Monitoring alcohol affordability in Aotearoa New Zealand: 2020 update

Alcohol use is a substantial contributor to the global burden of disease and is one of the leading risk factors for premature deaths and disability in the world (World Health Organization, 2018). Alcohol use increases the risk of injuries and numerous chronic diseases including cancer, cardiovascular disease, liver disease, and pancreatitis. No level of alcohol improves health (Griswold et al., 2018). The historical and current alcohol context in Aotearoa New Zealand has contributed to health inequities for Māori (Connor et al., 2015). In 2019/20, 4 in 5 New Zealanders (aged 15+) drank alcohol and 1 in 5 drank alcohol in ways that were especially harmful to their wellbeing or the wellbeing of others (Ministry of Health, 2020).

There is strong evidence that lower alcohol prices lead to higher alcohol consumption, thereby increasing the risk of alcohol-related harm (Wagenaar et al., 2009). The World Health Organization (WHO) recommends that increasing the price of alcoholic drinks, through taxes and policies, is one of the most effective and cost-effective interventions to reduce alcohol-related harm (World Health Organization, 2010).

While monitoring the price of alcohol is necessary, it is also important to track alcohol affordability. Affordability is the price of alcohol relative to income and measures an average person's ability to buy alcohol. Alcohol affordability may increase due to a drop in alcoholic beverages' prices, a rise in average incomes, or a combination of both. To have maximum impact, any policies to increase alcohol prices need to account for increases in incomes and changes in alcohol affordability (Jiang & Livingston, 2015; Wall & Casswell, 2013).

Te Hiringa Hauora | Health Promotion Agency previously investigated trends in the price and affordability of alcohol in Aotearoa New Zealand using data from 1981 to 2017 (Te Hiringa Hauora | Health Promotion Agency, 2018). The report found that while the real price (price adjusted for inflation) of some beverage types increased, all beverage types, especially wine, were more affordable in 2017 than in the 1980s. This brief report presents an update on these findings with an emphasis on trends between 2017 and 2020. We used the following measures to look at the price and affordability of alcohol:

1. Price of alcohol per standard drink[1] (average price per standard drink; lowest advertised price per standard drink; real price of alcohol)

2. Alcohol affordability (affordability index; minutes of work needed to afford one standard drink; minutes of work needed to afford one lowest advertised priced standard drink).

The data came from the New Zealand Consumers Price Index (CPI), Liquor Information Pricing Service (LIPS), Quarterly Employment Survey and the Household Labour Force Survey.

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1   One standard drink in New Zealand contains 10g of pure alcohol. For example, a 330ml bottle of 4% alcohol beer, 100ml glass of wine (at 12.5% alcohol) or a 30ml shot of spirits (42% alcohol) are all 'one standard drink'. The formula used to calculate the number of standard drinks is: Amount of drink (litres) multiplied by percent by volume of alcohol (%) multiplied by 0.789 (density of ethanol at room temperature).

Change between 2017 and 2020:

- The average price per standard drink increased for all alcohol beverage types, with beer having the greatest price increase.

- The inflation-adjusted real price of beer increased, but the real price of wine, and spirits and liqueurs decreased. All alcohol combined decreased in real price.

- Compared to 2017, all alcoholic beverage types were more affordable in 2020.

- Compared to 2017, it took less time in 2020 for a person on a median income to earn enough to afford an average priced standard drink of beer, whisky or cask wine.

Price of alcohol
Price per standard drink

The average price per standard drink of alcoholic beverages was estimated from CPI[2] data. Among a selection of alcoholic beverage types, the average price per standard drink slightly increased from 2017 to 2020 (Table 1). The greatest price increase was for beer purchased in licensed premises (8%); the smallest price increase was for whisky from bottle stores (4%).

The lowest advertised price per standard drink was calculated using data on advertised specials and discounts from LIPS (Table 2). As expected, the lowest advertised price per standard drink was lower than the average price for similar alcoholic beverage types. From 2017 to 2020, the lowest advertised price increased for beer, cask wine, cider and ready-to-drink alcohol products (RTDs), with cider having the greatest price increase (21%) followed by cask wine (17%). For whisky and wine bottles, the lowest advertised price remained the same.

Table 1. Price per standard drink using CPI prices in 2017 and 2020

Alcoholic beverage type	Average price per standard drink (CPI)		
	2017	2020	2017 v 2020
Beer – bottles (supermarket & bottle store), 1 dozen, 12.5 standard drinks (based on 330ml of beer at 4% alcohol)	$1.61	$1.69	+5%
Beer – glass (licensed premises), 1.3 standard drinks (based on 400ml of beer at 4% alcohol)	$5.04	$5.43	+8%
Wine – cask, white (supermarket & bottle store), 29.6 standard drinks (based on 3 litres of wine at 12.5% alcohol)	$0.82	$0.88	+7%
Whisky (bottle store), 31.6 standard drinks (based on 1 litre of whisky at 40% alcohol)	$1.33	$1.39	+4%

Data source: CPI Selected Quarterly Weighted Average Prices for New Zealand (Quarterly-Mar/Jun/Sep/Dec), available from Infoshare (http://archive.stats.govt.nz/infoshare)

2   For more information on CPI, refer to the Methods section at the end of this report.

Table 2. Price per standard drink for lowest advertised alcohol in 2017 and 2020

Alcoholic beverage type	Lowest advertised price		
	2017	2020	2017 v 2020
Beer (all volumes)	$1.10	$1.13[3]	+3%
Craft beer	-	$1.22[4]	-
Wine cask (all volumes)	$0.66	$0.77[5]	+17%
Whisky (all volumes)	$1.05	$1.05[6]	No change
Cider	$0.92	$1.11	+21%
RTD	$1.05	$1.13	+8%
Wine bottle	$1.04	$1.04	No change

Data source: Liquor Information Pricing Service (LIPS, https://www.lipsdata.co.nz), lowest 1% of advertised alcohol prices per standard drink

Real price of alcohol

The real price of alcohol is the alcohol CPI adjusted for inflation. The data were scaled to equal 100% at June 2017. Two time periods were examined: historic trends from the 1980s to 2020 (Figure 1), and more recent trends from 2012 to 2020 (Figure 2; Table 3).

From the 1980s to 2012, the real price of beer and of spirits and liqueurs increased. However, from 2012 to 2020 the real price decreased by 2% for beer and 3% for spirits and liqueurs. The real price of wine steadily decreased from 1989 to 2012; this trend continued in 2012 to 2020 with the real price decreasing by 13%. For all alcohol, following an increase in the real price, the real price has decreased by 6% since 2012. Overall, across the 8-year period of 2012 to 2020, the real price of alcohol of each beverage type decreased.

When examining a shorter period of time between 2017 and 2020, the real price of alcoholic beverages continued to vary. Beer increased in price (1%), wine and spirits and liqueurs decreased in price (-2% and -0.1%, respectively). For all alcohol combined, the real price decreased by 0.5%.

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3   Restricting the advertised beer to bottles of 1 dozen (for comparability to the CPI average price data) gave the lowest advertised price of $1.19.
4   Restricting the advertised craft beer to bottles of 1 dozen gave the lowest advertised price of $1.15. Craft beer information is only available in 2020.
5   Restricting the advertised cask wine to 3 litre containers (for comparability to the CPI average price data) gave the same lowest advertised price of $0.77.
6   Restricting the advertised whisky to 1 litre containers (for comparability to the CPI average price data) gave the lowest advertised price of $1.01.

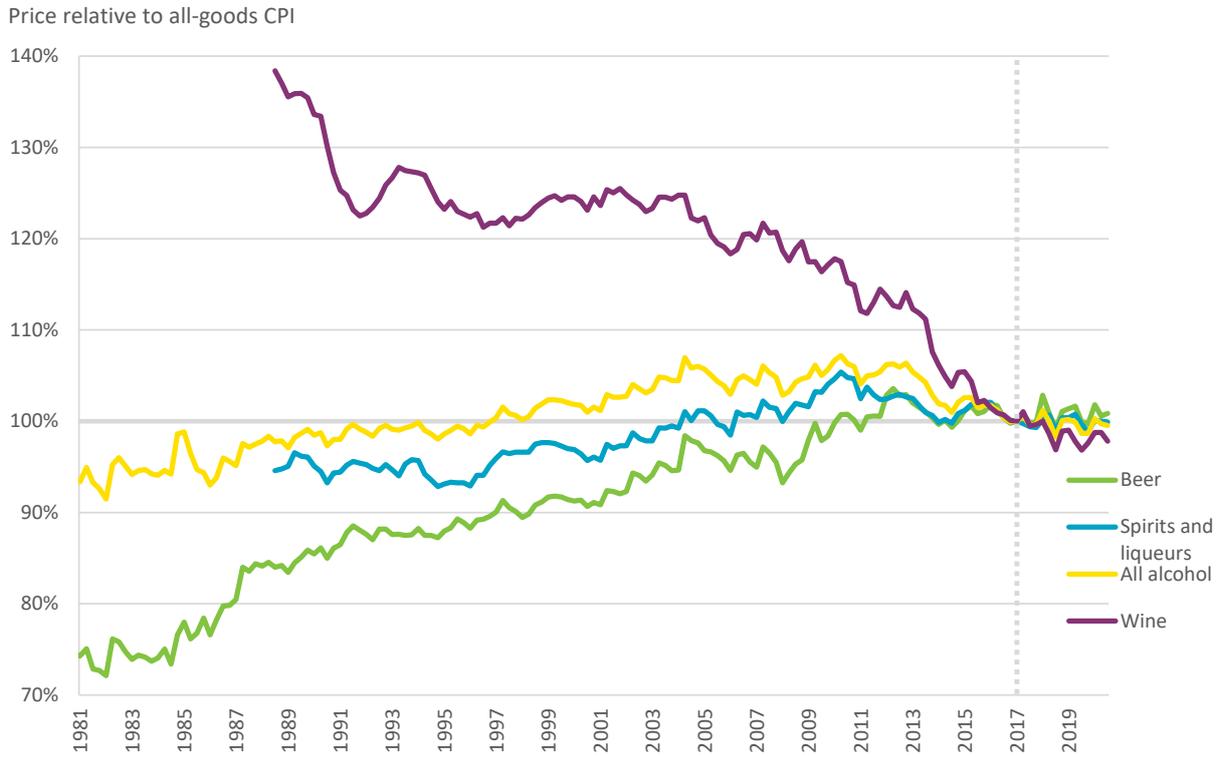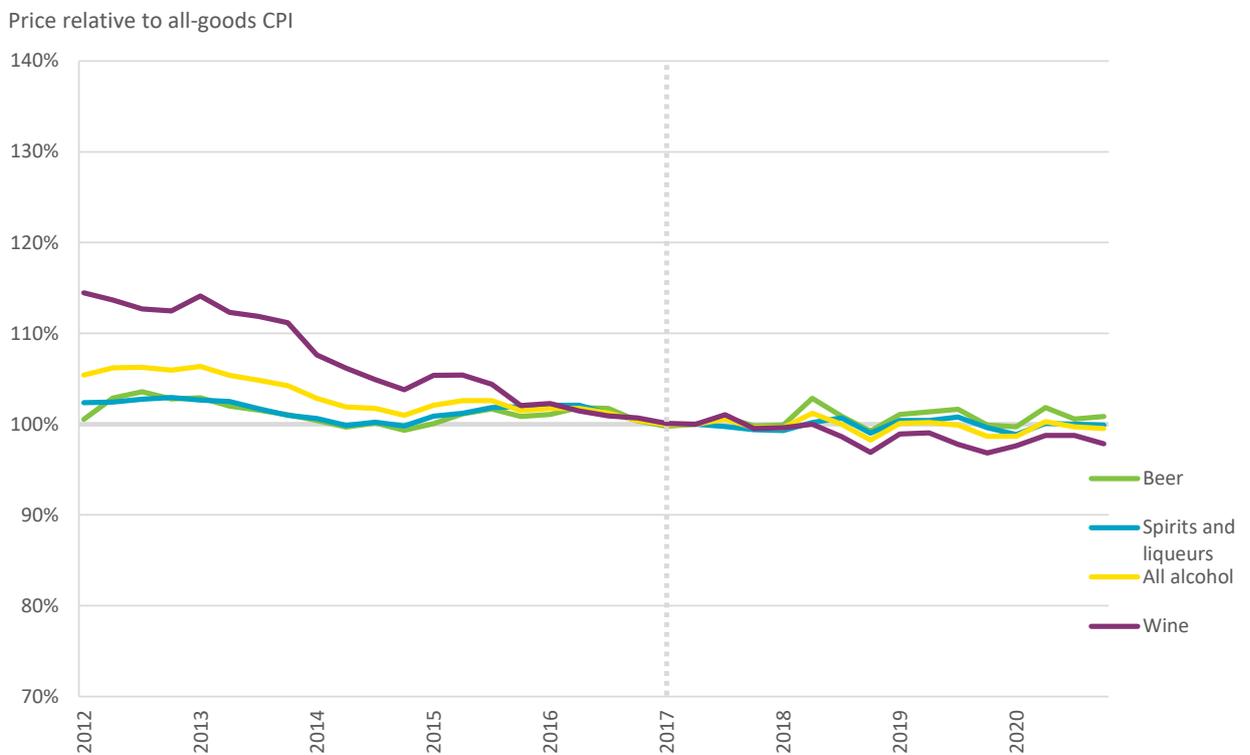## Figure 1. The real price of alcoholic beverages over time

Price relative to all-goods CPI

Figure 2. The real price of alcoholic beverages from 2012 to 2020

Price relative to all-goods CPI

Data source: Alcohol CPI from CPI level 3 classes for New Zealand (Quarterly-Mar/Jun/Sep/Dec), from Infoshare (http://archive.stats.govt.nz/infoshare). Note: The series are all scaled to equal 100% in June 2017.

Table 3. Change in the real price of alcohol (%)

Alcoholic beverage type	Real price	
	2012 v 2020	2017 v 2020
Beer	-2%	+1%
Wine	-13%	-2%
Spirits and liqueurs	-3%	-0.1%
All alcohol	-6%	-0.5%

Data source: Alcohol CPI from CPI level 3 classes for New Zealand (Quarterly-Mar/Jun/Sep/Dec), from Infoshare (http://archive.stats.govt.nz/infoshare). Note: The series are all scaled to equal 100% in June 2017.

Affordability of alcohol
Affordability index

Alcohol affordability measures the price of alcohol relative to income. This measure accounts for the impact of changes in wages on the average consumer's ability to buy alcohol. The affordability index is calculated by dividing the average hourly gross (before tax) income by the alcohol CPI (Jiang & Livingston, 2015). Average hourly gross income was obtained from the Quarterly Employment Survey.

In 2020, each alcohol beverage type was more affordable compared to 2017, a trend that continues from the late 1980s (Figure 3). The affordability of all alcohol increased by 6% from 2017 to 2020 (Beer: 5%; Wine: 8%; Spirits and liqueurs: 6%). This trend toward increasing affordability of alcohol is due to average hourly income increasing at a faster rate than alcohol prices. These results demonstrate that though the prices of some alcohol types may increase (Figures 1 and 2), the products can still be more affordable when income is accounted for.

Figure 3. The affordability of alcohol
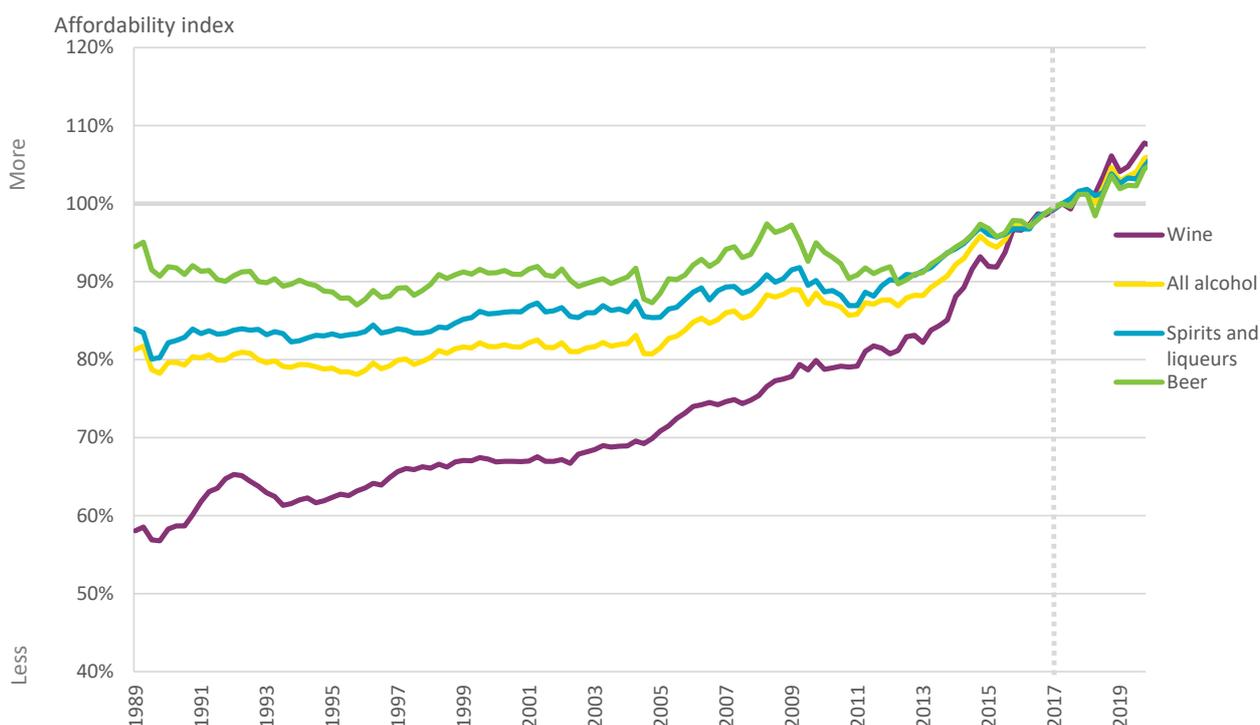
Data sources: Alcohol CPI from CPI level 3 classes for NZ (Quarterly-Mar/Jun/Sep/Dec); average weekly income from Quarterly Employment Survey (Employees), from Infoshare (http://archive.stats.govt.nz/infoshare). Note: The series has been scaled to

Minutes of work needed to afford a standard drink

The minutes of work needed to afford a standard drink was calculated by dividing the CPI average price by the median income per minute (before tax). Income was calculated among people in paid employment (from wages, salaries and/or self-employment) based on the Household Labour Force Survey.

Additionally, the minutes of work needed to afford a standard drink for the lowest advertised priced alcohol was estimated. The price per standard drink of the lowest advertised alcohol was divided by the median income per minute.

For average priced standard drinks

In 2017, the minutes of work required to afford an average priced standard drink were: 12.6 minutes for on-licensed beer, 4.0 minutes for off-licensed beer, 2.1 minutes for cask wine, and 3.3 minutes for whisky. In 2020, for each alcohol beverage type, even less time was required to buy an average price standard drink: 12.3 minutes for on-licensed beer, 3.8 minutes for off-licensed beer, 2.0 minutes for cask wine, and 3.1 minutes for whisky (Figure 4).

This decrease in the number of minutes required to buy an average priced standard drink has occurred since the late 1990s (Figure 4).

Figure 4. Minutes of work needed for an employee on a median income to afford a standard drink (average price)

Minutes of work per standard drink
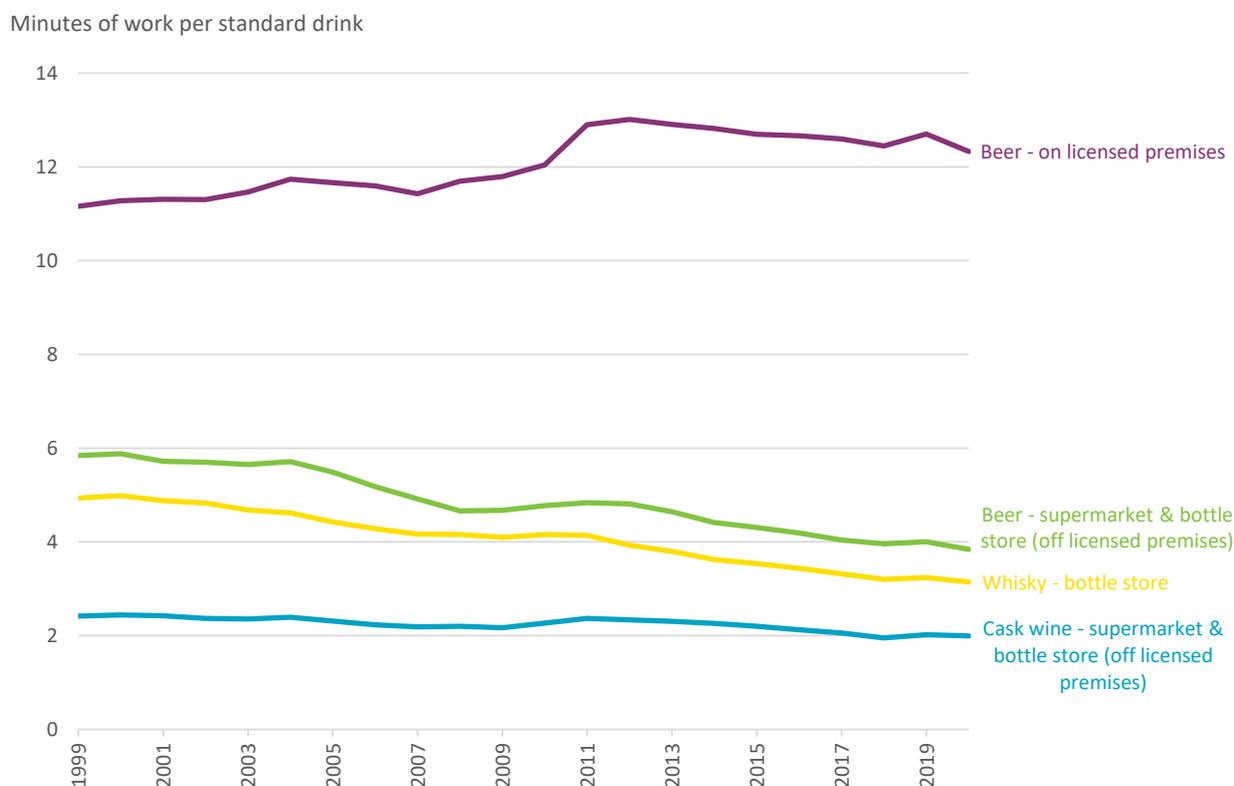
Data sources: CPI Level 3 Classes for New Zealand (Quarterly-Mar/Jun/Sep/Dec), from Infoshare (http://archive.stats.govt.nz/infoshare); median hourly income from the Household Labour Force Survey, from Stats NZ (http://nzdotstat.stats.govt.nz/wbos).

For lowest advertised priced standard drinks

For beer, whisky, and wine, there was a decrease between 2017 and 2020 in the number of minutes necessary to afford a lowest advertised priced standard drink (Figure 5). The number of minutes for cider increased, and the number of minutes for cask wine and RTDs did not change.

Figure 5. Minutes of work needed for an employee on a median income to afford a standard drink (lowest advertised price) in 2017 and 2020

Minutes of work per standard drink

■ Minutes of work per standard drink (2017)   ■ Minutes of work per standard drink (2020)
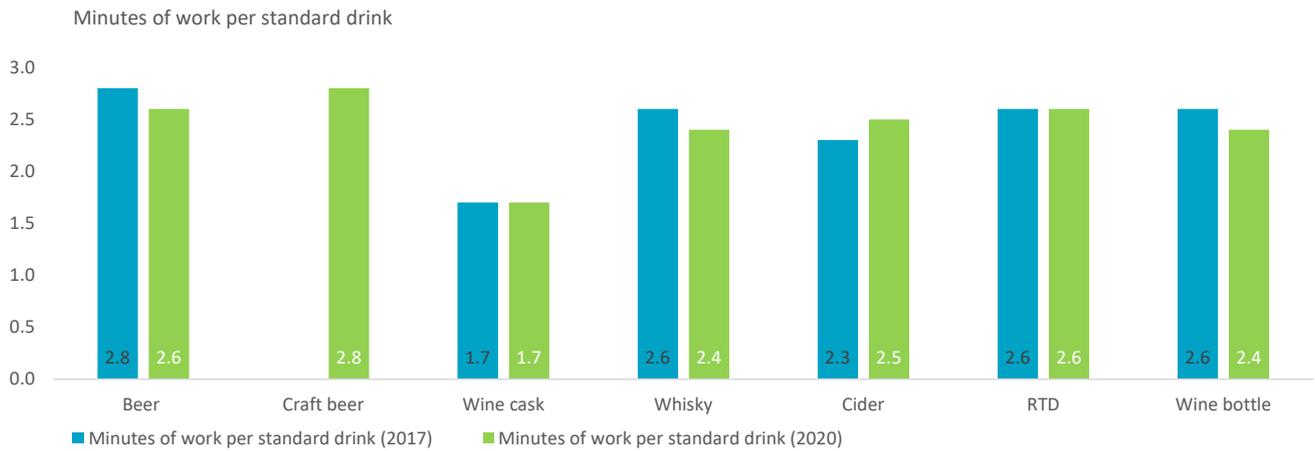
Data sources: Lowest 1% of advertised alcohol from Liquor Information Pricing Service (LIPS, https://www.lipsdata.co.nz); median hourly income from the Household Labour Force Survey, from Stats NZ (http://nzdotstat.stats.govt.nz/wbos).

Implications

The findings from this brief report show that, for some measures, the price of alcohol in Aotearoa New Zealand decreased from 2017 to 2020 (ie, the inflation-adjusted real price of wine, spirits and liqueurs, and all alcohol combined). Furthermore, across all measures, alcohol was more affordable in 2020 than in 2017. This increase in affordability is primarily due to income increasing faster than the alcohol prices. On average, it takes 5.3 minutes for a person on a median income to earn enough to afford an average priced standard drink, and 2.4 minutes for a lowest advertised priced standard drink. It would take just over 10 minutes for a person on a median income to earn enough to afford six of the lowest advertised priced standard drinks and exceed the low-risk alcohol drinking advice for both men and women[7].

The increasing affordability of alcohol in Aotearoa New Zealand raises concerns given the substantial and wide-reaching negative impacts of alcohol use on health and society (Alcohol and Public Policy Group, 2010). Incomes in Aotearoa New Zealand have risen, and increased income tends to increase the demand for alcohol (Gallet, 2007). Additionally, lower alcohol prices encourage alcohol consumption across the general population as demand is heavily influenced by pricing (Wagenaar et al., 2009). Lower alcohol prices are also associated with heavier or more frequent drinking, and heavy drinkers[8] are more likely to buy cheaper alcohol (Casswell et al., 2016; Wall et al., 2017). Availability of cheap alcoholic beverages, in particular higher strength beverages, are known to facilitate heavy drinking sessions, including pre-drinking (consumption of alcohol before a night out or event). Pre-drinking and side-loading (consumption of alcohol during a night out or event at a location other than a licensed venue) have a significant effect on drunkenness during a night out and have been associated with higher levels of intoxication and alcohol-related risks and harm (Cameron et al., 2020).

As the affordability of alcohol in Aotearoa New Zealand increases, alcohol use and alcohol-related harm, including health inequities for Māori, are expected to rise (Ministry of Health, 2020) unless meaningful prevention measures are implemented (Boniface et al., 2017; Meier et al., 2016; Wall & Casswell, 2013). The effective and cost-effective strategies that comprise the WHO's SAFER initiative[9] aim to reduce alcohol availability and advertising, strengthen drink driving countermeasures, facilitate access to screening and treatment, and raise prices on alcohol.

In Aotearoa New Zealand, the implementation of alcohol pricing policies, such as minimum unit pricing and increasing excise tax on alcohol, would be effective in reducing alcohol consumption and alcohol-related harm (Boniface et al., 2017; O'Donnell et al., 2019; Sharma et al., 2017; Xu & Chaloupka, 2011). The 2019/20 Alcohol Use in New Zealand Survey (AUiNZ) found that 33% of respondents supported raising prices on alcohol through excise taxes and pricing policies (Aron & Allen, 2021). In addition, 61% of respondents to a 2019 UMR public opinion poll supported increasing the price of alcohol if the revenue was used to fund mental health and addiction services (Alcohol Healthwatch, 2020). Harm from alcohol is expensive for Aotearoa New Zealand society due to costs to the health system, justice system, and welfare costs, as well as lost productivity and unemployment (Cobiac et al., 2019; Easton et al., 2016; Sullivan et al., 2019). Support for raising alcohol prices could further strengthen with greater public awareness on the costs of alcohol harm.

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7   The low-risk alcohol drinking advice recommends no more than five standard drinks for men and no more than four standard drinks for women on any single drinking occasion to reduce the risk of alcohol-related injury. For more information, go to https://www.alcohol.org.nz/help-advice/advice-on-alcohol/low-risk-alcohol-drinking-advice.

8   Classified as those who have 6 or more drinks on an occasion at least once a week.

9   For more information on the SAFER initiative, go to https://www.who.int/initiatives/SAFER.

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Acknowledgements

Citation

Methods

- The Consumers Price Index (CPI) measures the changes in the price of goods and services purchased by New Zealand households. It is published quarterly, and is used to influence interest rates and benefit payments. It is indexed to an arbitrary date as a benchmark for prices in other periods to be compared to (eg, if the CPI in a later period is 1200, prices have increased by 20.0 percent since the indexed date). In the 2017 review of the CPI, the base period was changed to June 2017 = 1000 from the previous base of June 2006 = 1000. For more information on CPI, go to https://www.stats.govt.nz/indicators/consumers-price-index-cpi.

- This report presents updated data from December 2017 to December 2020.

- For a full description of the methods, refer to the 2018 report. This can be found at https://www.hpa.org.nz/research-library/research-publications/trends-in-affordability-of-alcohol-in-new-zealand.

- Impact of COVID-19 on CPI

  - Alcohol prices sold in restaurants and bars were unavailable in April 2020 due to restaurants and bars closing during lockdown. To account for this, Stats NZ took the average price from May and June to calculate the June quarter price[10].

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10 The June 2020 quarter is from 1 April to 30 June 2020. For more information on the impact of COVID-19, go to https://www.stats.govt.nz/methods/impacts-of-covid-19-on-the-methodology-used-for-the-june-2020-quarter-cpi.

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