Alcohol pricing and discounting in Aotearoa New Zealand

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Acknowledgements

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Why care about alcohol pricing?

- There is a very simple story here:
  - Basic Economics 101: when prices are lower, people buy more (the ‘Law of Demand’)
  - People who buy more alcohol will tend to drink more
  - More drinking leads to more alcohol-related harm

WHO best practice guidelines

- The WHO's Global Alcohol Action Plan 2022–2030 affirms pricing/taxation as a high-impact "best buy" for reducing alcohol-related harm
- The WHO recommends:
  - Using specific excise taxes based on ethanol content (volumetric/unitary), indexed regularly to inflation/income, and keeping structures simple for enforcement;
  - Raising excise and reviewing rates periodically;
  - Banning or restricting deep price promotions (e.g., multi-buys, "all-you-can-drink"), banning below-cost selling, and considering minimum prices where applicable; and
  - Creating price incentives for low-/no-alcohol products and avoiding subsidies for alcohol.

Price regulation in other countries

- Scotland – Minimum Unit Pricing (MUP) introduced May 2018 at £0.50/unit, increased to £0.65 on 30 Sep 2024
- Wales – MUP 50p/unit since 2 Mar 2020
- Republic of Ireland – MUP €0.10 per gram of alcohol (≈€1 per standard drink) since 4 Jan 2022
- England – No MUP, but ban on selling below “duty+VAT” (i.e., a floor at tax-inclusive cost) in force since 28 May 2014.
- Canada – Some provinces have minimum retail prices (e.g., Ontario by regulation; British Columbia policy directive)
- Australia (Northern Territory) – MUP A$1.30/standard drink (2018–2025); repealed 1 Mar 2025

The effects of price regulation

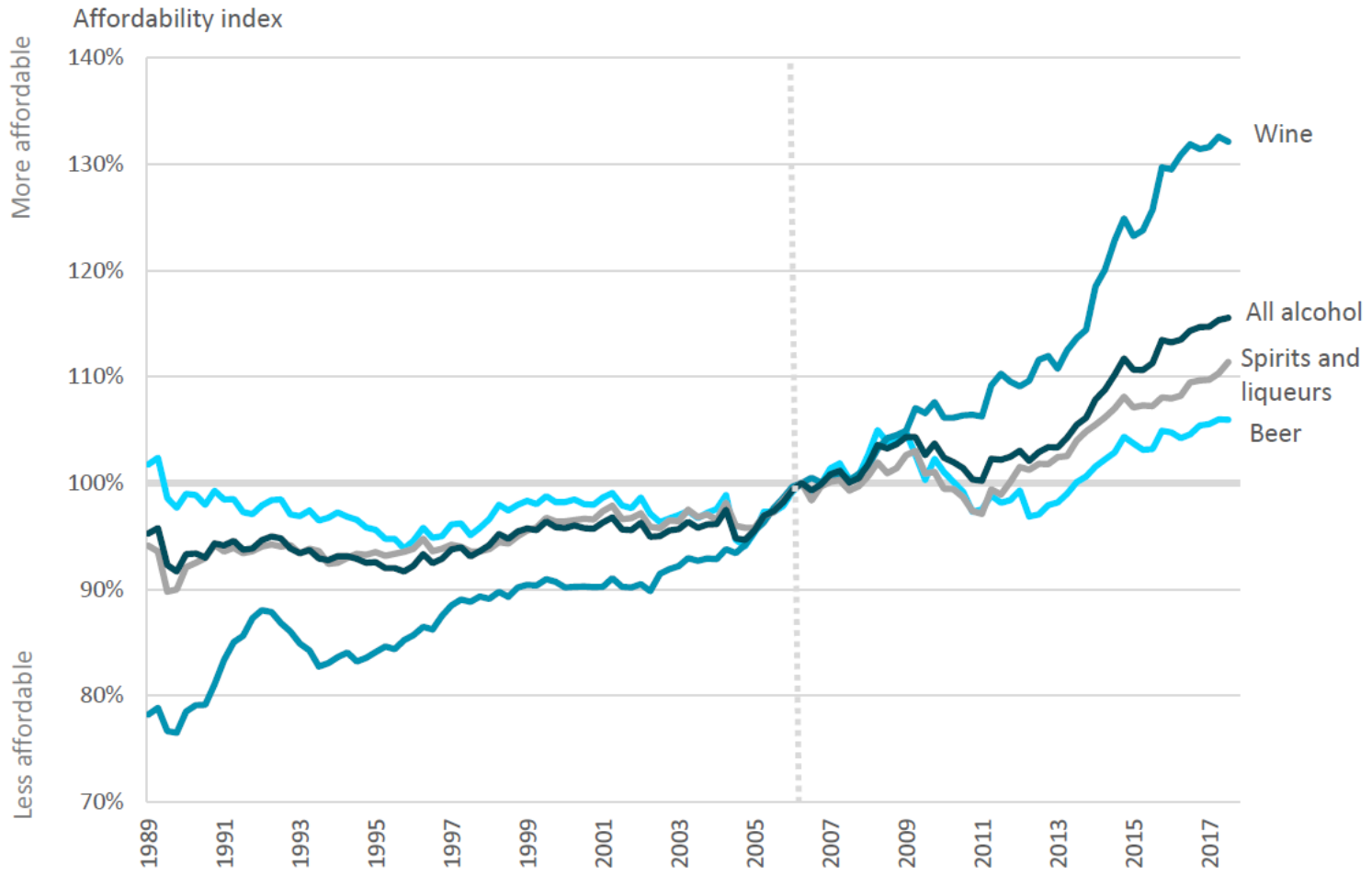
- Analysis on minimum unit pricing in other countries has shown positive effects:
  - In Scotland, MUP has been associated with a 3% decrease in sales overall in the first three years (and a 3.6% decrease in off-licence sales), as well as a 13.4% decrease in alcohol-specific deaths, and a 4.1% decrease in hospital admissions over 2.5 years, with largest decreases in more socially deprived areas
  - In Wales, the MUP decreased household alcohol purchases by 8.6%, with larger effects in the largest-purchasing households
  - In British Columbia (Canada), each 10% increase in the minimum price was associated with a 3.4% decrease in alcohol consumption, a 9% decrease in acute alcohol-attributable hospital admissions and a 9% reduction in chronic alcohol-attributable admissions two years later
  - The Northern Territory MUP reduced per capita consumption by 6.3%, and led to a 26% decrease in non-domestic violence assaults, and a 24-38% decrease in alcohol-related ED presentations (although the MUP was part of a number of policy changes at the same time)

Some New Zealand background

- Prior to 1989, alcohol was relatively expensive
  - There was a restricted market and local monopolies (not just licensing trusts, but more generally)
- The Sale of Liquor Act 1989 (with key provisions commencing April 1990) explicitly removed those monopolies, opening the sector to competition
  - Grocery stores and supermarkets could sell wine (beer followed in 1999), and licence criteria were eased.
  - Outlets proliferated: total licences more than doubled from 6,295 (1990) to 14,424 (Feb 2010); off-licences more than doubled (1,675 → 4,347). Supermarkets (only ~3% of licences) sold ~33% of all beer and ~58% of all wine by 2008
  - Advertised prices of mainstream beer were $10–$12/dozen in 1988, and ~$14/dozen in 2008, with specials as low as $10–$11

Change in alcohol prices over time

Figure 2: The affordability of alcohol



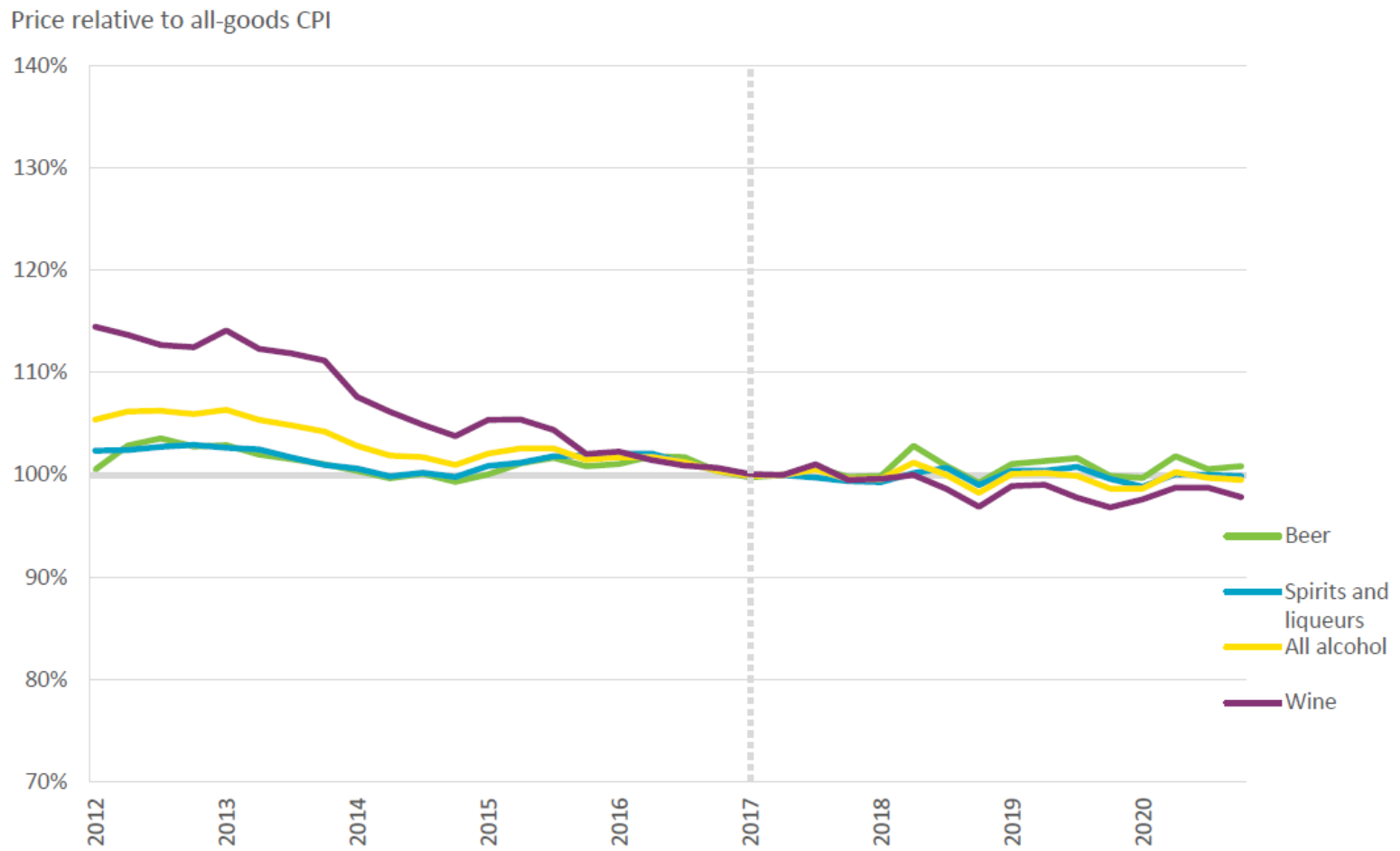
Source: HPA (2018)

Law Commission Review (2010)

- The Law Commission's 2010 review ("Alcohol in our Times: Curbing the Harm") made a number of recommendations related to pricing:
  - Raise excise by 50% (modelled to lift average retail prices ~10% and target the cheapest alcohol most)
  - Investigate a statutory minimum price per standard drink and report back to Ministers (the Commission suggested indicative levels such as $1.20 per standard drink for analysis)
  - Require off-licence retailers to provide price/volume sales data to enable evidence-based pricing policy (and to support any minimum price design)
  - Curb heavy discounting (the Commission did not call for a blanket ban on price advertising, but backed restrictions on heavily discounted promotions; it also noted practical problems defining a ban on "below-cost/loss-leading" sales).

Change in alcohol prices over time

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



Source: Aron et al. (2021)

Low off-licence alcohol prices

- There is a substantial difference in prices between on-licences and off-licences
- A 2021 analysis by Alcohol Healthwatch found very low prices for the cheapest (per standard drink) alcohol products, far below a mooted MUP of $1.30 per standard drink

Alcohol at pocket money prices

The cheapest (per standard drink) **alcohol products available at off-licence stores.**

Cask wine	77c	Beer	98c
Bottled red wine	85c	Cider	$1.08
Bottled white wine	88c	RTDs	$1.14
Light spirits	91c	Heavy spirits	$1.08 to $1.20

Many of the most popular brands of alcohol all sold for **$1.30** or less

***Standard Drink:** 10g of pure alcohol (330ml 4% beer, 100ml wine 12.4% wine, 30ml spirits 42%

****Audit of the price of alcohol at 10 licenced supermarkets and 12 bottle stores in Auckland carried out by Alcohol Healthwatch between March 25 and May 4.

Herald Network graphic

Research questions

- In this research, we wanted to better understand the alcohol pricing and discounting environment for off-licence outlets in Aotearoa New Zealand, and to provide an assessment of the potential effects of alcohol minimum pricing
- Our specific research questions were:
    1. How do alcohol prices and discounts vary, both geographically and over time?
    2. How did alcohol pricing and discounting change, if at all, between the period before and the period after the COVID-19 pandemic and associated lockdowns?
    3. How might alcohol minimum pricing affect prices and discounts across New Zealand?

Data

- We make use of the Liquor Information Pricing Services (LIPS) data, supplied by the Health Promotion Directorate at Te Whatu Ora Health New Zealand
- LIPS collects data on advertised alcohol prices from newspapers, circulars, mailers and email offers from all types of outlets that sell alcohol throughout New Zealand
- Our dataset contains data on alcohol products covering the period from 2012 to 2022
  - 41,992 observations in total
  - After data cleaning, we have 26,368 observations where data met basic quality checks, as well as being able to be matched to a product and retailer, and having at least five observations on price across the 11-year period

Data

- Our 26,368 observations cover:
  - 11 years (2012-22)
  - 21 ‘media locations’ (regions, including ‘national’ where the price was advertised
  - 116 retailers
  - 2142 products
    - We merged many products together, such as different flavours of RTDs, bottles and cans (when they are the same volume and ABV, and sold at the same price point), different types of wine (when they are the same volume, sold at the same price point, and sold as part of a ‘range’)
- A subset of the data (n=9,465) includes the number of standard drinks

Methods

- Our econometric approach to looking at prices is to apply the following model:

$$P_{ijrt} = \alpha\beta_i\gamma_j\delta_r\theta_t$$

- Where P_{ijrt} is the price of product *i* sold by retailer *j* advertised in media location *r* at time (year) *t*.
- When expressed in logarithms, this creates a simple log-linear regression model. Then:
  - By looking at the values of β, we can see how prices vary across different products, holding the other factors (retailer, media location, time) constant
  - By looking at the values of γ, we can see how prices vary across different retailers, holding the other factors constant
  - By looking at the values of δ, we can see how prices vary across media locations, holding the other factors constant
  - By looking at the values of θ, we can see how prices vary over time, holding the other factors constant

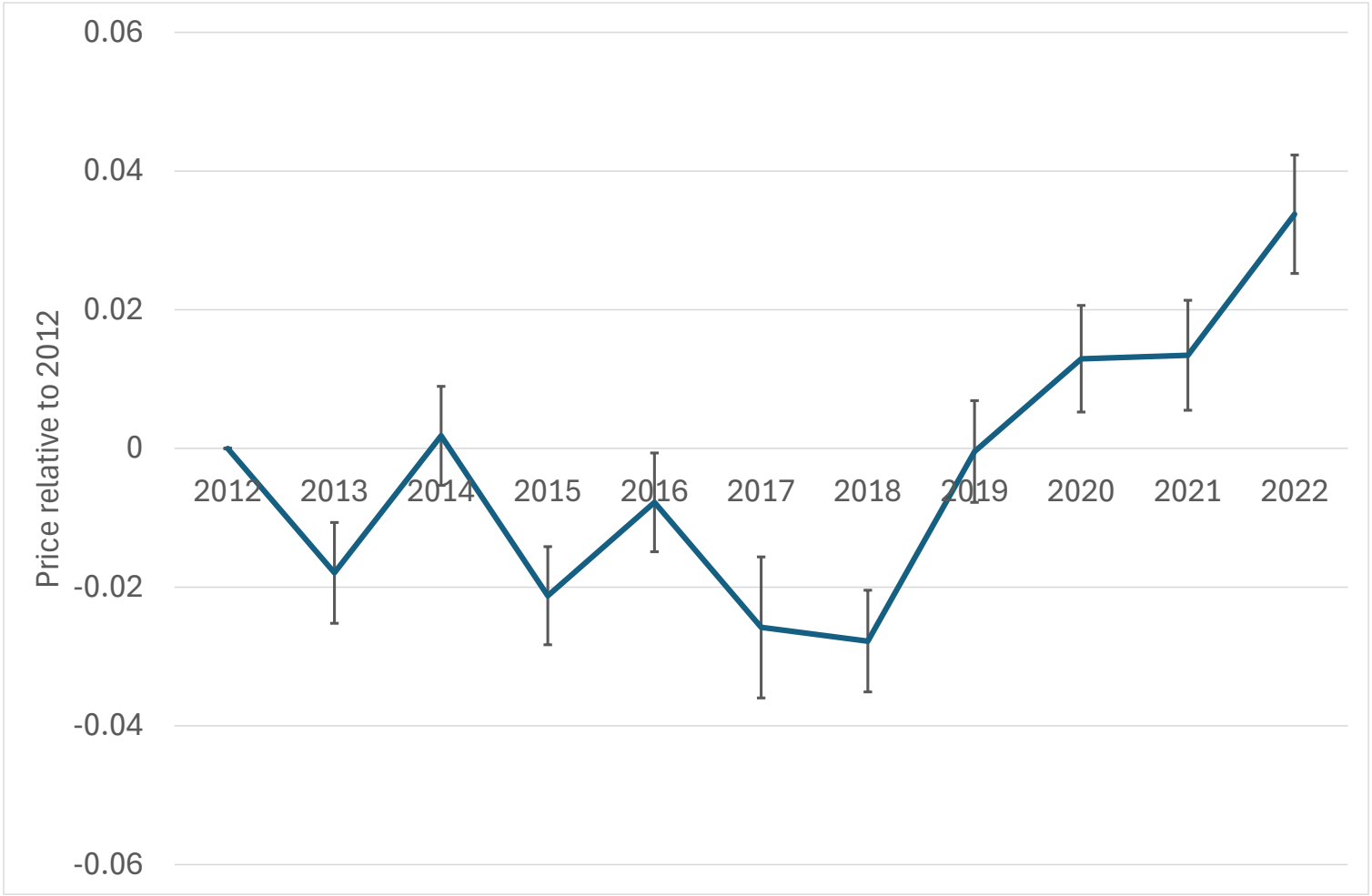
Methods

- To look at the effect of minimum unit pricing, we follow other researchers in looking at the number (and proportion) of products that would be affected by different MUP values
- In the analysis I will present today, we use as examples MUP values of $1.00, $1.50, and $2.00 per standard drink
  - Ultimately, we will look at a more continuous range of MUP values
- We do this exercise first using nominal values for the MUP, and then using values adjusted for CPI inflation (starting with the MUP values above in 2012, and then adjusting the MUP value each year by the change in the CPI for the *previous* year)

Results: Summary of prices

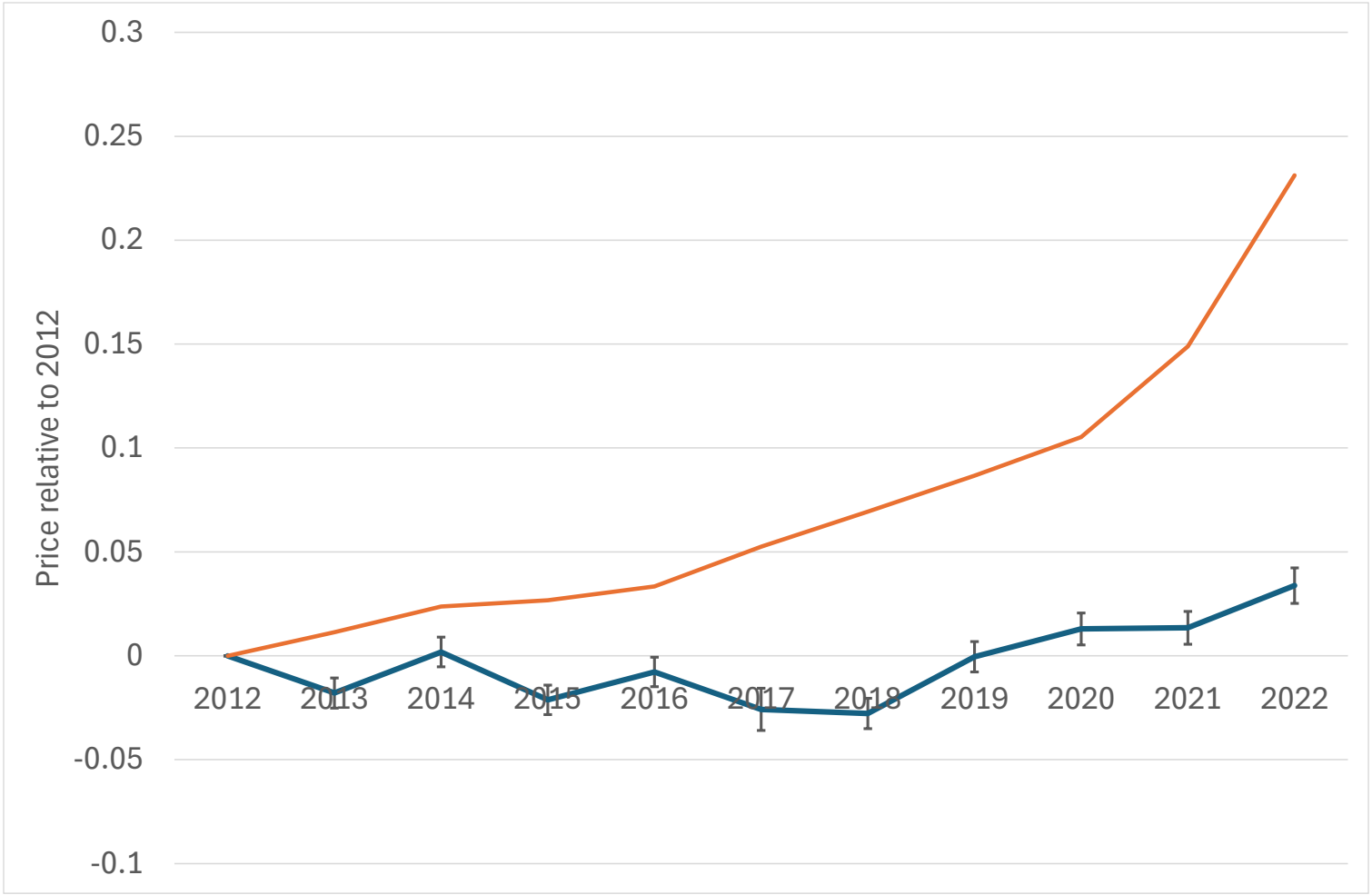
Product	Mean	Median	Std Dev.	Min.	Max.
All prices (n = 26,368)					
All products	27.11	17.99	70.72	2.59	4999.00
Beer	20.31	18.49	25.87	2.70	352.99
Cider	13.91	9.99	11.22	2.99	89.99
RTDs	20.13	19.99	5.89	4.49	42.00
Spirits	60.42	44.99	148.77	3.99	4999.00
Wine	18.56	14.99	20.67	2.59	940.00
Per-standard-drink prices (n = 9,465)					
All products	2.24	1.82	2.23	0.68	56.24
Beer	2.27	1.84	1.30	0.77	20.43
Cider	3.07	2.14	5.09	0.80	56.24
RTDs	1.97	1.59	2.79	0.75	48.74
Spirits	2.51	2.06	1.78	0.94	27.10
Wine	2.09	1.82	1.50	0.68	29.58

Results: Price changes over time



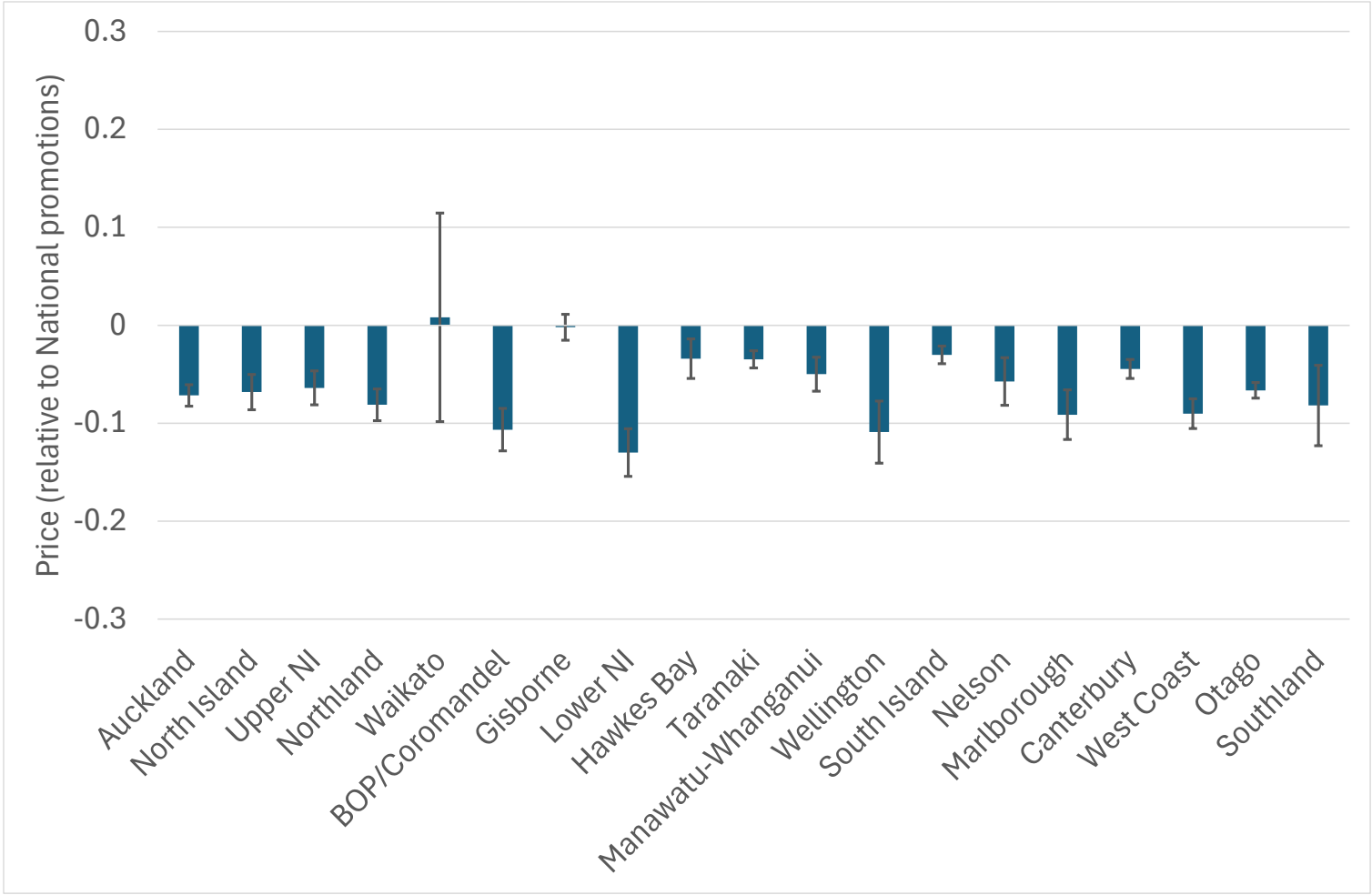
Change in advertised drink specials over time, nominal prices, 2012-2022

Results: Price changes over time



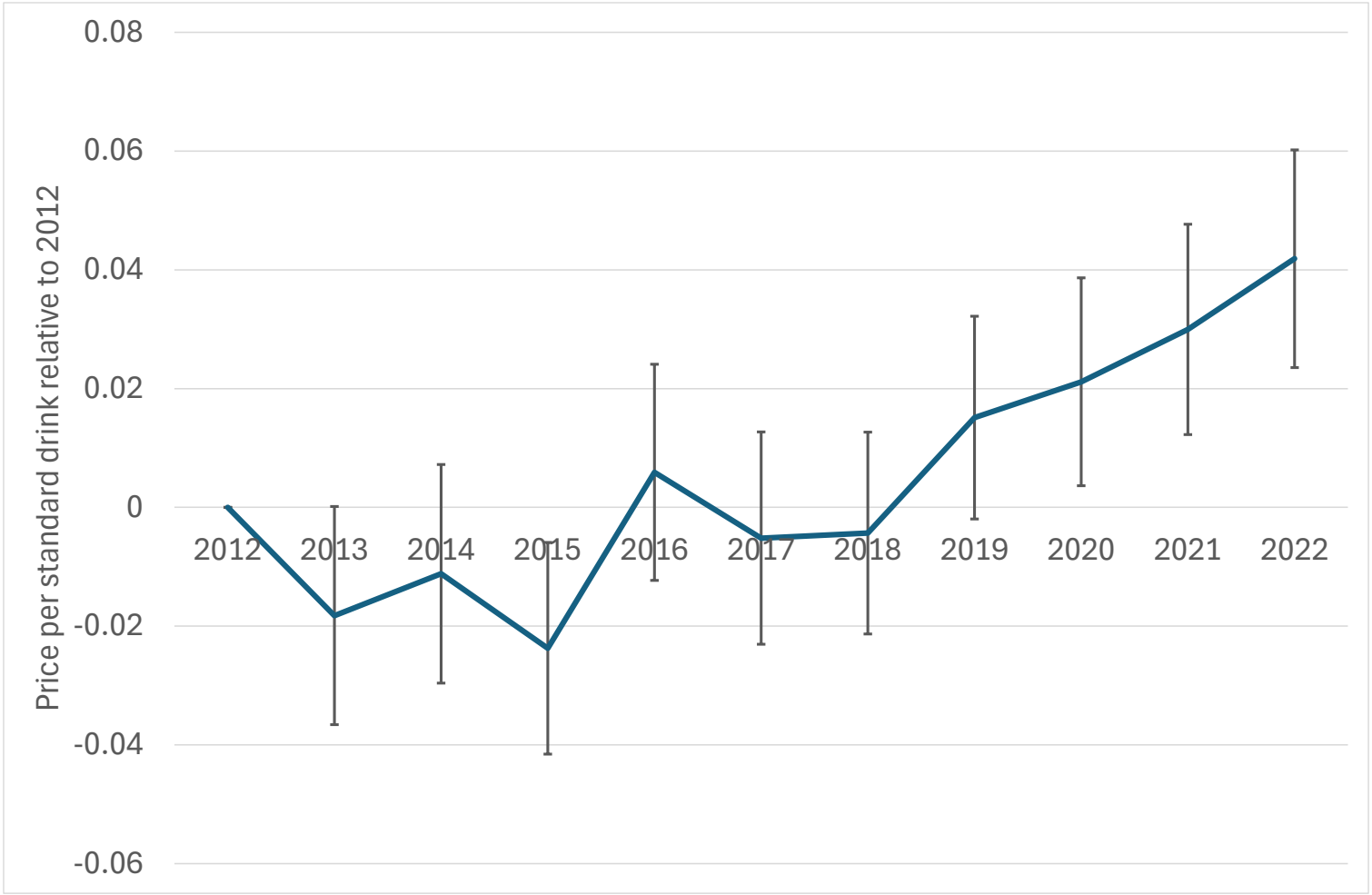
Change in advertised drink specials over time, nominal prices, 2012-2022

Results: Price differences between media locations



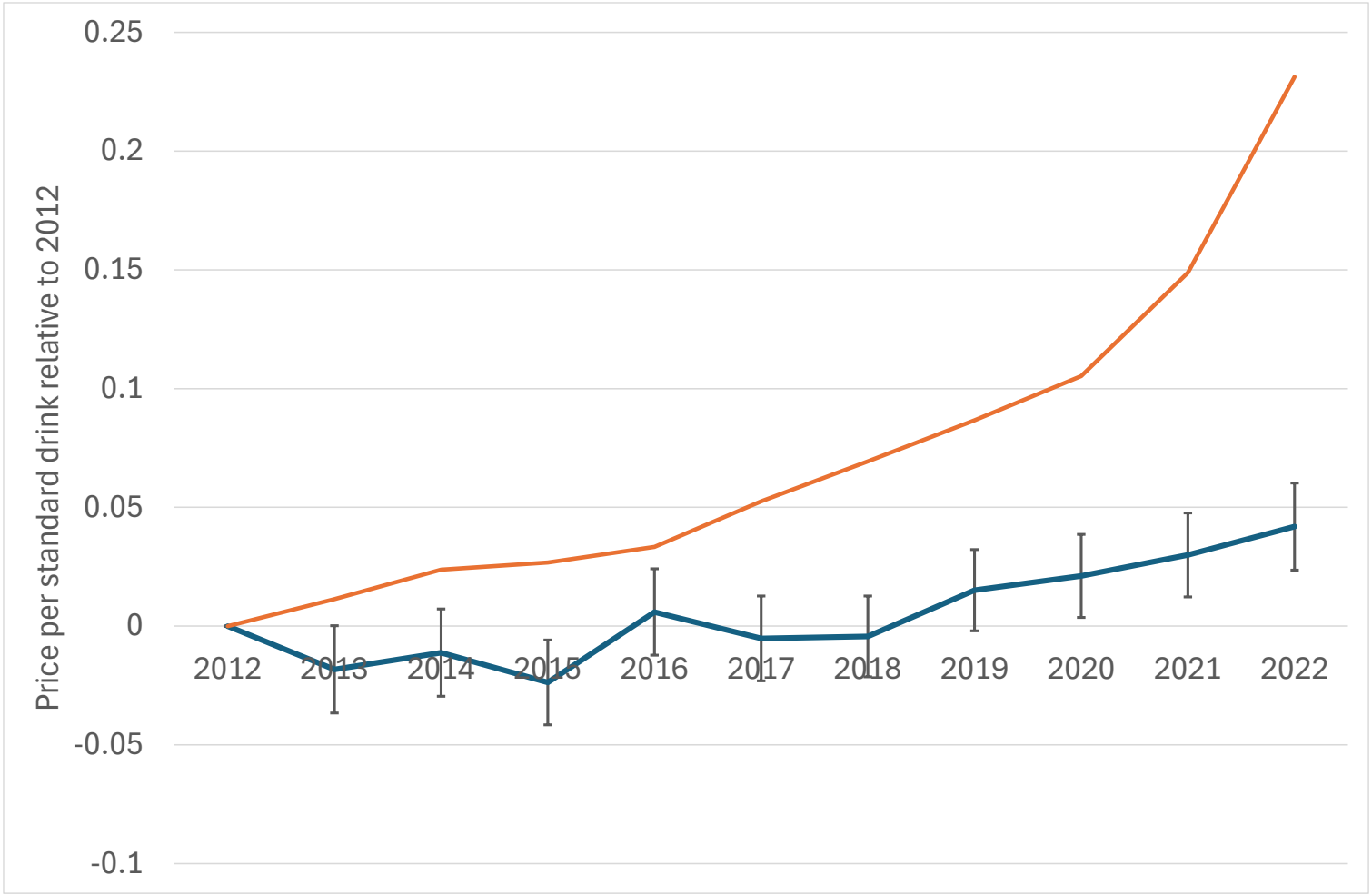
Difference in advertised drink specials by media location, 2012-2022

Results: Price changes over time (per standard drink)



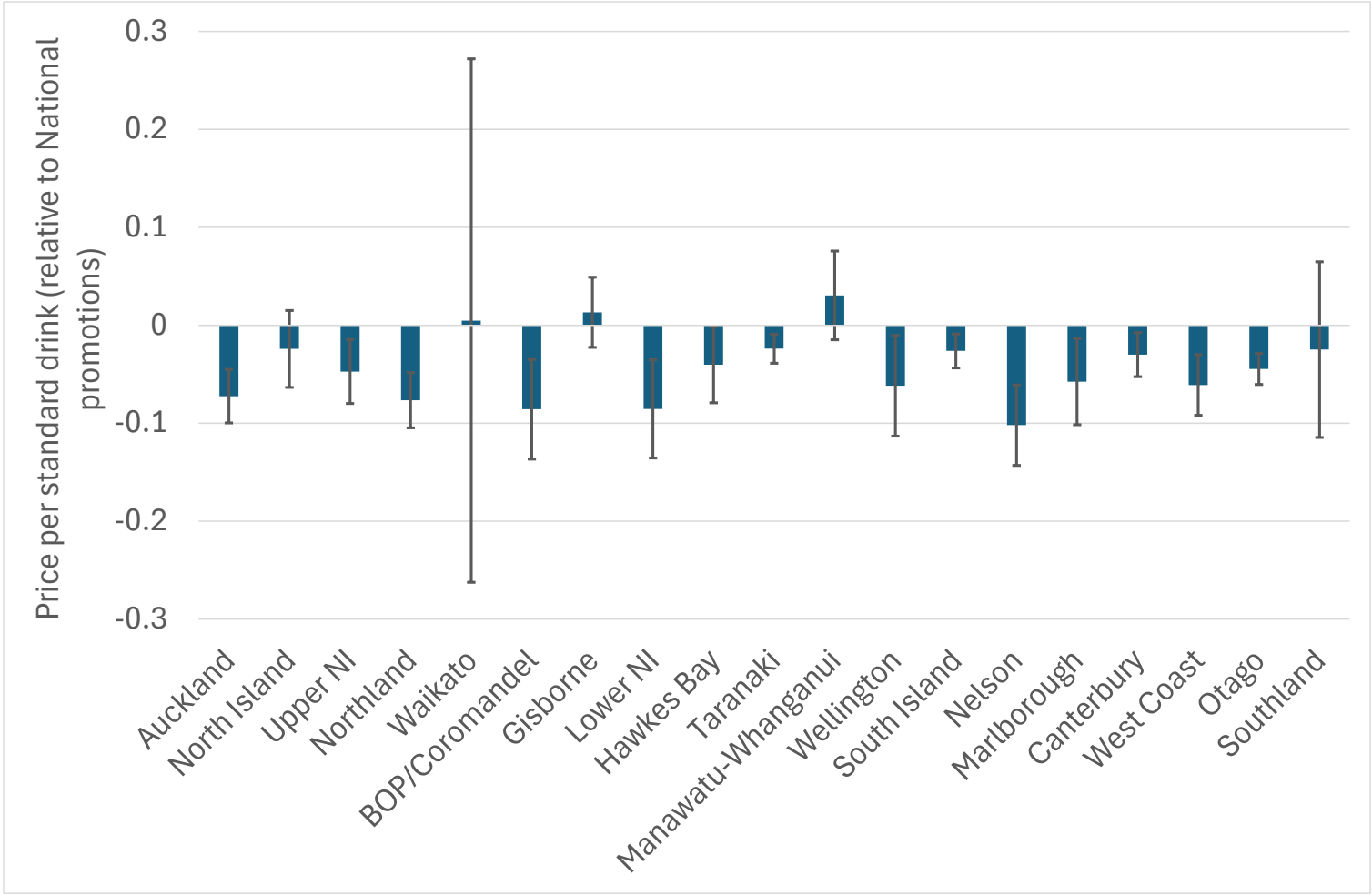
Change in advertised drink specials (per standard drink) over time, nominal prices, 2012-2022

Results: Price changes over time (per standard drink)



Change in advertised drink specials (per standard drink) over time, nominal prices, 2012-2022

Results: Price differences between media locations

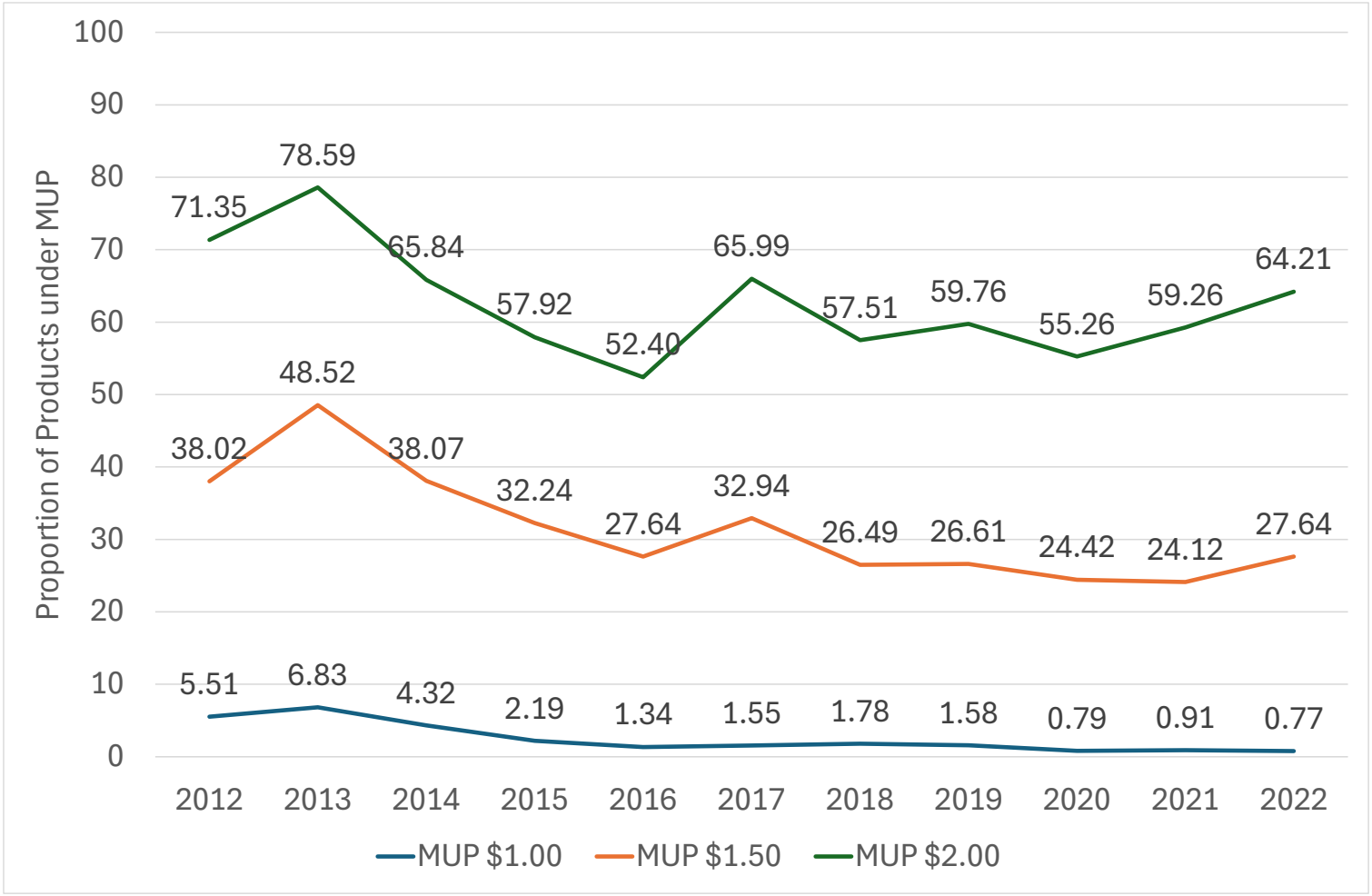


Difference in advertised drink specials (per standard drink) by media location, 2012-2022

Results: The effect of COVID on prices

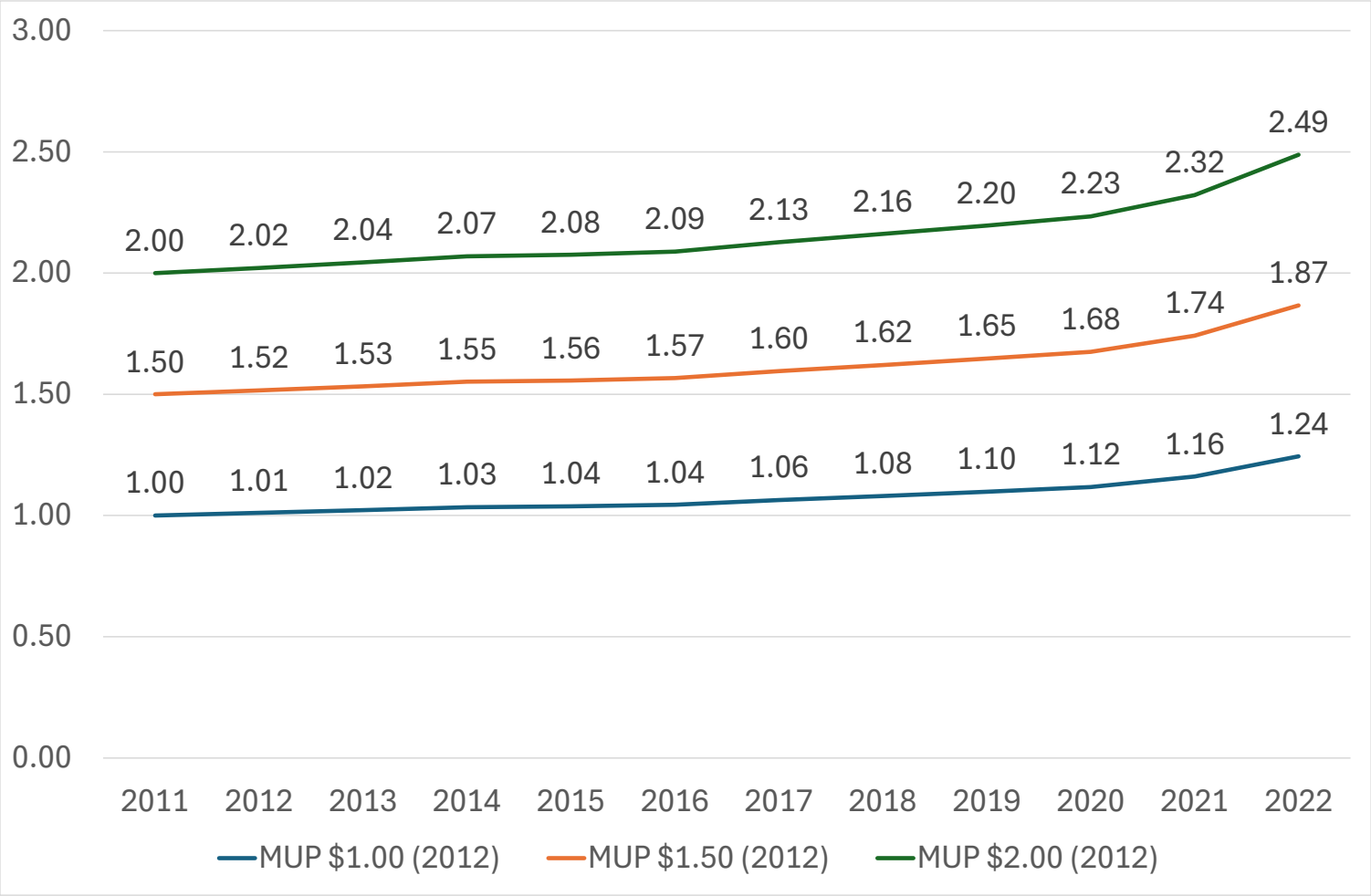
- Surprisingly, there was no statistically significant effect of COVID on prices, once we control for the general upward time trend in prices
  - We tested various different ways of picking up a discrete change in advertised prices between the period from 2012-2019, and the period from 2020-2022, and none of them showed a statistically significant jump in prices between those two periods
- In other words, while prices *did* increase between 2019 and 2020, in statistical terms that increase wasn't any more than could have been expected given the changes in prices from 2012 to 2019 (and especially the change between 2018 and 2019)

Results: The effect of MUPs



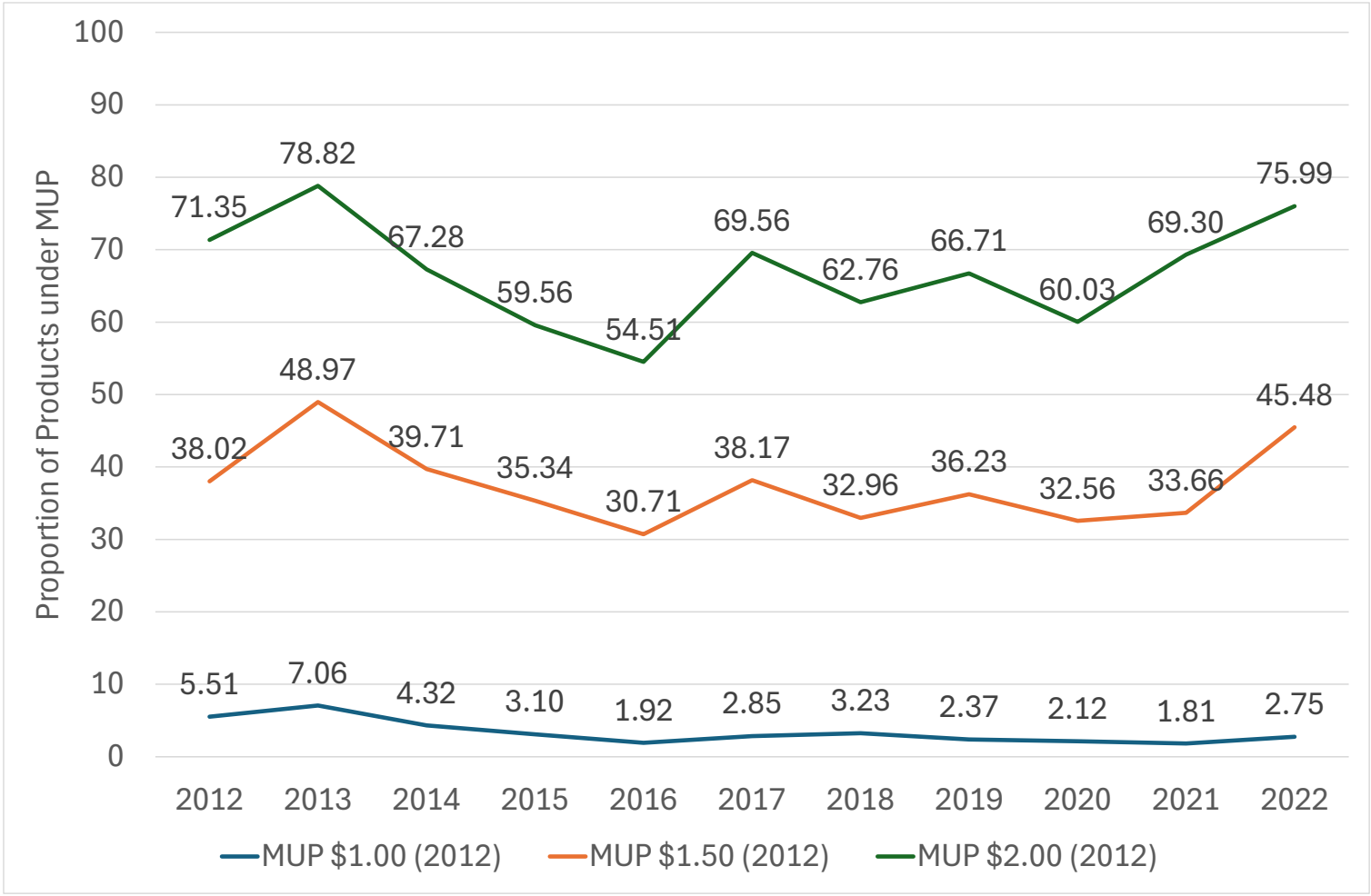
Proportion of Products Affected by Minimum Unit Prices, 2012-2022

Results: The effect of inflation on MUPs



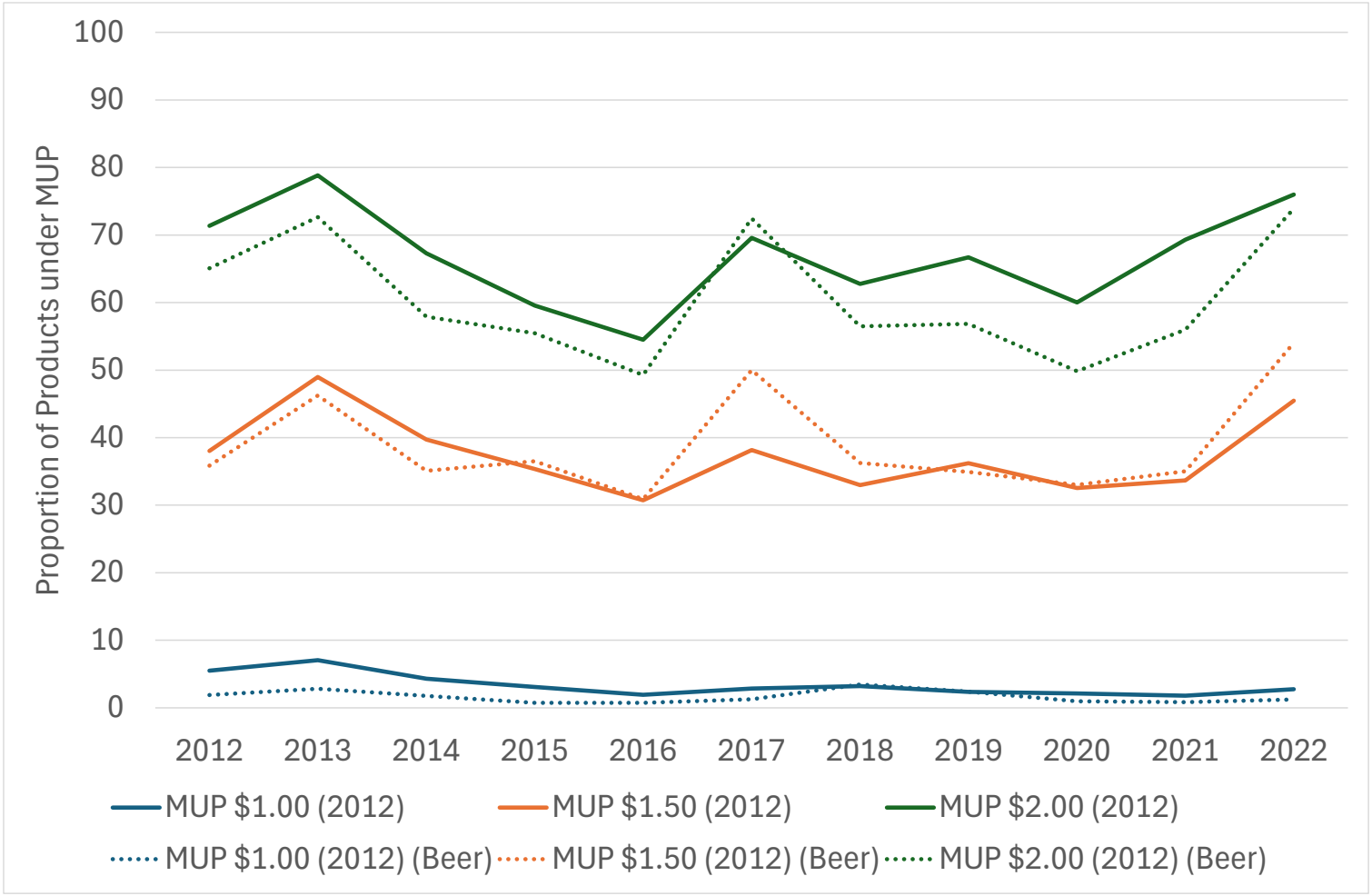
Inflation-adjusted Minimum Unit Prices (per standard drink), 2012-2022

Results: The effect of MUPs for all products



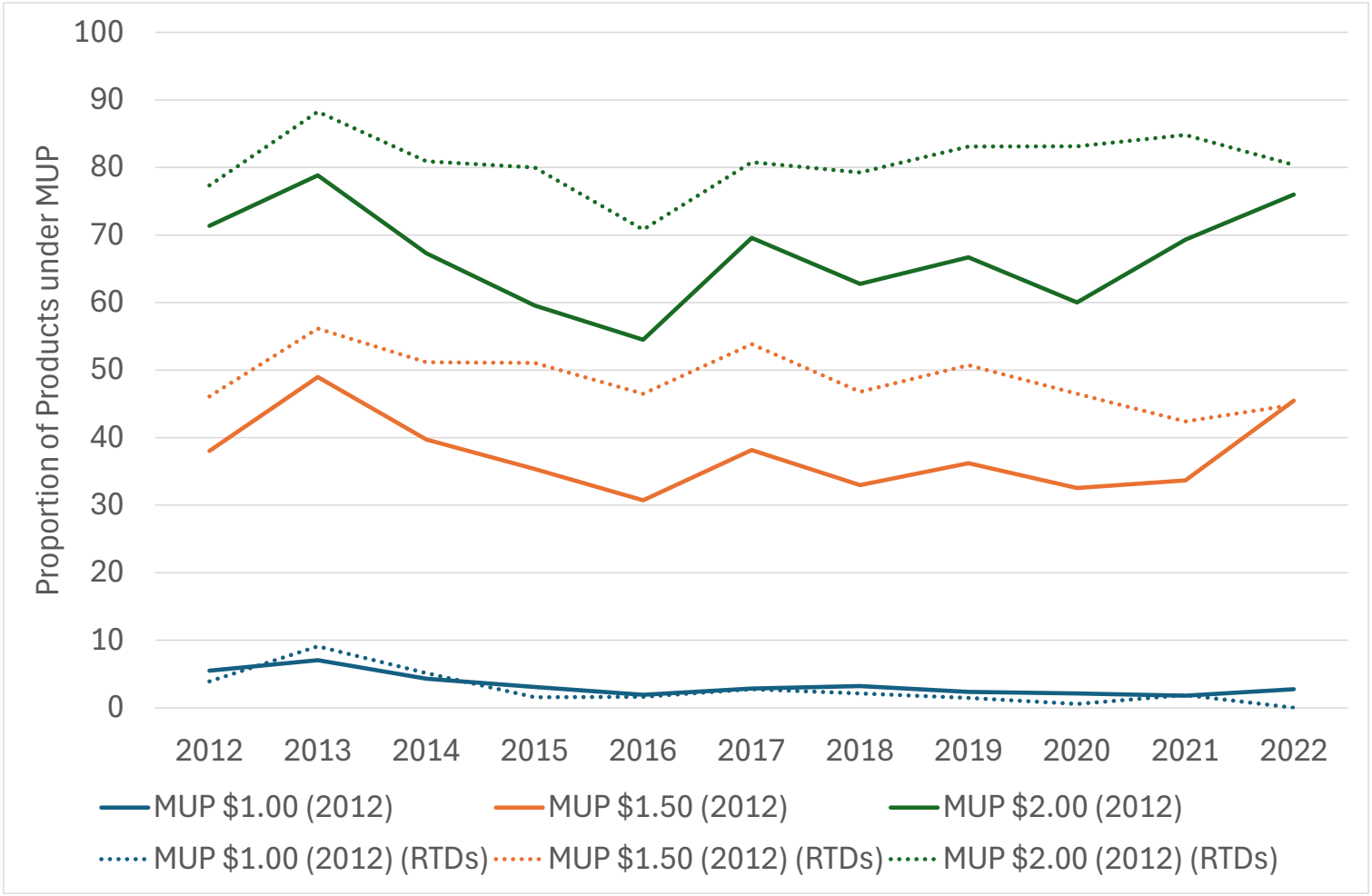
Proportion of Products Affected by Inflation-Adjusted Minimum Unit Prices, 2012-2022

Results: The effect of MUPs for beer



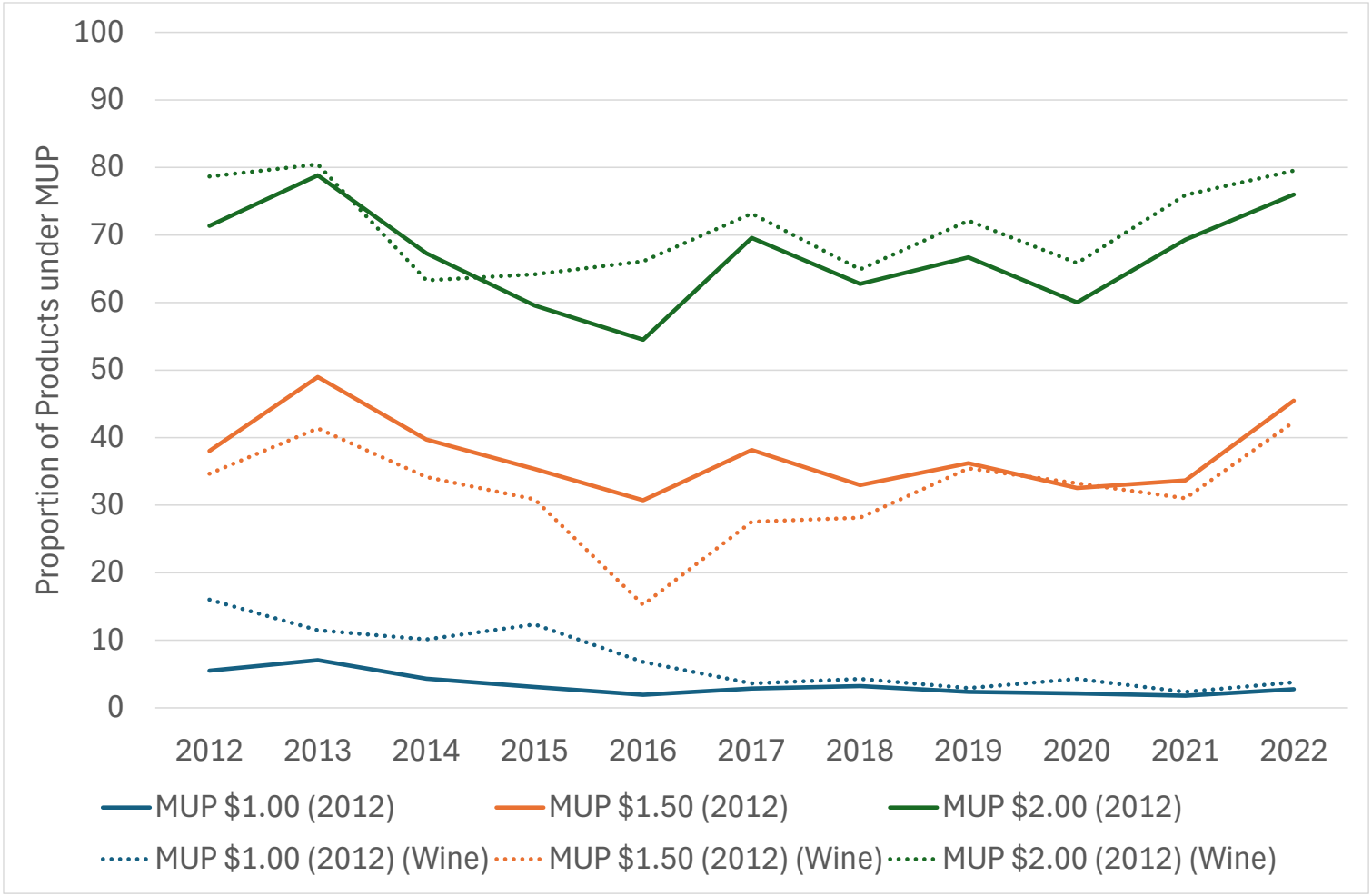
Proportion of Products Affected by Inflation-Adjusted Minimum Unit Prices, 2012-2022

Results: The effect of MUPs for RTDs



Proportion of Products Affected by Inflation-Adjusted Minimum Unit Prices, 2012-2022

Results: The effect of MUPs for wine



Proportion of Products Affected by Inflation-Adjusted Minimum Unit Prices, 2012-2022

Conclusions

- Prices have increased from 2012-2022, but far below the rate of inflation overall
  - The increases in advertised prices really started from 2019 (prior to that prices were flat or decreasing)
  - Alcohol has become more affordable (to the extent that wages and incomes have kept pace with inflation)
- Advertised prices tend to be lower when they are advertised regionally, rather than nationally
  - A question for you: Is that because the large national chains don't discount as much as smaller retailers?
- COVID-19 didn't have an impact on pricing over-and-above the general trend in price changes over time

Conclusions

- Minimum unit pricing would have an effect on prices
  - Unsurprisingly, the number of affected products is greater if the MUP is higher
  - Automatically adjusting the MUP for inflation will be important
  - A low (~$1.00 per standard drink) MUP will have a bigger impact on low-priced wines than other products
  - A moderate (~$1.50 per standard drink) or high (~$2.00 per standard drink) MUP will have a bigger impact on low-priced RTDs than other products

Limitations

- The analysis only covers advertised prices, and regular ('in-store') prices are not included
  - However, if prices are low, we can expect retailers to want their customers to know (by advertising those prices)!
- There were a number of issues with the dataset
  - Some products could not be identified
  - Some price data were clearly incorrect
  - Many products had no standard drinks information, and no ABV that could be used to calculate standard drinks
- No data on quantities sold
  - So we are left with estimating the proportion of products affected by MUP, rather than the proportion of sales
- No data on who the consumers are
  - So we can't say with certainty whether MUPs of different levels would target high-risk drinkers

Next steps

- We'll complete a more fine-grained analysis of different MUP levels (with $0.05 increments), both overall and by product category
  - That will help to identify where the key points in the MUP distribution are for targeting specific product categories
- We will also be looking at whether there are differences in the impacts of MUP by media location
  - Given that media locations below 'national' have lower prices, it is likely that there will be larger impacts below the national level

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