict their prime focus to the costs of externalities only. They adopt the most restrictive assumptions/value judgements of all these studies to rework the Collins and Lapsley estimates and thus derive much lower estimates of the policy relevant costs of alcohol consumption. Crampton *et al* (2011) do not comment on the Laslett *et al* (2010) methodology or the resulting estimates.

  The Crampton *et al* (2011) study excludes costs which the authors judge to be 'private' in nature, such as total loss of household production from premature death or sickness. Perhaps most contentious is the exclusion of costs associated with harms occurring within the family. This judgement is obviously contentious because other economists, including the Australian Treasury, list harms occurring within the family as the very first examples of spillover costs.

  > *Spillover costs of alcohol abuse include foetal damage and child abuse, domestic violence, road accidents, crime and violence, increased mortality and a range of diseases and medical conditions.*[15]

  Under the restrictive assumptions and judgements adopted by Crampton *et al* (2011) only some $3.8 billion of the $15.3 billion annual costs estimated by Collins and Lapsley is deemed to be relevant as social costs.

- the unpublished paper by Doran *et al* essentially adds elements of the Laslett estimates to the (indexed) Collins and Lapsley estimates after removal of overlapping estimates. This paper is the basis of the estimate of $36 billion annual cost in 2008 dollars submitted by FARE and other health research bodies. As noted above, Laslett *et al* (2011) cautioned against combining the separate elements in this way; and

- Marsden Jacob (2012) focusses on short-run costs associated with bingeing; seeks to avoid relying on Collins and Lapsley (2008); and, utilises primarily the body of work undertaken by Laslett *et al* (2010) to derive conservative minimum estimates of the relevant costs consistent with the standard framework for public policy interventions in markets. These minimum estimates are then used in the benefit cost analysis of options to tax alcohol rationally. Given the study's focus on costs to third parties, the authors also sought to apply a strict interpretation of 'private' costs, even if this meant erring on the side of conservatism. Although relying primarily on the Laslett *et al* estimates, their minimum estimates of $15.1 billion in 2010 dollars also include some directly reported costs including some reported by Collins and Lapsley. These minimum conservative estimates are based on the assumption that all decisions on alcohol are made by perfectly rational, perfectly informed persons.

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[14] See attachment to this note.

[15] Australian Treasury (Henry Review) (2010) *Australia's future tax system*, Chapter E: Enhancing social and market outcomes.

As demonstrated by the Productivity Commission's analysis of gambling, there are private costs which, in a fully rational world, are matched by benefits but become unmatched where purchase and consumption decisions are irrational.[16] The Marsden Jacob exploration of this issue suggests that (where there are departures from the assumptions of perfectly rational and perfectly informed consumption decisions on alcohol) a substantial further addition to their conservative estimate of $15.1 billion is warranted.[17]

14. As noted, of the five studies, the work led by Eric Crampton, and funded by NABIC, employs the most restrictive assumptions about the treatment of 'private costs' and consequently derives the most conservative estimate of total costs ($3.8 billion).

15. A key requirement / principle of benefit cost analysis and public policy advice is that the analysis is consistent with the situation of the real world and that the value judgements reflect the facts, the physical constraints and the social constraints / preferences of the relevant community. If they do not, then the analysis and its conclusions are likely to be either flawed or invalid.[18] It is therefore pertinent to examine the value judgements and assumptions underpinning the Crampton *et al* (2011) estimates on which many of the industry submissions to the inquiry into a minimum price for alcohol rely.

A point of agreement

16. A point of agreement is that: health harms to the drinkers themselves cannot be dismissed from the public policy debate on efficiency grounds on the basis that they are internal costs. This is so because the ostensibly private costs of harms to drinkers are mainly paid for by others via Australia's tax and welfare systems and via the cross subsidies in Australia's medical and other insurance systems. Health harms to drinkers are therefore not pure private costs, rather they are transformed with clear impacts on resource use efficiency into indirect externalities.[19]

17. Importantly, the subsidies involved mean that drinkers most certainly do not face or consider the full marginal costs of their drinking and associated actions. The size of these subsidies means that it is nonsensical to suggest that drinkers personally face and weigh the real cost of their actions when making their drinking decisions.[20] Rather, there is a problem of moral hazard: the fact that others help pay for the costs encourages drinkers to take higher risk by drinking more.

Thus, as noted by Crampton *et al* (2011)*:*

> *Alcohol consumption does increase when the state defrays consequent health care costs. Klick (2006), for example, finds that state insurance mandates requiring that insurers provide coverage for alcoholism increased state alcoholism rates.*

[16] See Productivity Commission (1999) Australia's Gambling Industries.

[17] See para 45 below.

[18] An alternative perspective is that Crampton *et al* (2011) take a strongly paternalistic stance by implying that considered judgments of the Australian community are wrong and ought to be replaced with a set of judgments more consistent with a smaller role for government.

[19] The other side of it is that if it causes older less productive but more illness prone people to die earlier and before they add to the drain on the tax purse then it's a saving.

[20] Even ignoring the issue of self-serving optimism. See Box 3 and references cited.

18. For society as a whole, these subsidies are not simply monetary transfers netting to zero, and of no efficiency consequence. Moreover, for governments and for non drinkers and moderate drinkers these payments impose real opportunity costs through the budget constraints and through the deadweight efficiency losses from higher taxation, including income taxation. Thus, after reviewing the issues, Crampton *et al* (2011) count:

> *... transfer costs imposed through the health system as an external cost of alcohol use.*

19. The Australian Treasury (Henry Review (2010)) recognises the same point:

> *These* [spillover] *costs can arise directly (for example, in the form of costs on victims of alcohol-related violence) and indirectly (for example, in the form of the cost to the community of additional demand on a publicly-funded health care system).*

20. The application of this insight on the relevance of indirect externalities by Crampton *et al* (2011) is, however, piecemeal since they apply it to healthcare costs only. But as recognised by the Treasury (and by Heien and Pittman (1993)[21] who Crampton *et al* (2011) otherwise follow very closely) healthcare costs are simply an (obvious) example. The point is general and applies, for example, to loss of life and premature death. The indirect externalities in this case arise from Australia's systems of welfare, family support and taxation may be intergenerational: tax revenue lost; family support payments may be activated or increased but children may still have their education, and therefore income streams, truncated. Tax rates and deadweight tax burden would be higher than otherwise or the opportunity cost may be foregone expenditure, e.g., on other social services. At the margin, even if we were to follow Crampton *et al* (2011) in initially classifying the overwhelming proportion of loss of life as a purely private cost, the resulting indirect externalities associated are large.[22]

Contentious facts and value judgements

21. Value judgements which appear *prima facie* to be extreme when compared with relevant facts and with the values of Australian society, particularly the considered judgements reflected in legislation from Commonwealth and State parliaments, include:

- that families make the decision on how much individuals drink;
- that there is no case for public intervention to protect against adverse outcomes where the injured party is in some form of contractual relationship with the perpetrator;
- judgements on irrationality;
- that labour costs are purely frictional;
- the inclusion of criminal gains as benefits in public policy analysis; and
- that substantial health benefits are lost if alcohol consumption is reduced.

[21] Heien, D. M. and Pittman, D. J. (1993) "The External Costs of Alcohol Abuse", Journal of Studies on Alcohol, Vol. 54 (May), pp. 302–7.

[22] The cost of private harms paid for by others is perhaps a missing category in the Australian public policy debate on alcohol. The potential to reduce these indirect externalities is a major source of potential benefit.

Families make the decision on how much individuals drink.

22. It is well recognised that the different decisions can result from different decision units: individuals, families as a unit, local communities, states, provinces and national governments. It is also well accepted that the broader the decision making unit, the bigger the opportunity to internalise externalities.

> *For example, if a family utility and decision making model is used, alcohol-related violence against family members and the loss of family disposable income are private costs; but, if an individual utility and decision making model is used, costs borne by other family members are spillovers. (Australia's Future Tax System, Vol 2., p.435)*

23. A key issue for evaluating options on alcohol policy is therefore what is the relevant decision unit – the individual, the family or some other aggregate? Crampton *et al* (2011) choose to assume that the decision agent is the family, not the individual, but provide no evidence in support.[23,24]

24. Recognising that some activities are declared by society to be illegal, Crampton *et al* (2011) treat only illegal activities occurring within the family as external costs.[25] Conversely "*the costs and benefits of legal activities occurring within families ... [are] counted as internalised by that family.*" However, this value judgement that family is the decision unit accords neither with the facts, nor with the judgements of Australians and most western societies.

25. As noted below, in the absence of evidence, Crampton et al (2011) seek to argue from first principles. However, the authors ignore the incomplete nature of both the marriage contract and other less formal contracts between family members and implicitly assume that these contracts can always be re-negotiated at low transaction costs with welfare-improving outcomes. This is unlikely in reality.

26. In practice, family members affected by the harmful consumption of others adopt different coping strategies and these have quite different implications for which potential decision unit is relevant. Of the three main strategies identified by Orford *et al* (1998), only one, engagement, seeks to modify the preferences of the drinker.

27. The other main strategies, toleration and withdrawal, do not. Certainly, when engaging, family members can express views which may influence the drinking of individual family members, but this influence appears to be limited when compared with other factors. The stronger correlates of drinking levels and patterns, and harms are: prices, the physical availability of retail sites and of licensed venues and opening hours.[26]

28. Crampton *et al* (2011) also ignore the special position of children in the family:

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[23] A relevant and large body of work on interaction between the drinker and the family has been associated with Velleman.

[24] Heien and Pittman (1993) also simply assert that "*the primary decision making unit in our society* [is] *the family*."

[25] Note the inconsistency here: Crampton et al (2011) treat illegal activities occurring in the family as a spillover / externality but these same authors treat theft and other crimes as transfers, i.e., a loss to the person robbed offset by a gain to the robber. The former treatment is correct since the relevant social constraint is that criminals are not entitled to gain from criminal activity.

[26] See Babor et al (2003) and Liang, W and Chikritzhs, T (2011).

- first, society sees a moral imperative on parents and more broadly adults to safeguard the interests of children and minors. This imperative is codified most obviously in Australian legislation on family law which asserts that the rights of children are paramount; and
- second, the children in a family do not participate/share in or endorse the decision of a parent to drink to risky levels: neither the child born with foetal alcohol syndrome, nor the toddler whose sleep and behaviour has been disturbed.

29. It is also strangely inconsistent to assume both that not only are children part of the decision making process but that the decision making process is somehow fully rational, perfectly informed and optimal in any sense. Note that the Productivity Commission Staff Working Paper on childhood obesity has affirmed the need to acknowledge that children are not fully informed and do not play an equal role in family consumption decisions.[27]

30. Moreover, there is a problem with the counter-factual: if the wider family really were involved in decisions on the consumption of individual family members and could sanction departures from the group decision, then it seems unlikely that the same decisions would be reached. For example, consider the impacts of introducing an external and well-informed guardian to act on behalf of the children in the annual family conference on how much one or both of the parents may drink in the coming year. … Amongst well informed, consenting adults in a balanced relationship, the notion of family decision making may have some credence, but certainly not where children are involved.

31. Finally, there can be substantial intergenerational impacts from drinking in a family. Children's education may be affected so they fail to accumulate the human capital they would otherwise have done. If so, these children face a higher probability of lowered income streams, lowered workforce participation and poorer health outcomes. Thus, there may be additional burden on others through the tax, welfare and health systems for at least a generation. For how many generations does the suggested family decision unit and the attendant denial of intra-family externalities extend?

32. Thus the evidence does not support the assumption of Crampton *et al* that the family is the decision unit, especially on alcohol. Rather, as the Henry Review listing indicates harms within the family are prime examples of (policy relevant) spillovers / externalities from alcohol.

33. In summary, the value judgement of Crampton *et al* (2011) that there are no intra-family externalities relevant to public policy, save for illegal activities, is not supported by evidence. Importantly, it is inconsistent with the considered judgements of Australian society – as evidenced by Commonwealth legislation on family law, and by State and Commonwealth legislation on child protection and legislation on admissible evidence. The results of this extreme and restrictive value judgement are the mismeasurement and under-statement of

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[27] See Crowle and Turner (2010) *Childhood obesity: An economic perspective*, Productivity Commission Staff Working Paper, Melbourne

> "*In the context of childhood obesity, decision making about eating and exercise is to a large extent made by adults on behalf of children*" [p. 12]
>
> "*Children are usually neither well-informed, nor always free to make their own decisions …*
>
> *… When parents make decisions on behalf of children, a special case of the principal-agent problem applies, where the interests of the parent may not align with those of the child.*" [p. 18]

relevant costs from alcohol and an invalid estimate for the purposes of benefit cost analysis and judgements on public policy on alcohol;

There is no case for public intervention to protect against adverse outcomes where the injured party is in some form of contractual relationship with the perpetrator.

34. Within the frame of welfare economics, the conditions required for this proposition to hold include:

- drinking decisions are fully rational and perfectly informed;
- there are no indirect externalities through the tax and welfare systems and that personal, motor vehicle and other insurance premiums are not community rated; and
- individuals are indifferent, i.e., place no value, on whether another person lives or dies.

35. In advancing the case for this value judgement, Crampton *et al* (2011) appeal not to evidence but to first principles, specifically, albeit in very general terms, to the work of Ronald Coase.[28]

"Coasean considerations lean heavily towards treating the family as a single unit …"

and

"intrafamily effects should generally be seen as having been internalised"

36. However, contracts (particularly within a family) are never complete; information and knowledge are grossly imperfect compared with the special Coasean ideals; and, there are often substantial transaction costs and strategic gaming[29] in varying or amending the contracts. Under these conditions the Coase theorem does not hold. Moreover, even where the ideals of the core assumptions underpinning the Coase Theorem might be met, Hahnel and Sheeran (2009) suggest that Coasean bargaining is unlikely to produce desirable results. The stance taken by Crampton *et al* (2011) is that if there is no missing market then there is no issue of public interest. However, market imperfections and failures are not dependent on the complete absence of a market. Rather they depend on how well the market works – a more subtle question.

37. As discussed above, the proposition (that a contractual relationship precludes externalities) does not accord with the judgements of Australians relating to the position of children in a family situation. Nor does it accord with the judgement of Australians in the several areas where either statute legislation or the Common Law deems one of the contracting parties to have a duty of care to the other parties. Relevant areas include the areas of occupational health and safety, third party motor vehicle insurance and road safety.

38. A further, but different point, is that (whether due to outright paternalism, or the correction of demonstrated irrational or uninformed decision making) Australian society has not accepted the equivalent argument that passengers getting into a vehicle where the driver may be intoxicated do so in full and perfect knowledge of the actual levels of driver intoxication, driver skill, potential road hazards or the safety features of the car. For similar reasons, Australian society has also rejected corollary (simplistic) views such as:

[28] Coase, R (1960)

[29] Cheung, NS (1969)

> *Where loss of life or accident cost is borne by the drinker, the cost is viewed as internal and not relevant to policy making.*[30] [31]

39. Indeed, all Australian governments have seen strong and valid cases for public intervention in the form of compulsory seat belts, mandatory breath testing for maximum blood alcohol levels and for minimum safety standards in motor vehicles. Hence this value judgment is incompatible with the value judgments that governments across Australia have made historically or are currently making.

40. The effect of Crampton *et al*'s value judgment / assumption is to reduce sharply the magnitude of externalities since most instances of loss of life, for example, become no longer an externality. Thus, for example, by assumption the policy relevant costs of loss of life due to alcohol fall from a hefty $4.5 billion to a mere $0.2 billion per year. This is the largest single reduction of the Collins and Lapsley estimates.

41. In summary, the blanket nature of this value judgement highlights the need to make explicit all value judgments underpinning benefit cost analyses and public policy advice. This particular value judgement made by Crampton *et al* (2011) fail to recognise community preferences and leads to an under-estimate of the relevant costs

Judgements on irrationality

42. As Crampton *et al* (2011) note

> *That imperfections in consumer behaviour exist and are of interest and relevance to policy setting is not in question …. imperfections in rationality, information, and the existence of externalities and internalities may be incorporated into the welfare analysis of consumer purchasing and consumption of alcohol.*[32]

43. In conducting benefit cost analyses, researchers apply a range of views and value judgements about consumers and their rationality or irrationality. These can be briefly distinguished across the spectrum into four categories ranging from strongly paternalistic to strongly libertarian as follows:

- alcohol is a drug and confers no benefits in terms of consumer satisfaction. Thus, the loss of consumer satisfaction does not need to be taken into account. Alcohol imposes costs that are unmatched by any benefits. This approach has been taken in the past by many alcohol researchers, including Collins and Lapsley;
- in terms of consumer satisfaction, moderate drinkers gain benefits from all their consumption, but heavy drinkers gain only the same (gross) benefit as do moderate drinkers.[33] Therefore, not only can the incremental consumer satisfaction benefits of heavier and risky drinking be set aside, but costs previously matched by benefits become unmatched and must be brought to account. This is the alcohol counterpart of the Productivity Commission's analysis of gambling in Australia. This framework is applied by Marsden

[30] From National Alcohol Beverage Industries Council (NABIC) media release of 13 July 2011. Canberra.

[31] On earlier exposition of these views, see Heien, D and Pittman, D (1993).

[32] Crampton et al (2011), p. 9

[33] That is consumption above moderate levels do not provide consumer satisfaction.

Jacob (2012) in its exploration of the impact of irrational behaviour on the assessment of the benefits and costs of taxing alcohol rationally;

- drinking beyond moderate and non-risky levels may still confer some genuine satisfaction and willingness-to-pay surveys can be used to distinguish between benefit and dis-benefit. This approach has been applied by Weimer *et al* (2009) in the case of tobacco; and
- drinking is a matter of individual choice, preferences are sovereign and the cost of harms are mainly internalised to the individual and only the small costs to wider society are relevant. This approach is consistent with Barker (2002) and Crampton and Burgess (2009).

44. While acknowledging the policy relevance of the (net) production costs of abusive consumption, Crampton *et al* (2011) in fact set their estimate of these costs to zero resulting in a 100% reduction of the Collins and Lapsley estimate. In their critique of Collins and Lapsley, they conclude that

> *… In the absence of detailed work …, the best approach is to consider this an internal rather than an external cost of alcohol consumption, and therefore policy irrelevant.*[34]

45. Thus, Crampton *et al* (2011) adopt the equivalent of the libertarian view. However, applying published data, to the same methodology and moderate assumptions that the Productivity Commission applied to gambling, yields estimates of the net cost of abusive alcohol consumption of essentially the same magnitude as the Collins and Lapsley estimate.

46. Against relevant benchmarks, the Crampton *et al* (2011) approach is extreme and leads to severe underestimates of the net production cost of abusive alcohol consumption.

Labour costs are purely frictional

47. That alcohol affects performance in the workplace is not contested. The issue is the extent to which these costs are internalised to the worker or impact on the business. To estimate the latter, several methodologies are available with the choice depending on judgements on how easily and immediately, the business is unaffected. Crampton *et al* (2011, p. 26) quote the caution expressed in the WHO *Best Practice* guidelines:

> *By the late 1990s, it was becoming clear that the human capital method was based on a highly dubious assumption: that a society is characterized by full employment, such that people who die are absolutely irreplaceable in the labour market (Koopmanschap, 1998; Maynard, Godfrey & Hardman, 1994). This assumption is a clear overstatement as it is more likely that some of the working people who die prematurely are replaced by people who otherwise would have been unemployed. If we go so far as to assume that everyone in the workforce who died prematurely would be replaced, then the only cost is the friction cost of replacing workers, which primarily consists of the time it takes to recruit a new worker (Koopmanschap et al., 1995). Several studies have compared the human capital and friction cost methods, finding that the friction cost is often just 1–3% of the*

[34] Crampton et al (2011) p.22

> *human capital estimate (Danish Ministry of Health, 1999; Rehm et al, 2006) and thereby demonstrating just how important such assumptions are.*[35]

48. Crampton *et al* (2011) go on to note that the friction cost method clearly remains a fraction rather than a multiple of forgone wages and that the guideline authors recommend some measure between frictional costs and forgone wages. In their reworking of the Collins and Lapsley estimates, they assume that the (friction) costs are 10% of wages foregone.

49. This approach may appear to be appropriate for the major OECD economies in the northern hemisphere which have experienced record unemployment in the past decade. However, Australia has enjoyed record low levels of unemployment over the past decade in particular. Significant pay differences have emerged between the Western Australian mining sector and the remainder of the national economy in order to attract the labour and skills required. As with London's financial sector, the persistence of these differentials indicates that it is indeed hard to fill vacancies from labour located elsewhere in the domestic economy. In recognition of the particular characteristics of the Australian economy, Access Economics correctly advise against the use of the friction cost method in Australia

> *In our extensive global cost of illness work summarised in Section 1, Access Economics uses Australian data on employment and wage rates by age and gender to estimate productivity losses using a human capital approach and recommends this approach in cost of illness analysis in developed countries (the frictional approach is more appropriate in developing countries where unemployment rates are higher).*[36]

50. In summary, the Crampton *et al* (2011) estimates on the cost to business of alcohol caused productivity reduction, absenteeism and terminations do not correspond to the situation of the Australian market. As a result, Crampton *et al* (2011) underestimate this element of the costs of alcohol to Australian society.

A generally contentious issue

51. A generally contentious issue among economists is the **inclusion of criminal gains as benefits in public policy analysis**. The more common view on this issue is summarised by Crampton *et al* (2011, p. 12): "*Transfers such as .... theft are generally (and correctly) excluded from measures of social cost since they reflect a shift in resources rather than a net cost to society.*" The corollary of this judgement is that criminal gains are a benefit to society, i.e., the criminal act is a valid benefit albeit offset by a loss to another member of society. [37]

52. This common economic approach to crime is dominated by the thinking and models initiated by Becker (1968). Crime is correctly recognised as an economic activity, but the approach of Becker and subsequent authors is then extended erroneously to treat this economic activity normatively as one which generates welfare. Thus, society's welfare is not diminished by crime as such. This view admits that crime may involve adverse externalities but these are rarely costed for inclusion in benefit cost analyses. Thus, under this view the only detriment to the

[35] Crampton *et al* (2011) do not quote the next paragraph in the WHO Guidelines which criticises the friction cost approach.

[36] Access Economics (2008), p. 5

[37] This proposition is, of course, counter to the laws of all Australian parliaments, Western and other parliaments and of most world religions.

welfare of society as a whole is the efficiency loss from the cost of fighting crime and running the criminal justice system. This approach is followed in most benefit cost studies and was also followed in the cost of illness estimates for drugs and alcohol prepared by Collins and Lapsley (2008) for the Commonwealth Department of Health and Ageing

53. This conventional approach seems seriously flawed, however. As noted by Trumbull (1986):

> *This approach clearly treats all laws as tolerant institutions. That is, crimes are seen as productive activities that generate negative externalities. The role of criminal justice, according to this view, is to establish a vector of prices, in the form of detection and punishment, that balances the marginal social benefits of reducing criminal activity and the marginal social costs (which include lost private gains from criminal activity).*
>
> *But the criminal laws are absolute, not tolerant, institutions. [By] treating absolute institutions as tolerant institutions, the usual economic models of criminal justice are mis specified. Missing from these models is the realisation that society has a purpose when it labels certain acts criminal; the label communicates that these acts will not be tolerated or counted in the social weal. This is probably the distinction that Stigler … has in mind when he asks for evidence that society values criminal gains, noting that "society has branded the utility derived from such activity as illicit." And something of this sort must be behind the thinking of Brennan and Buchanan when they complain of economists who treat criminal justice in the same way they would treat consumption of soft drinks.*[38]
>
> *Thus, the usual treatment of criminal gains in cost benefit analysis and in cost of illness studies, in which theft is accounted for as a transfer; and a reduction in rape comes at a social loss (as well as a gain) because rapists are denied opportunities to rape, is not consistent with existing social constraints.*
>
> *Criminal gains should not have standing in cost benefit analysis.*

As Whittington and MacRae note, this conclusion comes not from a sense of moral outrage, often enough expressed by critics, but from the purely technical point that a BCA must be consistent with both the physical and social constraints that define the environment within which the project's or policy's effects will occur.

As noted by Zerbe (1991), the conclusion to exclude criminal gains as benefits in an analysis of the benefits and costs to society "*rests – and can only rest – on a pattern of rights in which it is settled that the thief has no right to illicit gains. Society and the legal system are clear about the absence of the right for illegal gains.*" In contrast, many economists are not.

54. In summary, if Australian society does not value the welfare benefits criminals get from their consumption of ill-gotten gains, then we should not include these benefits in the BCA.

A genuinely contentious issue

55. Early evidence suggested that there are health benefits from very low levels of consumption and that these may be significant, particularly in the case of ischemic heart disease (IHD). Thus, the

[38] Brennan *pers. comm.* (2012) elaborates: Suppose crime is considered like buying something at the Coke machine. You can get your can of coke if you just put in the (expected) cost. Punishment is just the cost to the punishee of enduring it. And if the expected benefit to the perpetrator exceeds the expected loss to the victim by more than the expected cost of punishment then the crime ought to proceed.

assumption is **substantial health benefits are lost if alcohol consumption is reduced**. More recent meta-analyses and individual analyses suggest that these benefits may be overstated; and that other health costs increase at similar levels, e.g., IHD may decrease but cancer risk may increase. Thus, the beneficial results of light consumption may be more than fully offset by the negative impacts on health (see Box 4).

56. In terms of economic analysis to inform the public interest, it might be argued simply that BCA should not be inconsistent with official guidelines. But the real point is not to dismiss the hypothesis but to apply the evidence to the claim. As the health benefits apply only to very low levels of consumption, then relevant questions are a) are these benefits real; b) how would they be affected by a change in levels of minimum price / tax / other policy settings; c) if in fact the policy change lowers consumption overall, do more people fall into the low level of drinking that is beneficial than those moving out of this level to zero? This is also a more subtle empirical question than suggested by Crampton *et al* (2011).

Box 4: Health benefits from light to moderate alcohol consumption?

The hypothesis that low levels of alcohol consumption protects against the incidence of coronary heart disease is supported by a substantial literature. As a result, moderate alcohol use is widely recommended by health professionals in some countries such as the United States but not widely done in Australia. However, the validity of the protective hypothesis has been challenged by a recent meta-analysis (Fillmore *et al* 2006) which examines the hypothesis that the findings in support of a protective effect is due to systematic errors arising from the mis-classification of former drinkers and occasional drinkers as abstainers. The relevance of these errors arises from the observation that:

- alcohol declines with advancing ages in nearly all societies;
- as people age with declining health, alcohol consumption slowly decreases;
- many abstainers are former drinkers who now abstain due to health problems; and
- there is chronic under-reporting of alcohol consumption levels in self-report surveys in nearly all societies. For instance, in Australia self-reported alcohol consumption is only around 60% of volume actually sold. The analysis suggests that when the classification errors are removed, the protective effect is removed, or is no longer significant. Conversely, when the classification errors are introduced into 'error free' studies, a protective effect is created.

The resulting debate, commentaries and rejoinders (see Fillmore *et al* 2007) illustrates:

- the extreme difficulties of being confident that any epidemiological study is truly bias free; and
- the multiple sources of uncertainty now identified in what was previously seen as 'a solid result'.

It may be hard to disagree with the view that:

> *Is there a protective effect of alcohol against the incidence of* [coronary heart disease] *(or any other illness for that matter)? A careful reading of the contribution of the scientists commenting on ….* [this issue] *…. should result in the conclusion that we simply do not know – certainly not well enough to recommend regular alcohol intake for health reasons.*

WHO (2007),[39] having reviewed the available evidence, reached essentially the same conclusion:

> *… from both the public health and clinical viewpoints, there is no merit in promoting alcohol consumption as a preventive strategy.*

The NHMRC (2009) guidelines are similarly doubting. Having noted the divergence in the research, and the basis of the challenge to the conventional wisdom, the NHMRC notes that:

> *It appears that most of any beneficial effect can be gained at a low level of drinking, for instance a drink every second day (Di Castelnuovo et al 2006; WHO 2007) – well below the level of any likely low-risk drinking guideline*.[40]

Further, more recent analysis of the effects of alcohol consumption on cancers suggests that the risks may be higher than previously understood. For a recent analysis, see Nelson *et al* (2013)

Source: Expanded and updated from Marsden Jacob (2009), Appendix to report by New Zealand Law Commission.

Materiality of policy relevant costs?

57. In terms of scope, the categories of costs included in the five studies vary substantially:

    - Collins & Lapsley (2008) and Crampton *et al* (2011) explore the costs of

[39] World Health Organisation (2007) *Prevention of Cardiovascular Disease. Guidelines for assessment and management of cardiovascular risk, pp.37-38.*

[40] Australian Government, National Health and Medical Research Council (2009), *Australian Guidelines To Reduce Health Risks from Drinking alcohol*, p.128.

- loss of life;
- labour costs;
- road accidents;
- health care;[41]
- spending on alcohol; and
- crime

Replacement of the set of extreme value judgements of Crampton *et al* (2011) with a more realistic and appropriate set would result in a significant upscaling of their suggested $3.8 billion – the resulting estimate would clearly be higher.[42]

Laslett *et al* (2008) focus on "harms to others" (which are largely separate categories from Collins & Lapsley (2008) and Crampton *et al* (2011)), including the costs of caring for drinkers and the loss of wellbeing to family and friends, and many direct costs. As noted, the cost categories evaluated by Laslett *et al* (2008) are mainly independent of Collins & Lapsley (2008).

The many costs of harms to others as estimated by Laslett *et al* (2010) which added to more than $36 billion but conservatively assessed by Marsden Jacob (2012) at around $15 billion a year; and

- Marsden Jacob (2012) and Doran *et al* take opposite approaches: Doran *et al* essentially add separate estimates from Collins & Lapsley (2008) and Laslett *et al* (2008); in contrast Marsden Jacob (2012) focus on costs associated with bingeing, i.e., short-term risky drinking and seek to derive a minimum conservative estimate based on Laslett *et al* (2011) and directly collected components, in part from Collins & Lapsley (2008).

58. On balance, the policy relevant costs of harmful alcohol consumption to Australian society appear to be broad in scope, substantial in magnitude and material to public interest. Taken as a whole, the policy relevant costs of harmful alcohol consumption in Australia appear to be conservatively well in excess of $15 billion a year, i.e., definitely material and consistent with the social constraints / preferences of Australian society. A full reconciliation and evaluation of total costs is beyond the scope of this note.

59. But the focus on the magnitude of total costs is misplaced:

- first, because many categories of costs are inherently difficult to quantify. As a result, the zealous pursuit of comprehensive estimates can lead to doubts, albeit false, on the reliability of some costs.

[41] The costs to drinkers' health paid by others (neither Laslett *et al* (2008) nor Marsden Jacob (2012) attempt to quantify this source of costs).

[42] For example, since alcohol can be habit forming some portion of consumption can be deemed to be irrational or ill-informed. If we consider only the very heaviest drinkers[42] (say, the 'top' 4 or 5% of Australian drinkers who report consuming around one-third of total consumption) and only that consumption in excess of guidelines, this derives conservative, reasonably defendable estimates of consumption at irrational levels. This allows quantification of costs largely unmatched by benefits which are therefore additional policy relevant costs.

- second, it directs attention away from the potential benefits of suggested policy initiatives and can lead to erroneous conclusions. For instance, Marsden Jacob (2012) find that moderate consumers would pay higher costs if alcohol taxes were increased. However, the bulk of benefits also flow to moderate drinkers and thus after including benefits, moderate drinkers would be the largest net beneficiaries; and
- third, because the focus on costs tends to suggest that the only benefits are those resulting from the reduction in, often narrowly conceived, measured costs. For example, consistent with the Henry Tax Review, both Crowle and Turner (2010)[43] and Marsden Jacob (2012) identify potentially large (additional) benefits from public health initiatives which also reduce the deadweight burden of the Australian tax system; and
- fourth, rather than totals, the incremental costs and benefits of policy proposals are the necessary focus for public interest decisions and thus incremental costs and benefits should be examined, and examined jointly.

Summary

60. This review confirms the need to treat with caution the cost estimates put forward by Crampton *et al* (2011) because the underpinning assumptions / value judgements are not supported by evidence or do not reflect the social constraints / considered preferences of Australian society. Equally, this review and other critiques confirm the need to treat Collins and Lapsley (2008) cost estimates with similar caution. But the current difficulties in precise quantification should not obscure the conclusion that the costs of alcohol to the Australian economy and community are material and policy relevant.

61. In summary, when analyses of costs are being conducted, the detail and, in particular, the value judgements and assumptions used by the analysts are crucial. In economic analyses of benefits and costs in particular, some assumptions cannot be defended (for example the inclusion of criminal gains as benefits, the pretence that children participate in decisions about their parents' drinking or perhaps the assumption that loss of life of the drinker are not relevant to policy making). Such assumptions need to be made explicit in order for others to assess whether they are inconsistent with either societal norms and/or governments expressed values or actions.

62. Where value judgements and assumptions proffered are inconsistent with the facts or constraints / preferences of society, the analysis may be regarded as interesting, but it should be rejected as a guide to public policy advice and decisions.

[43] See Crowle and Turner (2010) Box 2.2

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Attachment Relevance and quality of Australian estimates of the costs of alcohol

Att.1 Australian estimates of the cost of alcohol

Estimates of the costs of alcohol include both what may be labelled as tangible costs (e.g., costs to the health system, lost output) and intangible costs associated with loss of life (using a value of a statistical life year). There are two sources of the costs of alcohol that are relevant to this review:

- Collins and Lapsley's 2008 estimate of the costs of alcohol-related harm in 2004/05 of **$15 billion**; and
- the Laslett *et al* (2010) estimate of the costs of alcohol-related harms to others of over **$20 billion**.

For the purposes of this analysis we have taken a very conservative approach to the inclusion of costs of harms. One key effect of this approach is that our estimates represent the **lower bound for the effect of changes to alcohol taxation** not the expected or average. Therefore to the extent that harms currently excluded should be accounted for, the benefits of measures will be higher – in some cases, an order of magnitude higher.

Estimates of the costs of alcohol include both what may be labelled as tangible costs (e.g. costs to the health system, lost output) and intangible costs associated with loss of life (using a value of a statistical life year). There are three costs of alcohol estimates that are relevant to this review:

- Collins and Lapsley's 2008 estimate of the costs of alcohol-related harm in 2004/05 of **$15 billion**;
- the Laslett *et al* (2010) estimate of the costs of alcohol-related harms to others of over **$20 billion**; and
- the combined Collins and Lapsley and Laslett *et al* costs of around **$36 billion** used by the AER Foundation in media releases and explained by Doran *et al*. (2010).

Table Att.1: Estimated total costs of alcohol in Australia; 2008

Cost item	Tangible	Intangible	Total
	$ million	$ million	$ million
Collins and Lapsley, 2008			
Labour (i.e. lost productivity) costs	3,975	–	3,975
Healthcare costs	2,221	–	2,221
Road accident costs	2,474	397	2,871
Crime not elsewhere included	1,600	–	1,600
Resources used in abusive consumption	1,897	–	1,897
Loss of life	-	4,646	4,646
C&L sub-total	**12,167**	**5,043**	**17,210**
Laslett *et al*., 2010			
Child protection system	672	–	-
Effects on household/family member or friend with most effect	9,424	7,364	16,788
Property damage by stranger's drinking	1,133	–	1,133
Counselling, advice, treatment expenses	110	–	110
Laslett sub-total	**11,339**	**7,364**	**18,703**
Total	**23,506**	**12,407**	**35,913**

Source: Doran et al., 2010, p. 19.

The Doran *et al* (2010) estimates include adjustments for double-counting, but it remains subject to the critiques of Collins and Lapsley (2008) and Laslett *et al* (2010) made by Access Economics (2008, 2010).

Att.2 Assessment of Collins and Lapsley

The Access Economics criticisms of Collins and Lapsley (2008) and Marsden Jacob's views are presented in Table Att.2.[44] The key and general criticism of the cost of illness studies is that they address the wrong question and measure the societal costs incurred in a current year due to current and past drinking. This distinction is (between this backward looking approach and a forward looking approach used for policy evaluation) is a particularly relevant issue for health costs (arising from cancer, cirrhosis and so on) since these diseases – or their increased incidence – are primarily

[44] There are more extreme critiques of the social cost studies than Access (2008, 2010), particularly Crampton and Burgess (2009), who critiqued a study by BERL (2009), which essentially replicated Collins and Lapsley (2008) for New Zealand. These critiques argue that any harms to individuals themselves should not be included because individuals rationally choose to incur the harms associated with their alcohol consumption. For example, Crampton et al (2011) estimates cited by the National Alcohol Beverage Industries Council (NABIC) would reduce the Collins and Lapsley (2008) estimate of $4.1 billion due to loss of life to $0.2 billion.

driven by long-term levels of drinking. It is not an issue for costs driven by short-term episodic drinking or other drinking in the current year.

Broadly, we consider that some of the substantive criticisms of Collins and Lapsley (2008) are warranted, particularly the use of the so-called demographic approach. This approach is related to the following definition of the economic costs of drug abuse (including alcohol abuse) in Collins and Lapsley (2008, p. 3).

The value of the net resources which in a given year are unavailable to the community for consumption or investment purposes as a result of the effects of past and present drug abuse, plus the intangible costs imposed by this abuse.

This demographic approach does not provide suitable cost estimates for policy analysis because bygones are bygones, and what is relevant for policy is drinking today and whether changes in levels of current alcohol consumption can affect current and future costs. Given higher per capita rates of alcohol consumption in the 1970s and 1980s than today, it possible the cost estimates in Collins and Lapsley (2008) overstate the levels of long-term harms arising from current drinking. Of course, this may not be the case if current patterns of consumption, involving more bingeing, are more harmful than historical patterns.

In any case, quantifying the magnitude of over-statement of costs driven by long-term consumption levels would require a re-running of the Collins and Lapsley (2008) analysis using a forward looking approach.

Other criticisms of Collins and Lapsley (2008) are less substantive and in some cases, responding to Access Economics's criticisms would increase the estimate of the cost item (e.g., criticisms around value of life and pain and suffering).

Table Att.2: Access Economics criticisms of Collins and Lapsley (2008)

Access Economics criticisms	MJA comments
1. Demographic approach is backward looking (over last 40 years) and over-states cost of current alcohol consumption.	Access Economics is correct that a forward-looking approach should have been adopted. Hence, Collins and Lapsley's estimates are likely to be over-stated but the extent of the over-statement would require a re-running of the Collins and Lapsley exercise using a forward looking approach.
2. Undocumented estimate of 30 per cent of consumption as abusive.	While the parameter is undocumented it is plausible, especially considering the estimated proportion of consumption in excess of NHMRC Guidelines (e.g. Stockwell *et al*., 2002)
3. Collins and Lapsley include a "very weak discussion" of the issues involved in valuation of life.	Access Economics' approach would tend to increase Collins and Lapsley's estimates relating to the valuation of life as Access (2008, p. 10) notes the value of a statistical life year used by Collins and Lapsley is "extremely low".

4. Pain and suffering costs are attributable to more than just road accidents.	Again, adopting Access Economics' approach would tend to increases Collins and Lapsley's costs estimates.
5. Attributable fractions are assumed unchanged historically between 1947 and 2005.	Attributable fractions from Begg *et al*. (2007) could be used instead, as noted by Access (2008, p. 16).
6. There is a risk of over-estimation of crime costs because it is not possible to determine "true" attributable fractions, as acknowledged in Appendix B of Collins and Lapsley (2008).	As Access Economics (2007, p. 17) notes, this is one of the smaller cost items. Hence, any over-estimation should not substantially affect the broad order-of-magnitude of the cost estimates. Nonetheless, there needs to be downside sensitivity analysis.
7. In estimating health system costs, Collins and Lapsley combined partial and incomplete data sources rather than using superior AIHW data.	The AIHW data would lead to more reliable estimates, however whether there is any bias in Collins and Lapsley's estimates (and the direction of any bias) is unclear.
8. Productivity losses are upward biased due to a range of issues including old (1990) data and high estimates of absenteeism due to alcohol, and the use of the demographic approach. Collins and Lapsley's estimates cannot be replicated, as there is insufficient explanation of data sources.	There are grounds for caution regarding this large cost item (around $4 billion) and hence it should be subject to significant downward sensitivity testing. New work is required to quantify transparently this source of costs
9. Road accidents costs estimates are not based on the most recent data.	It is unclear whether using the most recent data would change the broad magnitude of the estimate.
10. Resources used in abusive consumption should not be counted.	No where consumption decisions are irrational or not fully informed, there are costs unmatched by benefits and these should be counted.

Source: Marsden Jacob, 2011, based on Access Economics (2008) and Collins and Lapsley (2008).

Att.3 Assessment of Laslett *et al*

The Access Economics criticisms of Laslett *et al* (2010) and Marsden Jacob's views are presented in Table Att.3. The criticisms made by Access against Laslett *et al*. (2010) were largely contested by the authors, and hence the estimates may be considered more robust than those in Collins and Lapsley (2008) (Table Att.2). Broadly, Marsden Jacob considers that Room *et al*. (2011) have responded effectively to Access's criticisms. Nonetheless, there a couple of contentious items that

are open to debate. Hence to be conservative, Marsden Jacob recommends that a range of cost estimates be used in sensitivity analysis.

Table Att.3: Access Economics criticisms of Laslett *et al*. (2010)

Access Economics criticisms	Laslett *et al*. response (Room *et al*., 2010)	MJA comments
1. Over-estimation of magnitude and impact of alcohol's harm to others due to survey-related biases, including: non-response bias; proxy interviewing; ordering bias; and recall bias.	Response rate similar to other current population phone surveys. Re. proxy interviewing, estimating harms to others necessarily involves asking people about effects of someone else's drinking. Ordering bias criticism ignores the fact most serious outcomes not always presented first. Finally, any recall bias would tend to under-estimate harms to others.	Laslett *et al*. (2010) have provided a strong rebuttal of Access Economics' criticisms.
2. Over-estimation of attributable fractions due to not controlling for other risk factors.	Access Economics is at odds with international public health research literature. Access's proposed approach does not deal properly with conditional causation.	Laslett *et al*. (2010) is consistent with the leading Australian public health approach to estimating attributable fractions in Begg *et al*. (2007).
3. Incorrect methods used to estimate the costs associated with impact of others' drinking, including reliance on NHMRC cut offs for long-term risky drinking.	The HILDA survey data Access relies on to demonstrate limited impacts on health and satisfaction due to spousal drinking may have been affected by biased HILDA panel sample. Problematic drinkers among relatives/friends identified in survey were drinking far in excess of NHMRC threshold.	Laslett *et al*. (2010) have provided an effective rebuttal of Access Economics' criticisms.
4. Double counting of intangible costs in the estimation.	Access Economics is incorrect (Room *et al*., 2011, p. 15).	Laslett *et al* (2011) did not double count.

Access Economics criticisms	Laslett *et al*. response (Room *et al*., 2010)	MJA comments
5. Treating people as employed when they are not over-states productivity losses.	Laslett *et al*. (2010) used estimate of AWE across full-time and part-time workers, and incorrect to assume opportunity cost of not employed person's time is zero.	Laslett *et al*. (2010) approach is defensible but agree using 100 per cent of AWE to cost time spent overstates problem.
6. Treating money spent on drinking as a cost of alcohol on others is incorrect as money saved from not drinking may have also have been spent on self.	Criticism is incorrect (Room *et al*., 2011, p. 15). This amount was not included in total costs.	Criticism is not justified.
7. Estimates of the time spent caring for others due to their drinking are unreliable, as they may overlap with "normal activities".	Not a credible objection because respondents were asked "how much time did this take out of your normal routine?"	There is some merit in Access Economics'' criticism here, as time has not necessarily been lost from productive activities. Time spent caring may simply replace time people would have spent with loved ones anyway.
8. There is a large potential for error in attributing property damage by strangers to alcohol consumption.	The survey question was clear in asking respondents to identify alcohol-related damage.	Access Economics' criticism appears unwarranted.

Source: Marsden Jacob, 2011, based on Access Economics (2010), Laslett et al. (2010) and Room et al. (2011).

Conclusions

There are several valid criticisms from Access Economics of the methodologies adopted in Collins and Lapsley (2008) and the resulting possibility of overstating the costs. The cost of illness estimates from Collins and Lapsley overstate the base level of costs due to the contribution of current levels of alcohol consumption. The methods and parameters used are not always well documented and superior and more recent data could have been used.

While the criticisms directed at the Laslett *et al* (2010) study may lead to only minor downward revisions, those directed at Collins and Lapsley (2008) could lead to major revisions, as the backward looking demographic approach is a major deficiency.

Given the debate about the appropriate value of a statistical year of life, upward sensitivity analysis also needs to be conducted. This would also take into account the new evidence on alcohol-related harms that has emerged since the estimation of the attributable fractions used by Collins and

Lapsley (2008). This could include, for example, a wider range of cancers associated with alcohol (Cancer Council Australia, 2011).