Who purchases low cost alcohol in Australia?

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Abstract

Introduction: Debates surrounding potential price-based polices aimed at reducing alcohol related harms tend to focus on the debate concerning who would be most affected -- harmful or low-income drinkers. This study will investigate the characteristics of people who purchase low cost alcohol using data from the Australian arm of the International Alcohol Control study.

Methods: 1681 Australians aged 16 and over who had consumed alcohol and purchased it in off-licence premises were asked detailed questions about both practices. Low cost alcohol was defined using cut-points of 85¢, $1.00 or $1.25 per Australian standard drink.

Results: With a $1.00 cut-off low income (OR = 2.1) and heavy drinkers (OR=1.7) were more likely to purchase any low cost alcohol. Harmful drinkers purchased more, and low income drinkers less, alcohol priced at less than $1 per drink than high income and moderate drinkers respectively. The relationship between the proportion of units purchased at low cost and both drinker category and income is less clear, with hazardous, but not harmful, drinkers purchasing a lower proportion of units at low cost than moderate drinkers.

Conclusions: The impact of minimum pricing on low income and harmful drinkers will depend on whether the proportion or total quantity of all alcohol purchased at low cost is considered. Based on absolute units of alcohol, minimum unit pricing could be differentially effective for heavier drinkers compared to other drinkers, particularly for young males.

Introduction

Recent global burden of disease estimates attribute 3.9% of global disability-adjusted life years lost to alcohol (Lim *et al.*, 2012). One policy suggestion aimed at reducing harms from alcohol has been to focus on affordability or price (Babor *et al.*, 2010; Wall and Casswell, 2013). This includes introducing a minimum unit price for purchasing alcohol (Sharma et al., 2014). This strategy has received a lot of interest in the UK, where it has been passed as legislation in Scotland after the "Sheffield modelling" reports (Meier *et al.*, 2008; Record and Day, 2009), and in Australia, where the Australian National Preventative Health Agency was tasked with reviewing its potential effectiveness (ANPHA, 2013).

One important consideration in assessing the appropriateness of minimum pricing is who will be most affected by such a policy. Work in the UK suggested that low income heavy drinkers in the UK purchase more of their alcohol at low cost and a higher proportion of all their purchases are low cost (Holmes *et al.*, 2014). More work in the UK suggests that minimum pricing with different levels set for on and off licence premises would target the consumption levels of young harmful drinkers more than moderate drinkers compared with a simple price increase (Purshouse *et al.*, 2010). Similar results have been found in Australia, where the heaviest consumers bought a disproportionately high amount of alcohol and paid less per Australian Standard Drink (ASD; 10 grams of alcohol) than other drinkers (Sharma *et al.*, 2014).

Some argue that minimum-price measures may target low-income groups rather than heavy drinkers (Walker, 2010). The level at which a minimum price is set may moderate the relationships between both household income and drinker type and low-cost alcohol purchasing patterns. Based on existing purchasing patterns in the UK, very low-set minimum prices (0.3 GBP per 7.9g of alcohol) would have a larger differential effect on low-income households than a higher but still low minimum price (0.5 GBP per 7.9 g of alcohol)

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(Ludbrook, 2010). In a study based on the UK Expenditure and Food Survey data for 2006-2008, low-income households were the least likely to purchase cheap off-licence alcohol, but only when the high proportion of low-income households that don't purchase any alcohol is not taken into account; when comparisons are confined to households making off-licence alcohol purchases, low-income households are then the most likely to purchase cheap off-licence alcohol (Ludbrook *et al.*, 2012). In their literature review, ANPHA found that binge and heavier drinkers tend, in general, to purchase cheaper alcohol than light and moderate drinkers, that lower income groups are more likely to abstain, and that it was the mid-income group that purchased the most cheap alcohol (2013). Such discrepancies in findings on who currently purchases low-cost alcohol, comparing low income and harmful drinkers, can often be explained by whether or not the results are presented in terms of differences in absolute or proportional consumption.

The proportion of expenditure spent on alcohol is another issue. Compared with higher income groups, lower income households in South-East Asia spend a higher proportion of their income on alcohol (Giang *et al.*, 2013; Jankhotkaew *et al.*, 2012). In Australia the proportion of expenditure spent on alcohol is not strongly correlated with household income, but the absolute amount spent is positively correlated with income (Australian Bureau of Statistics, 2011b). Further complicating interpretation of findings in this area, those living in low-income households are more likely to be abstainers, and while low-income households with drinkers spend less money, absolutely, on alcohol, they purchase a higher proportion of their alcohol at low cost (Meng *et al.*, 2013). Thus the outcome of a comparison of impact between low-income and harmful drinkers may depend on whether the analysis is based on low cost purchases as an absolute number or as a proportion of all purchases.

In order to investigate these issues, this study will use data from the initial wave of the Australian arm of the International Alcohol Control (IAC) study to measure both the

proportion and absolute number of drinks purchased at low cost by income- and drinking pattern-based categories. The aim of the current study is to investigate the relationship between household income, consumption levels and low-cost alcohol purchases, with a focus on whether it is low-income drinkers or heavy drinkers that purchase more low-cost alcohol, and on how the use of absolute-quantity or proportional measures impacts on these findings. The first hypothesis is that there will be a higher proportion of abstainers in low income households. Given previous findings that the amount of low-cost units purchased is driven by drinker status (Purshouse *et al.*, 2010) and that the proportion of units purchased at low cost is also influenced by income (Holmes *et al.*, 2014), the second hypothesis is that a higher proportion of the alcohol purchases of low-income drinkers will be of low-cost units and the third is that harmful drinkers will purchase more low-cost units overall.

Method

Sample

A total of 2020 people agreed to participate in the study, a computer-assisted telephone interview with a general population sample reached by random digit dialling (RDD) to landlines (60%) or mobile phones, conducted by the Social Research Centre (Jiang *et al.*, 2014). According to the standards recommended by the American Association for Public Opinion Research (AAPOR) (2008), the response rate was 37.2%. Risky drinkers were oversampled, using a preliminary screener question asking potential respondents *"how often would you consume five or more standard drinks in a session?"* Respondents who stated that they did this once a month or more often were considered risky drinkers for the purposes of study sampling and asked to participate. One-third of respondents who did not drink five plus ASD in a session at least monthly (including non-drinkers) were asked to participate. Using this method, the 30.1% of Australians who reported drinking five or more ASD in a

session once a month or more in the 2010 National Drug Strategy Household Survey (Australian Institute of Health and Welfare, 2011) made up 67% of the sample. Sample weights based on population benchmarks were used to correct for disproportionate representation by gender, age, geography and drinking status. The survey technical report provides more details on the study methodology (Jiang *et al.*, 2014).

In an Australian context, alcohol purchased for consumption on the premises is sufficiently expensive that it would rarely be impacted by any likely minimum price; therefore, this paper is based on off-premise alcohol purchases only. Of the 2020 respondents, 1789 reported consuming alcohol in the past 12 months and 1725 reported purchasing alcohol for consumption elsewhere, referred to as off-licence premises for the remainder of the paper. The focus of the majority of this paper is on the 1681 respondents who reported both purchasing alcohol in an off-license premise and consuming alcohol anywhere in the past six months. The mean age of this sample, unweighted, was 43.71 (SD=16.61); it was 59.8% male. Ethical approval for the study was granted by Eastern Health Human Research Ethics Committee (*#E07/1213*).

Survey

The Australian IAC survey was adapted from the New Zealand version of the survey (Casswell *et al.*, 2002, 2012), with few differences beyond culturally-specific terms in the items used in this analysis. Questions on alcohol consumption were the same as those in other IAC studies: respondents are asked about where they drink, how often they drink at each place and how much of which beverages they usually drink at that place. Questions about off-licence purchasing of alcohol were asked in a similar fashion: respondents were asked how often they purchase alcohol from a range of premises and what they usually purchase when they go. So if a respondent stated that they went to a 'liquor barn' (a

warehouse-style off-premise store) once a month, they were then asked what alcohol beverage types they would purchase on a usual visit and then how much of each beverage type they would purchase on this usual visit. In both sets of questions, respondents could give their responses in the units of their choice – for example, they could refer to a six-pack of regular strength beers; the number of ASD equivalent to the response was calculated by researchers after the interview. They were then asked how much this cost, either per unit of choice or in total. Information on the amount and cost of alcohol purchased allowed a cost per ASD per drink type, per outlet type, to be calculated.

In the current study low-cost alcohol was defined using a number of alternative price cut-offs. Discussions of minimum pricing in Australia often end up fixing on the figure of $1 per ASD (ANPHA, 2013). Given that the $1 figure is arbitrary, cut-offs either side of this figure were also used (80¢ and $1.25) to explore the potentially different effects of different minimum prices.

Respondents were categorised based on their alcohol consumption. Those who drank up to 14 ASD per week were designated "moderate drinkers", those who drank more than 14 ASD but less than 42 ASD for males or less than 35 ASD for females were designated "hazardous" drinkers and those drinking more than these levels were designated as "harmful" drinkers.[1] Finally, groups based on household income were developed, with low, middle and high income groups based on household income and the number of people in the household. As per the Australian Bureau of Statistics, equivalised income can be generated by dividing the household income by an equivalence factor which is calculated as 1 + 0.5 x the number of

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[1] Drinking up to 2 drinks per day (i.e., up to 14 per week) is recommended as "low-risk" in the 2009 NHMRC guidelines for low-risk drinking, with a lifetime risk of death from alcohol-related disease of less than 1 in 100. In the risk tables for each gender in the NHMRC report, men drinking 6 drinks or more per day (42+ per week) and women drinking 5 or more (35+ per week) are both at a lifetime risk of above 3 in 100 (3.80 for men, 3.68 for women) of death from alcohol-related disease (NHMRC (2009) *Australian Guidelines to Reduce Health Risk from Drinking Alcohol.*

adults in the household (aside from the respondent) + 0.3 x the number of children in the household (Australian Bureau of Statistics, 2011a). Cut-offs for this equivalised income were selected to make even groups, with low income below $33,000 per year and high income above $65,000 and the middle income group between these two points. Those who did not give a household income but did give a personal income and were not living with a married or de-facto partner were assumed to have a household income equal to their personal income before being divided by the equivalence factor that would only be based on the respondent and any children in the household. This still left 12.5% of the sample without a reported household income; these respondents were put in their own category, to keep them in the analyses, although apart from Table 1 results from this category are not shown. So, for instance, the missing respondents make up an income category in the regression models, but the results for this group are not presented. These results were never different from those for the reference category, with one exception noted in the results. Age categories of 16 to 30, 31 to 44, 45 to 59, and 60 plus were chosen; these cut-offs were selected so that when cross-referenced with gender eight roughly equal-sized groups (weighted) could be generated.

Data Analysis

All data analysis was conducted in Stata Version 13 (StataCorp, 2013). The detailed purchasing information allowed for calculation of both a proportion of all units purchased and the mean number of units purchased under each price threshold for each respondent. These proportions and averages were then examined across the income and drinking categories described earlier. Three different types of models were used to investigate the relationship of drinker category and income to low cost alcohol purchases. The first set is of logistic regression models predicting *any* low-cost purchase under each price point, the second, linear regression models predicting the logarithm of the *amount* of low-cost purchases under each price point among those who made any low-cost purchase; the third,

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linear regression models predicting the logit of the *proportion* of low-cost purchases under each price point among those who made any low-cost purchase. The logarithmic transformation of the absolute number of low cost units purchased was made to account for the skewed distribution of this variable, while the logit transformation of the proportion of low cost units is recommended for skewed variables representing bounded variables such as proportions (Baum, 2008).   All models are shown with both bivariate predictors and in multivariate models. The multivariate model was run with and without age and sex controlled; since this made no substantive difference to the results, figures shown are not controlled for age and sex. Finally the mean daily consumption for those who purchase a significant minority (at least 20%) of their alcohol at low cost was calculated for groups designated by age and sex. All numbers reported are pre-weighted to correct for likelihood of being contacted by mobile and /or landline and the number of people in the household and post-weighted to correct for disproportionate representation by gender, age, geography (represented by 15 groups based on state and capital city status) and drinking status (based on NDSHS estimates of risky drinking status in Australians aged 16 and over in 2010 = 30.1%).

Results

The proportion of respondents in each drinker category who were in each income group is shown in Table 1, the proportion of those who did not report their income is also shown. As can be seen, the low income group has the highest proportion of abstainers, and the high income group has more hazardous drinkers. When abstainers are not included in the base for percentaging, the distribution of drinker categories in each group changes: the percentage of harmful drinkers in each income group becomes 14, 11 and 13% of drinkers in low, middle and high income groups respectively.

<INSERT TABLE 1 APPROXIMATELY HERE>

For the remainder of the paper, only those respondents that both *consumed and purchased* alcohol off-premise are included in analyses (N=1681; N=1471 in descriptive statistics where those who did not provide income are not shown). Thus, further analyses in this paper exclude abstainers, who, as shown above, were disproportionately prevalent in the low income category. The correlation between the number of units purchased off premise and total volume consumed is r=.54 (p<.001). The mean cost of a standard drink purchased from off licensed premises by our sample was $1.80, with a quarter of purchases costing more than $2.07 and a quarter less than $1.21. In Figure 1, purchasing patterns are examined separately by income and drinker category, showing the mean number of ASD under each price cut-off which is purchased by each group. As can be seen, harmful drinkers purchase considerably more low cost units than other drinker categories, particularly under the $1.25 cut-off

<INSERT FIGURE 1 APPROXIMATELY HERE>

The proportion and mean number of units purchased by each income and drinker category at each of the price thresholds is shown in Figure 2. When the mean number of units purchased, rather than the proportion of alcohol purchased, is taken into account (part A of the figure), it becomes clear that harmful drinkers purchase more cheap alcohol than low income drinkers, primarily due to the higher number of units purchased overall. As can be seen in part B of the figure, low-income harmful drinkers purchased the highest proportion of low-cost alcohol, particularly when that is defined as less than 80 cents per ASD. The proportion of low-cost drinks purchased increased as income decreased in the harmful and hazardous drinker groups, while this pattern appeared to be reversed for the moderate drinker groups. However, among moderate drinkers, it was high income drinkers that purchased a higher proportion of low cost alcohol.

<INSERT FIGURE 2 APPROXIMATELY HERE>

To investigate the relationships at play in this figure, three sets of models predicting low-cost purchasing were developed, and are shown in Table 2. For all three price cut-offs, the models predicting any low-cost purchasing were the same: low income and harmful drinkers were more likely to purchase low-cost alcohol in both the bivariate and multivariate models.

<INSERT TABLE 2 APPROXIMATELY HERE>

With an 80 cent cut-off, harmful drinkers purchased significantly more low-cost units in total, although hazardous drinkers purchased a significantly lower proportion of their alcohol at low cost. For the $1.00 cut-off, harmful drinkers purchased significantly more and low income drinkers significantly less low-cost alcohol among those who purchased any, while hazardous drinkers purchased a significantly lower proportion of their alcohol at low cost than their moderate drinker counterparts in the bivariate model only. For the $1.25 cut-off, hazardous and harmful drinkers purchased significantly more low-cost units than moderate drinkers, while hazardous drinkers purchased a significantly lower proportion of their alcohol at low cost. The only significant relationship between missing income and amount or proportion consumed was that low-income and missing income drinkers purchased a higher proportion of low-cost alcohol than high income drinkers before drinker category was controlled for, this group is not shown in Table 2.

Based on these models, the $1.00 cut-point appeared to isolate harmful drinkers most effectively as low income drinkers purchased less overall than their high income counterparts so subsequent results are based on this cut-point. The average number of drinks per day consumed on- or off-premise by those who purchased more than 20% of their alcohol under $1.00 and those who did not is shown in Table 3 by age and sex. In the case of males aged 16 to 44, the difference in drinks per day was significant ($p < .05$) using an adjusted Wald test. This difference in consumption for younger males is striking; 6.9 drinks per day for those who do purchase low-cost alcohol, compared to 3.4 for those who do not.

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<INSERT TABLE 3 APPROXIMATELY HERE>

Discussion

In line with the first hypothesis and previous research, respondents from low-income groups were more likely to be abstainers than those in middle- or high-income households (Australian National Preventive Health Agency, 2013). Findings relevant to the second hypothesis were less clear: low income drinkers only purchased a higher proportion of low cost units than those with mid or high income when a $1.25 cut-off was used. There was however support for the third hypothesis: heavy drinkers purchased more low cost units than moderate drinkers at all price points and hazardous drinkers also purchased more than moderates when the price cut-off of $1.00 or $1.25 were used.

The ability for a minimum price to target harmful drinkers can also be seen in the demographic profiles of those most affected. Our findings suggest that the biggest difference in consumption levels between those who purchase more than 20% of their alcohol at low cost and other drinkers was found in 16-44-year old males. The low cost purchasers drank an average of seven drinks a day, compared to three and a half per day for those who did not. Since a high number of harms from alcohol appear to come from this group (Rehm *et al.*, 2001), the purchasing patterns of those in this group is worthy of consideration in discussions on minimum pricing.

The finding that consumption is more strongly linked than income to the number of low-cost units purchased is similar to findings in previous research (Holmes *et al.*, 2014). A higher number of units priced under a cut-off of $1.25 were purchased by harmful and hazardous drinkers, compared to moderate drinkers. However, analysis on the proportion of units purchased at low cost found little relationship with income, but that hazardous drinkers would purchase proportionally less than moderate drinkers. Therefore it could be argued that the

answer to the question of who will be impacted most by a minimum price will be primarily dictated by whether the question is answered in terms of the proportion or number of units purchased by those in each group.

It should be noted that the proportion of household income spent on alcohol in general and low cost alcohol in particular, was not analysed in this paper. Unfortunately, the income information in the IAC is not sufficient to run such analyses, but previous research indicates that the proportional impact of a minimum price may be higher in low-income than in high-income households (Meng *et al.*, 2013). As noted in work from the UK, with low income heavy drinkers purchasing the most low-cost alcohol, the potential disadvantage of paying more would need to be weighed up against the advantages gained by drinking less (Holmes *et al.*, 2014). In public health terms, reductions in the absolute amount of drinking are what matter. A reduction of 10% for a heavy drinker represents many more standard drinks than the same proportional reduction for a moderate drinker. Thus, while the potentially regressive proportional impacts of imposing a minimum price on alcohol are worthy of consideration, public health arguments should focus more strongly on the absolute impacts of the policy on consumption levels.

While the survey data used in this study allows detailed information on consumption and purchasing not often available, it is not without limitations. Firstly, respondents are giving information on usual consumption and usual purchasing at each location; how well they average out such events is unclear. Furthermore, there is no guarantee that the purchases being made are being consumed by those who purchase them. Secondly, they are also estimating the cost per usual visit, and some of the low costs given for alco-pops, for instance, indicate that they may not be doing so completely accurately. Finally, as is common in Australian telephone-based survey research (O'Toole *et al.*, 2008), the response rate was low and the impact of this on the results is unmeasured. Our low response rate is

likely to result in some non-response bias with studies typically finding that heavy drinkers are less likely to respond to population surveys (Meiklejohn *et al.*, 2014). However other work suggests that the magnitude of this bias is likely to be small (Kypri *et al.*, 2004; Lahaut *et al.*, 2002).

Overall, while it does appear that both low-income and harmful drinker groups are more likely to purchase low-cost alcohol, this is the case only when the abstention rate of low-income groups and the number of units purchased are not taken into account. When the number of units purchased at low cost is accounted for, purchases are better predicted by consumption than income, with a particularly high discrepancy in average consumption for young men between those who purchase low-cost alcohol and those who do not. Results provide support for the proposition that a minimum or floor price policy would be at least moderately effective in targeting heavy drinkers to reduce their consumption.

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Table 1
Weighted percentage of respondents in each drinker category, for different income levels

	Abstainer % (95% CI)	Moderate % (95% CI)	Hazardous % (95% CI)	Harmful % (95% CI)
Low income (N=585)	35.2 (29.6-41.3)	41.4 (36.1-46.9)	15.1 (11.9-19.0)	8.3 (6.4-10.6)
Mid income (N=604)	18.4 (13.8-24.2)	53.0 (47.1-58.9)	19.1 (15.6-23.2)	9.4 (7.1-12.4)
High income (N=608)	9.2 (6.0-13.8)	51.3 (45.1-57.5)	26.8 (22.1-32.1)	12.7 (9.7-16.6)
Did not disclose (N=223)	40.9 (32.2-50.2)	46.1 (37.4-55.1)	8.9 (6.0-13.2)	4.1 (2.5-6.6)

N=2020 (Those who did not give household income are not shown in this table)

Table 2

Estimated odds ratios from logistic regression predicting any purchase of low cost alcohol and beta coefficients from linear regression predicting the logarithm of the absolute number and the logit of the proportion of low cost purchases.

		$0.80		$1.00		$1.25	
		BV	MV	BV	MV	BV	MV
Logistic regression predicting any low cost purchase							
Income	Low	1.93* (1.1, 3.3)	1.95* (1.1, 3.4)	2.11** (1.3,3.4)	2.12** (1.3,3.4)	1.54* (1.0,2.3)	1.57* (1.1,2.3)
	Mid	1.10 (0.6, 2.0)	1.13 (0.6, 2.1)	1.07 (0.6,1.8)	1.09 (0.7,1.8)	1.00 (0.7,1.5)	1.05 (0.7,1.6)
	High	1 (Ref)	1 (Ref)	1 (Ref)	1 (Ref)	1 (Ref)	1 (Ref)
Drinker Category	Moderate	1 (Ref)	1 (Ref)	1 (Ref)	1 (Ref)	1 (Ref)	1 (Ref)
	Hazardous	1.11 (0.7, 1.8)	1.13 (0.7, 1.8)	0.99 (0.7,1.5)	1.01 (0.7,1.5)	1.24 (0.9,1.7)	1.25 (0.9,1.7)
	Harmful	1.74* (1.1, 2.8)	1.73* (1.1, 2.8)	1.70* (1.1,2.6)	1.69* (1.1,2.6)	2.51*** (1.7,3.6)	2.51*** (1.7,3.6)
Linear regression predicting the amount of low cost purchases among those that purchased any							
Income	Low	-0.25 (1.0, 0.5)	-0.27 (-1.0, 0.5)	-0.62* (-1.2,-0.0)	-0.54* (-1.1,-0.0)	-0.26 (-0.7,0.2)	-0.27 (-0.6,0.1)
	Mid	0.35 (-0.4, 1.1)	0.27 (-0.5, 1.0)	0.02 (-0.5,0.6)	0.06 (-0.5,0.6)	0.06 (-0.4,0.5)	0.04 (-0.4,0.5)
	High	0 (Ref)	0 (Ref)	0 (Ref)	0 (Ref)	0 (Ref)	0 (Ref)
Drinker Category	Moderate	0 (Ref)	0 (Ref)	0 (Ref)	0 (Ref)	0 (Ref)	0 (Ref)
	Hazardous	0.40 (-0.2, 0.9)	0.35 (-0.2, 0.9)	0.58** (0.2,1.0)	0.54** (0.2,0.9)	0.77*** (0.5,1.1)	0.76*** (0.5,1.0)
	Harmful	2.01*** (1.6, 2.5)	2.01*** (1.6, 2.4)	1.88*** (1.5,2.3)	1.86*** (1.5,2.2)	1.75*** (1.3,2.1)	1.75*** (1.3,2.2)
Linear regression predicting proportion of low cost purchases among those that purchased any							
Income	Low	0.81 (-0.4, 2.0)	0.75 (-0.5, 2.0)	0.27 (-0.8,1.3)	0.23 (-0.8,1.3)	0.73* (0.0,14)	0.73* (0.0,1.4)
	Mid	-0.36 (-1.4, 0.7)	-0.34 (-1.5, 0.8)	-0.55 (-1.5,0.4)	-0.56 (-1.6,0.5)	0.33 (-0.4,1.1)	0.34 (-0.4,1.1)
	High	0 (Ref)	0 (Ref)	0 (Ref)	0 (Ref)	0 (Ref)	0 (Ref)
Drinker Category	Moderate	0 (Ref)	0 (Ref)	0 (Ref)	0 (Ref)	0 (Ref)	0 (Ref)
	Hazardous	-1.15* (-2.1,-0.2)	-1.07* (-2.0,-0.2)	-1.17** (-1.9,-0.5)	-1.13** (-1.8,-0.4)	-0.62* (-1.2,-0.0)	-0.60* (-1.2,-0.0)
	Harmful	-0.67 (-1.6, 0.3)	-0.70 (-1.6, 0.2)	-0.69 (-1.6,0.3)	-0.68 (-1.6,0.2)	-0.28 (-0.9,0.4)	-0.27 (-0.9,0.4)

BV Bivariate Model; MV Multivariate Model. Odds ratios shown for the logistic regression (N=1789), beta coefficients for the linear regression. Please note the outcome variable in the linear regression models were converted into z-scores in order to provide standardized coefficients.

Table 3.
Mean number of drinks consumed per day (on or off premise) for those who purchase less or more than 20% of their off-premise alcohol under $1.00 per standard drink

	Demographics	Less than 20% of total alcohol purchased below $1	More than 20% of total alcohol purchased below $1
Male	16-44	**3.42 (2.77-4.07)**	**6.90 (3.49-10.31)**
	45+	3.01 (2.58-3.44)	4.02 (2.87-5.17)
Female	16-44	1.91 (1.42-2.40)	3.00 (1.71-4.29)
	45+	1.44 (1.36-2.70)	2.03 (1.36-2.70)

N = 1681. Numbers in bold are significantly different to the corresponding figure on the same line using an adjusted Wald test ($p < .05$)
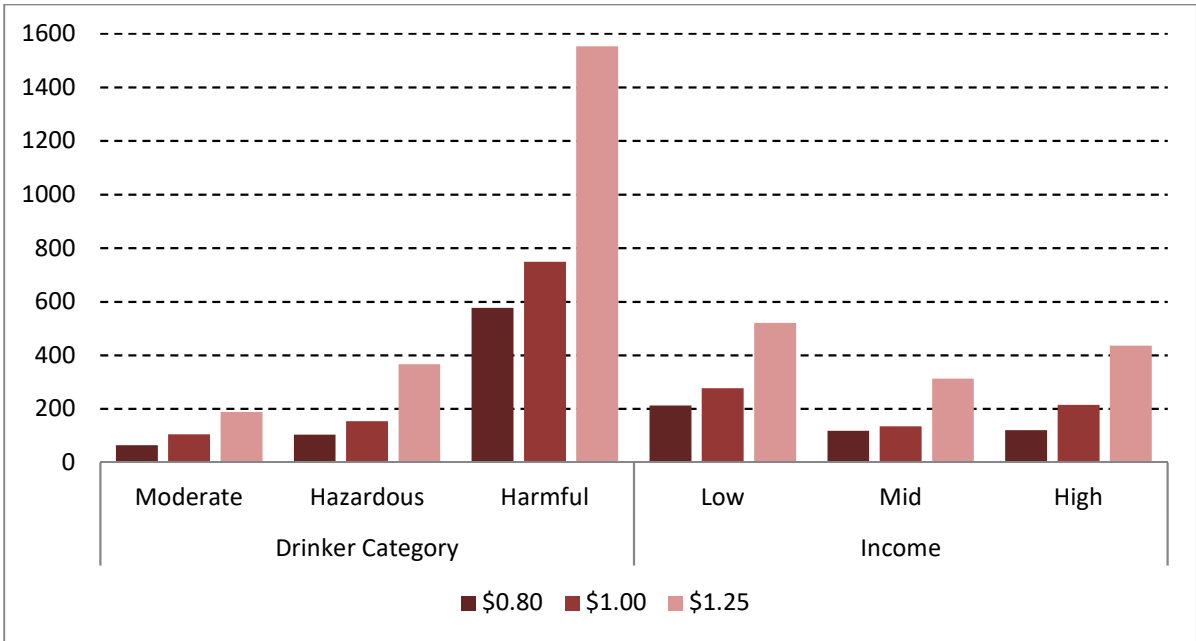
Figure 1. Mean number of units purchased under each price cut-off by drinker status and household income

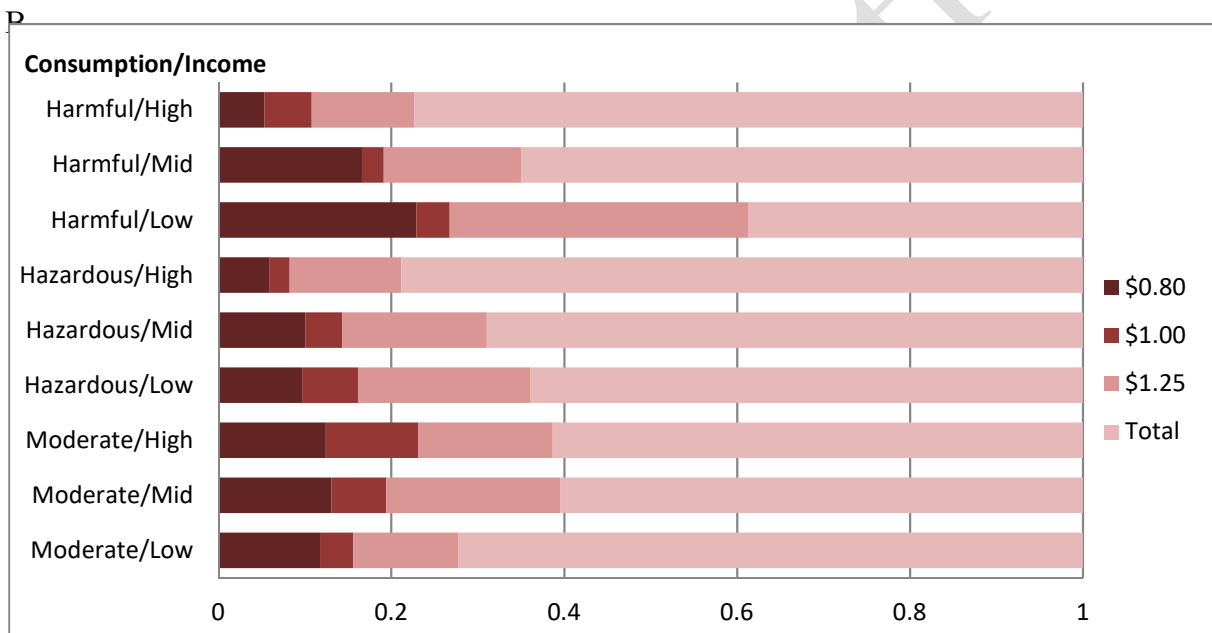N=1681 (missing income category not shown; these participants are included in the drinker categories)
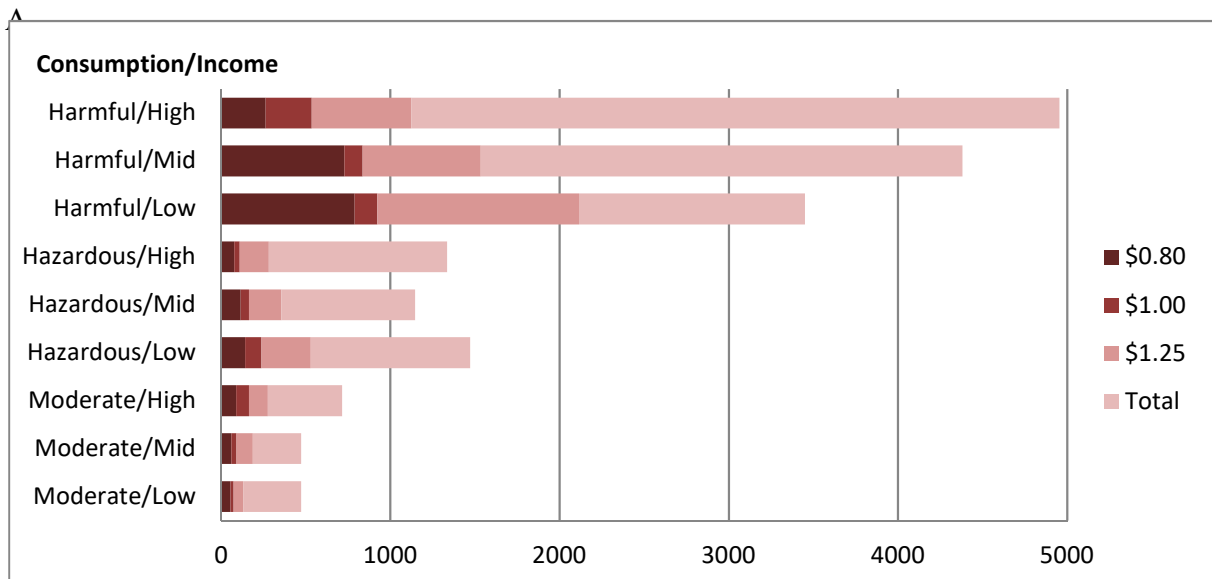
Figure 2. Mean number (A) and percentage of units per drinker (B) of off-premise alcohol purchased under each cut-point by drinker category and income
N=1471