

Spirits excise option modelling

Final report

January 2020



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Overall results – all options

These results examines the revenue to government from four options of changes to taxation of spirits, as follows:

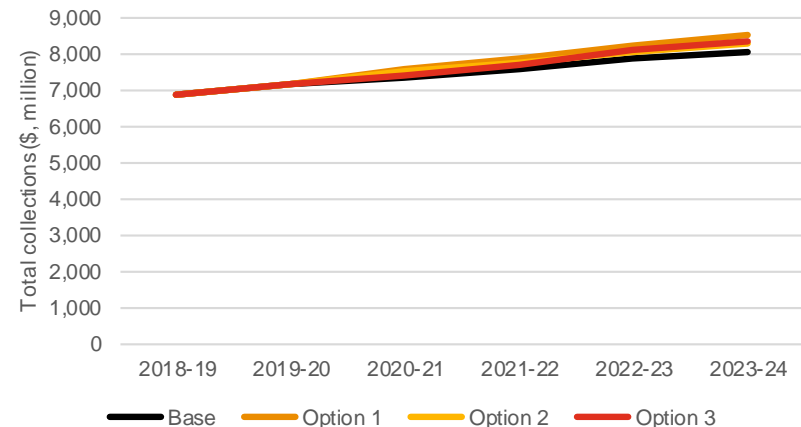
- **Option 1** - A combination of freezing Consumer Price Index (CPI) of the brandy excise and extending it to all spirits and ready-to-drink beverages (RTDs) (combination of Options 2 and 3 below).
- **Option 2** - Applying the current brandy excise rate to all spirits and RTDs. Currently, brandy is taxed at \$80.20 per litre of pure alcohol (LAL) and spirits at \$85.87 per LAL. This option would, in effect, abolish the existing spirits excise category and tax all spirits and RTDs, including brandy, at the existing brandy rate.
- **Option 3** - Freezing CPI increase of brandy and spirits excise at current rates for a period of three years. Currently rates are indexed with CPI twice a year in February and August.
- A separate examination of amending the craft distillers excise refund scheme.

All changes are assumed to start at the beginning of the 2020-21 tax year. The graphs to the right show the impact of Options 1-3 on total government revenue from alcohol excises, as well as collections just from excise of spirits and RTDs (i.e. excluding wine equalisation tax (WET) and excise on beer and cider). This shows that government collections from alcohol excise changes only marginally. The detail of each option is examined in the following pages and key approach assumptions are covered in the appendix.

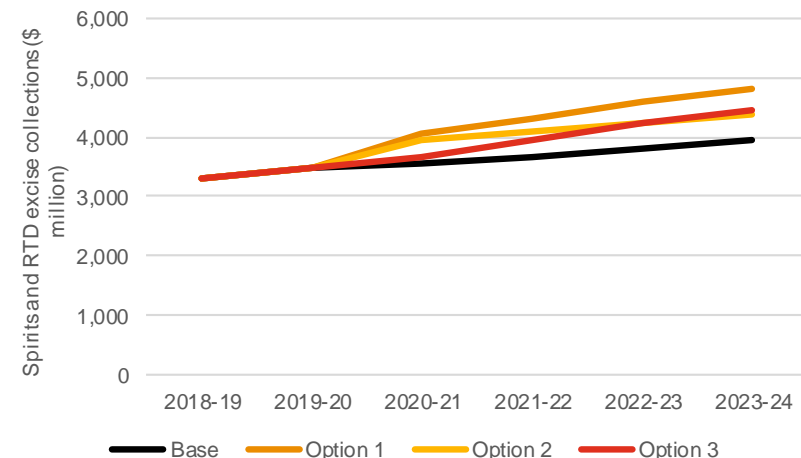
Throughout this report the term ‘excise’ is taken to mean both excise and excise equivalent customs duty as no distinction is drawn between domestically produced goods and excise equivalent goods in the analysis. Total revenue also includes changes to Goods and Services Tax (GST) collections.

It should be noted that analysis and forecasts in this report were prepared in January 2020 (with the exception of excise refund analysis which was added in June 2020) and so are on a pre-COVID-19 basis.

Total alcohol excise revenue (2018-19 to 2023-24)



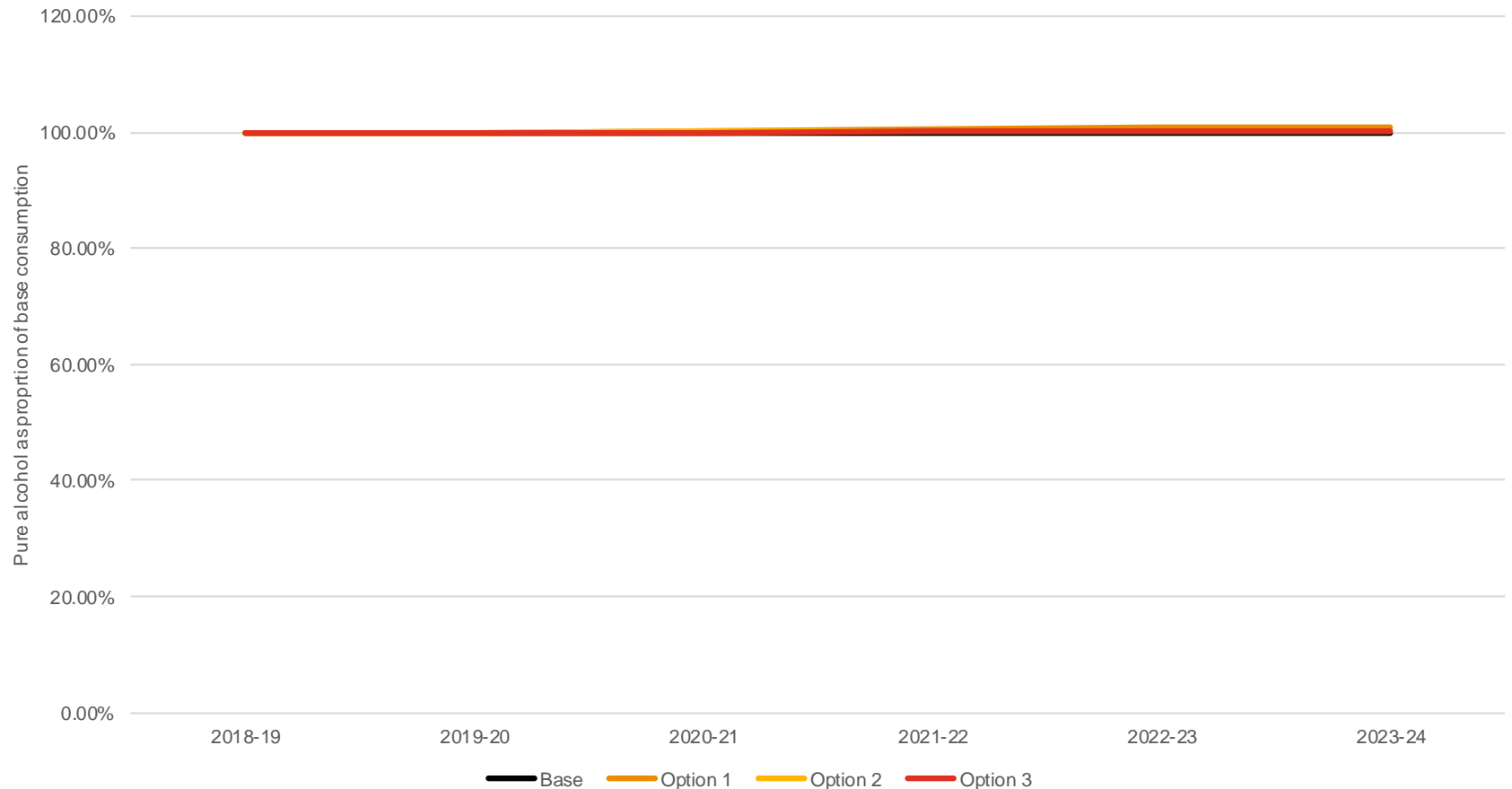
Spirits and RTD excise revenue (2018-19 to 2023-24)



Overall results – all options

The graph below shows proportional changes in total alcohol consumption associated with the three options. This shows minor increases in the volume of pure alcohol.

Total pure alcohol consumption, as proportion of base forecast (2018-19 to 2023-24)



Option 1 detailed revenue results

The table below shows detailed revenue impacts from the combined option. Because indexation is frozen at the brandy rate, rather than the existing spirits rate in option 2, the revenue impact of this option is less than the sum of the parts (option 2 and 3).

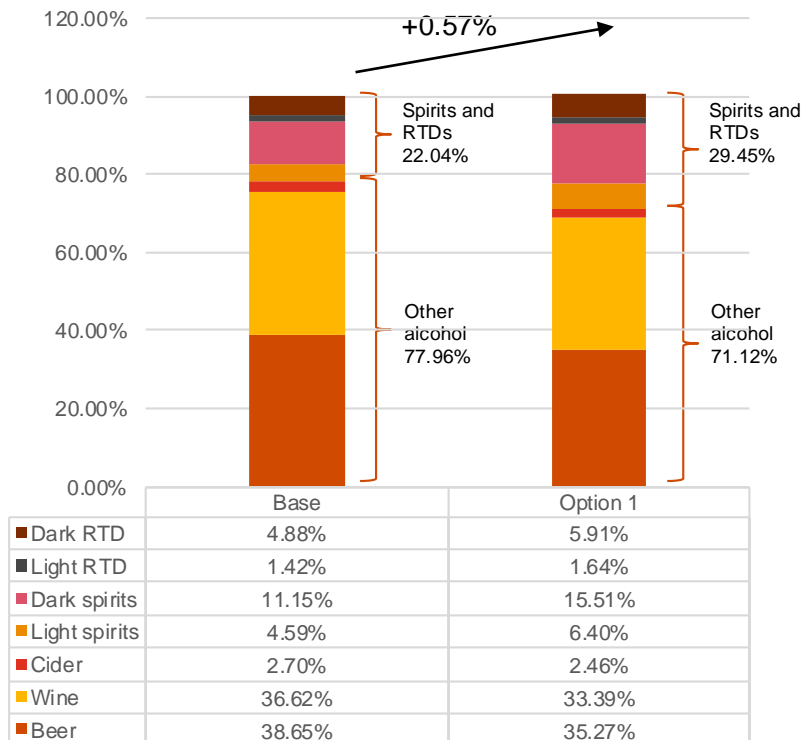
Total government revenue related to alcohol (2018-19 to 2023-24, \$ millions)

	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	Four year total
Option 1							
Spirits and RTDs excise	3,313	3,475	4,041	4,305	4,605	4,809	17,760
Other alcohol excise and WET	3,532	3,685	3,540	3,584	3,639	3,693	14,455
<i>All excise and WET sub-total</i>	<i>6,845</i>	<i>7,160</i>	<i>7,581</i>	<i>7,889</i>	<i>8,244</i>	<i>8,502</i>	<i>32,215</i>
GST on spirits and RTDs	762	795	928	972	1,016	1,036	3,953
GST on other alcohol	2,459	2,527	2,390	2,353	2,319	2,318	9,380
<i>All GST sub-total</i>	<i>3,221</i>	<i>3,322</i>	<i>3,318</i>	<i>3,325</i>	<i>3,335</i>	<i>3,354</i>	<i>13,333</i>
Total revenue	10,065	10,482	10,899	11,214	11,579	11,856	45,548
Base							
Spirits and RTDs excise	3,313	3,475	3,553	3,670	3,807	3,934	14,964
Other alcohol excise and WET	3,532	3,685	3,777	3,900	4,043	4,131	15,851
<i>All excise and WET sub-total</i>	<i>6,845</i>	<i>7,160</i>	<i>7,330</i>	<i>7,570</i>	<i>7,850</i>	<i>8,065</i>	<i>30,815</i>
GST on spirits and RTDs	762	795	805	815	824	832	3,276
GST on other alcohol	2,459	2,527	2,549	2,560	2,575	2,591	10,276
<i>All GST sub-total</i>	<i>3,221</i>	<i>3,322</i>	<i>3,354</i>	<i>3,375</i>	<i>3,399</i>	<i>3,423</i>	<i>13,552</i>
Total revenue	10,065	10,482	10,684	10,945	11,249	11,488	44,366
Difference							
Spirits and RTDs excise	0	0	488	635	798	874	2,796
Other alcohol excise and WET	0	0	-237	-316	-405	-437	-1,396
<i>All excise and WET sub-total</i>	<i>0</i>	<i>0</i>	<i>251</i>	<i>319</i>	<i>393</i>	<i>437</i>	<i>1,400</i>
GST on spirits and RTDs	0	0	123	157	193	204	677
GST on other alcohol	0	0	-159	-207	-256	-273	-895
<i>All GST sub-total</i>	<i>0</i>	<i>0</i>	<i>-36</i>	<i>-50</i>	<i>-63</i>	<i>-69</i>	<i>-218</i>
Total revenue	0	0	215	269	330	368	1,182
% change (excise)	0.00%	0.00%	3.43%	4.21%	5.01%	5.42%	4.54%
% change (all revenue)	0.00%	0.00%	2.01%	2.46%	2.93%	3.20%	2.66%

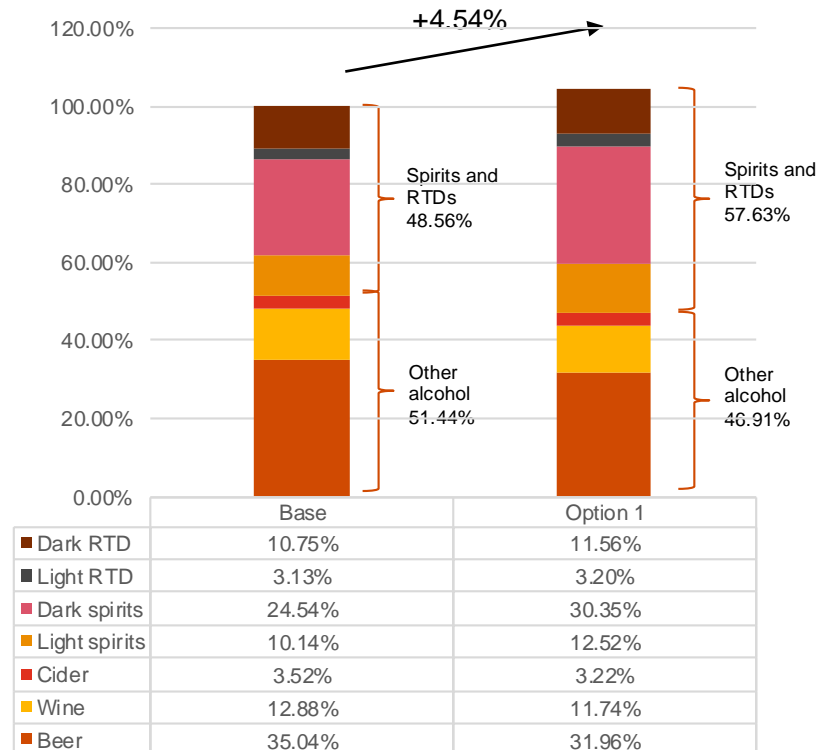
Option 1 detailed consumption results

Under Option 1, pure alcohol consumption increases by 0.57 per cent. Alcohol volumes within the spirits and RTD categories increase, but this is offset by decreases in other categories. As a result of these changes, the proportion of excise revenue generated by spirits and RTD categories increases from 48.56 per cent to 57.63 per cent (as a percentage of excise revenue in the base case).

Pure alcohol consumption by category, proportion of base total (sum of four years)



Excise revenue by category, proportion of base total (sum of four years)



Option 2 detailed revenue results

The table below shows detailed revenue impacts from applying the brandy excise rate to all spirits and RTDs from 1 July 2020.

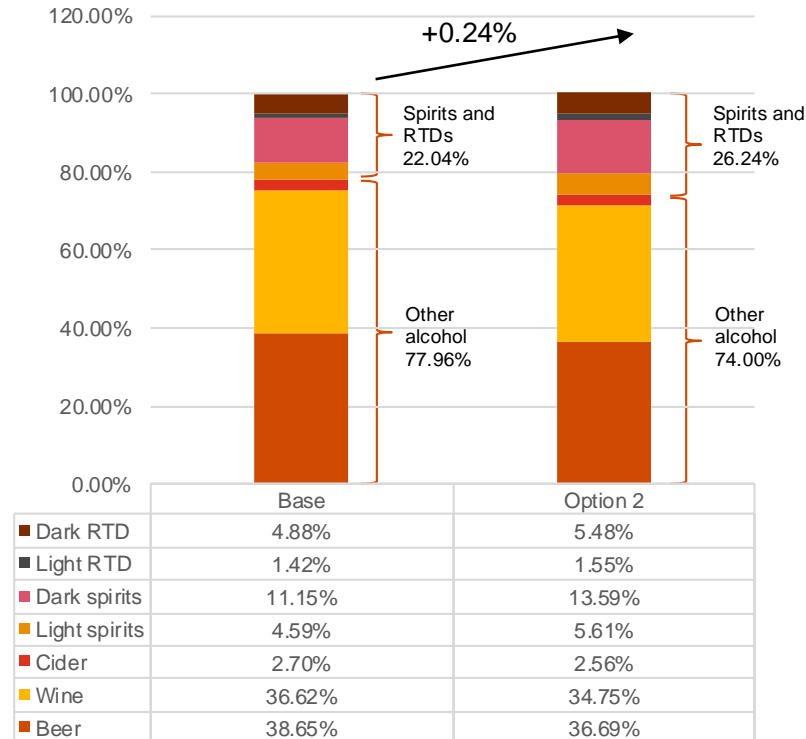
Total government revenue related to alcohol (2018-19 to 2023-24, \$ millions)

	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	Four year total
Option 2							
Spirits and RTDs excise	3,313	3,475	3,943	4,079	4,243	4,397	16,663
Other alcohol excise and WET	3,532	3,685	3,591	3,704	3,836	3,915	15,046
<i>All excise and WET sub-total</i>	<i>6,845</i>	<i>7,160</i>	<i>7,534</i>	<i>7,783</i>	<i>8,079</i>	<i>8,312</i>	<i>31,709</i>
GST on spirits and RTDs	762	795	903	914	925	935	3,677
GST on other alcohol	2,459	2,527	2,424	2,432	2,444	2,457	9,757
<i>All GST sub-total</i>	<i>3,221</i>	<i>3,322</i>	<i>3,327</i>	<i>3,346</i>	<i>3,369</i>	<i>3,392</i>	<i>13,434</i>
Total revenue	10,065	10,482	10,860	11,129	11,448	11,704	45,142
Base							
Spirits and RTDs excise	3,313	3,475	3,553	3,670	3,807	3,934	14,964
Other alcohol excise and WET	3,532	3,685	3,777	3,900	4,043	4,131	15,851
<i>All excise and WET sub-total</i>	<i>6,845</i>	<i>7,160</i>	<i>7,330</i>	<i>7,570</i>	<i>7,850</i>	<i>8,065</i>	<i>30,815</i>
GST on spirits and RTDs	762	795	805	815	824	832	3,276
GST on other alcohol	2,459	2,527	2,549	2,560	2,575	2,591	10,276
<i>All GST sub-total</i>	<i>3,221</i>	<i>3,322</i>	<i>3,354</i>	<i>3,375</i>	<i>3,399</i>	<i>3,423</i>	<i>13,552</i>
Total revenue	10,065	10,482	10,684	10,945	11,249	11,488	44,366
Difference							
Spirits and RTDs excise	0	0	390	409	436	463	1,699
Other alcohol excise and WET	0	0	-186	-196	-207	-216	-805
<i>All excise and WET sub-total</i>	<i>0</i>	<i>0</i>	<i>204</i>	<i>213</i>	<i>229</i>	<i>247</i>	<i>894</i>
GST on spirits and RTDs	0	0	97	99	101	103	401
GST on other alcohol	0	0	-125	-128	-131	-135	-519
<i>All GST sub-total</i>	<i>0</i>	<i>0</i>	<i>-28</i>	<i>-29</i>	<i>-30</i>	<i>-32</i>	<i>-118</i>
Total revenue	0	0	176	185	199	216	776
% change (excise)	0.00%	0.00%	2.78%	2.82%	2.92%	3.07%	2.90%
% change (all revenue)	0.00%	0.00%	1.65%	1.69%	1.77%	1.88%	1.75%

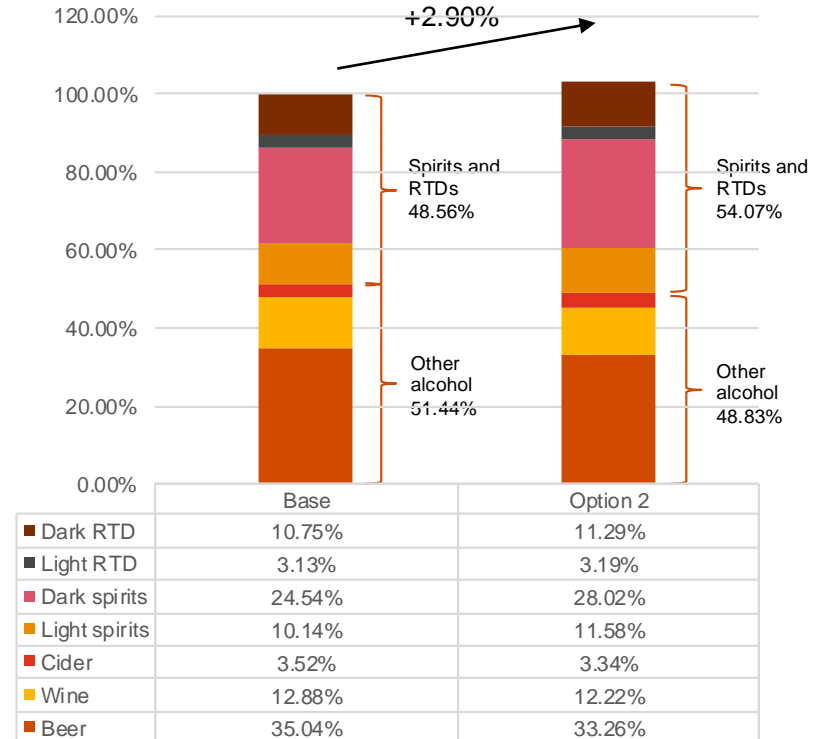
Option 2 detailed consumption results

Under Option 2, pure alcohol consumption increases by 0.24 per cent. Alcohol volumes within the spirits and RTD categories increase, but this is offset by decreases in other categories. As a result of these changes, the proportion of excise revenue generated by spirits and RTD categories increases from 48.56 per cent to 54.07 per cent (as a percentage of excise revenue in the base case).

Pure alcohol consumption by category, proportion of base total (sum of four years)



Excise revenue by category, proportion of base total (sum of four years)



Option 3 detailed revenue results

The table below shows detailed revenue impacts from freezing CPI on brandy, other spirits and RTDs from 1 July 2020 for three years.

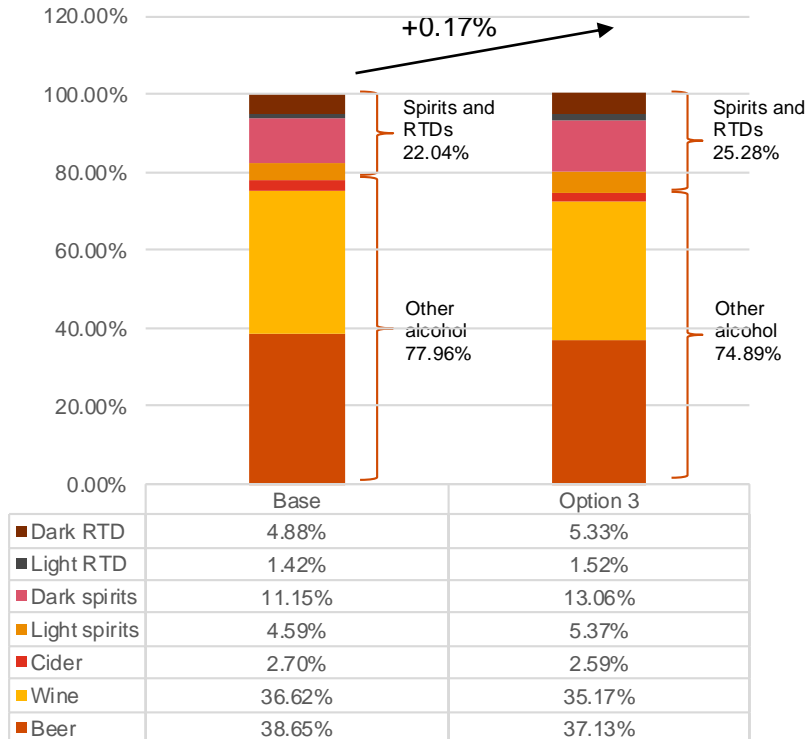
Total government revenue related to alcohol (2018-19 to 2023-24, \$ millions)

	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	Four year total
Option 3							
Spirits and RTDs excise	3,313	3,475	3,672	3,945	4,249	4,437	16,303
Other alcohol excise and WET	3,532	3,685	3,723	3,771	3,832	3,893	15,219
<i>All excise and WET sub-total</i>	<i>6,845</i>	<i>7,160</i>	<i>7,395</i>	<i>7,716</i>	<i>8,081</i>	<i>8,330</i>	<i>31,522</i>
GST on spirits and RTDs	762	795	834	881	927	945	3,586
GST on other alcohol	2,459	2,527	2,513	2,475	2,442	2,443	9,873
<i>All GST sub-total</i>	<i>3,221</i>	<i>3,322</i>	<i>3,347</i>	<i>3,356</i>	<i>3,369</i>	<i>3,388</i>	<i>13,459</i>
Total revenue	10,065	10,482	10,741	11,072	11,450	11,719	44,981
Base							
Spirits and RTDs excise	3,313	3,475	3,553	3,670	3,807	3,934	14,964
Other alcohol excise and WET	3,532	3,685	3,777	3,900	4,043	4,131	15,851
<i>All excise and WET sub-total</i>	<i>6,845</i>	<i>7,160</i>	<i>7,330</i>	<i>7,570</i>	<i>7,850</i>	<i>8,065</i>	<i>30,815</i>
GST on spirits and RTDs	762	795	805	815	824	832	3,276
GST on other alcohol	2,459	2,527	2,549	2,560	2,575	2,591	10,276
<i>All GST sub-total</i>	<i>3,221</i>	<i>3,322</i>	<i>3,354</i>	<i>3,375</i>	<i>3,399</i>	<i>3,423</i>	<i>13,552</i>
Total revenue	10,065	10,482	10,684	10,945	11,249	11,488	44,366
Difference							
Spirits and RTDs excise	0	0	119	275	443	503	1,339
Other alcohol excise and WET	0	0	-54	-129	-211	-237	-632
<i>All excise and WET sub-total</i>	<i>0</i>	<i>0</i>	<i>65</i>	<i>146</i>	<i>232</i>	<i>266</i>	<i>707</i>
GST on spirits and RTDs	0	0	29	66	103	113	310
GST on other alcohol	0	0	-36	-84	-134	-148	-403
<i>All GST sub-total</i>	<i>0</i>	<i>0</i>	<i>-7</i>	<i>-18</i>	<i>-31</i>	<i>-35</i>	<i>-93</i>
Total revenue	0	0	57	127	200	231	615
% change (excise)	0.00%	0.00%	0.88%	1.93%	2.95%	3.29%	2.29%
% change (all revenue)	0.00%	0.00%	0.53%	1.16%	1.78%	2.01%	1.39%

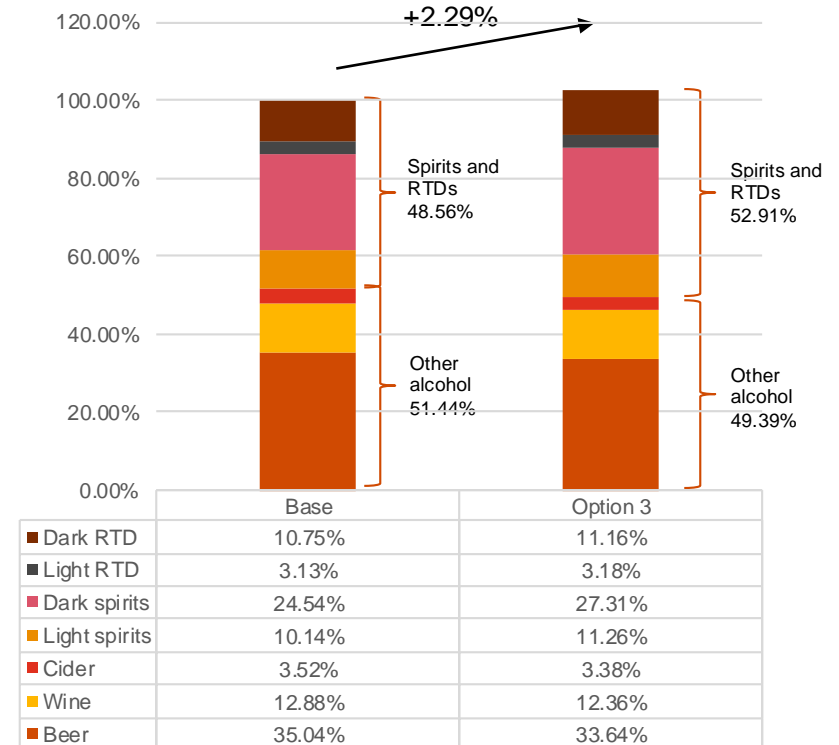
Option 3 detailed consumption results

Under Option 3, pure alcohol consumption increases by 0.17 per cent. Alcohol volumes within the spirits and RTD categories increase, but this is offset by decreases in other categories. As a result of these changes, the proportion of excise revenue generated by spirits and RTD categories increases from 48.56 per cent to 52.91 per cent (as a percentage of excise revenue in the base case).

Pure alcohol consumption by category, proportion of base total (sum of four years)



Excise revenue by category, proportion of base total (sum of four years)



Amend and broaden the current craft distillers' refund scheme

Separate to the options examined above, analysis of amending and broadening the current craft distillers refund scheme has also been conducted. Currently, eligible craft brewers and distillers can claim a refund on up to 60 per cent of the excise duty paid on their products – capped at \$30,000 per financial year in 2018-19 and previous years, increasing to \$100,000 per financial year in 2019-20.

This analysis examines the increase in refund scheme expenditure if this cap was extended to \$350,000 for craft distillers in 2019-20 and 2020-21 at a full 100 per cent of excise duty paid on their products. Analysis shows expenditure on the refund scheme would increase by \$33 million over those two years, a 47 per cent increase from current arrangements over the same period.

This analysis, unlike the options presented above, calculates the impact of government revenue assuming no price or behaviour change. As a refund scheme that is back dated and designed to address current cash flow issues, it is assumed to not be incorporated in to prices, and therefore assumed to have no consumer response (in terms of consuming more/less or substituting between products).

Total government refund scheme expenditure to craft distillers and brewers (2018-19 to 2023-24, \$ millions)

	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	Two year total (2019-20 and 2020-21)
Current refund scheme arrangements							
Distillers	2	9	9	10	11	11	17
Brewers	8	26	26	30	34	34	53
Total	10	35	35	40	45	45	70
Proposed refund scheme arrangements							
Distillers	2	25	25	10	11	11	50
Brewers	8	26	26	30	34	34	53
Total	10	51	51	40	45	45	103
Net increase in refund payments	0	16	16	0	0	0	33

Note: Totals may not sum due to rounding. These are refund estimates, but they are presented on an accrual basis (i.e. the year in which the excise is paid) and not when the cash refund is received, which may be delayed. On a cash basis, the vast majority of the net increase in refunds will occur in 2020-21 (delayed lump sum for 2019-20 and then monthly payments for 2020-21), with a small amount in 2021-22 (any delayed monthly payments from 2020-21).

Appendix approach - general

Key assumptions and sources are set out below.

- Baseline and forecast total volume consumption and retail value are taken from industry IWSR data provided by Spirits and Cocktails Australia. These forecasts were taken as given and not tested.
- Government revenue current and forecast were based on this consumption data provided, but has been adjusted to ensure that excise (and the level of pure alcohol implied by that excise) aligns with the forecast in Mid-Year Economic and Fiscal Outlook 2019-20.
- However, the specifics of the headline budget figures have been disaggregated to divorce brandy from other spirits and cider from RTD and WET. It has been assumed that 18.9 per cent of cider is included in other alcohol excise with RTDs (proportion of market that is flavoured cider from IBIS World *Cider Production in Australia*).
- Implied volume of pure alcohol is also sense checked against ABS *Apparent Consumption of Alcohol*, and typical alcohol by volume (ABV) percentages of various products on a desktop exercise.
- GST cannot be adjusted to specific budget forecasts, so is based on retail values in IWSR.
- The categorisation of baseline data is important to the results, especially in terms of assigning elasticities (as more categories can mean more responsiveness across categories, rather than own price adjustments within a category). Our modelling is built on the categories shown to the right, discussed and agreed with Spirits and Cocktails Australia.
- Price points for the full bottled spirits (FBS) have been aligned to IWSR data, where our budget category means IWSR low-price, value and standard (i.e. under \$47.49), our mid means ISWR premium (\$47.50 to \$65) and our high means all other categories. It should be noted that the vast majority of IWSR data is in their Value and Standard categories for FBS, which is why they are in different categories for our modelling.

Description	Product	Sub-product	Price point
Low strength beer	Beer	Low	All
Mid strength beer	Beer	Mid	All
Full strength beer	Beer	Full	All
Red wine	Wine	Red	All
White wine	Wine	White	All
Other wine	Wine	Other	All
Cider	Cider	All	All
Brandy	FBS	All	All
Budget light spirits	FBS	Light	Budget
Mid light spirits	FBS	Light	Mid
High light spirits	FBS	Light	High
Budget dark spirits	FBS	Dark	Budget
Mid dark spirits	FBS	Dark	Mid
High dark spirits	FBS	Dark	High
Light RTD	RTD	Light	All
Dark RTD	RTD	Dark	All

- Our model is built on half years (as indexing happens twice a year). We have assumed seasonality based on IRI data provided by Spirits and Cocktails Australia which shows that approximately 46 per cent of consumption occurs in the January to June half year.

Appendix approach - elasticities

Elasticities are the assumption our modelling is the most sensitive to.

Our key source, discussed and agreed with Spirits and Cocktails Australia, has been Srivastava, P. et al (2014) *Econometric Modelling of Price Response by Alcohol Types to Inform Alcohol Tax Policies*, Monash University.

This has been reviewed against international examples and meta analysis and found to be the most appropriate for the Australian context. We note that the own price elasticities are higher than other analysis (i.e. Fogarty, J. (2004) *The Own-Price Elasticity of Alcohol: A Meta-Analysis*, University of Western Australia and Fogerty (2010) *The demand for Beer, Wine and Spirits*), but this can be due to the level of product detail in the Monash paper (compared to a single own price elasticity for spirits).

We have taken the Morishma elasticities of substitution from the Monash paper for cross product, and taken own price elasticity as given, with disaggregation across price points as below.

For disaggregating the Monash elasticities across price points, we have used one standard deviation of Australian estimates as shown in Fogerty (2010) *The demand for Beer, Wine and Spirits*. We have assumed lower own price elasticity for lower price points, to avoid a crowding to the bottom of the price points as price reduce, but have also allowed for a 0.3 price reaction to move up a price point (although as all are within the same taxation rate, this will not impact excise revenues).

For pass through of option price changes for the market to respond to with these elasticities, we have assumed that all costs except excise and profit are fixed, and profit margin stays consistent as a percentage on top of fixed costs and revised excise. In essence, the full excise cut is passed through to prices for consumers, with mark up proportions staying consistent.

Description	Own price	Substitution of products	Within category
Low strength beer		1.529	
Mid strength beer		1.666	
Full strength beer		1.483	
Red wine		1.490	
White wine		1.546	
Other wine		1.621	
Cider		1.494	
Brandy	-1.519	1.728	
Budget light spirits	-1.51	1.577	0.3
Mid light spirits	-1.26	1.577	0.3
High light spirits	-1.01	1.577	0.3
Budget dark spirits	-1.769	1.728	0.3
Mid dark spirits	-1.519	1.728	0.3
High dark spirits	-1.269	1.728	0.3
Light RTD	-1.164	1.534	
Dark RTD	-1.831	1.277	

Note – simplified structure for options where all spirits and RTD have a price movement.

Appendix - sensitivities

Alcohol excise modelling is most dependent on the choice of elasticities.

To test these sensitivities, we have modelled six sensitivity scenarios for each option, as follows:

- **A** – assume zero own price elasticity (i.e. current consumers of a product will have no volume reaction to a price change) and zero cross price elasticity (i.e. consumers will not move their expenditure between products, regardless of price movements)
- **B** – assume low own price elasticity (i.e. current consumers of a product will have a low volume reaction to a price change – we have used average elasticities for all spirits, rather than detailed product own price) and zero cross price elasticity (i.e. consumers will not move their expenditure between products, regardless of price movements)
- **C** – assume detailed own price elasticity (i.e. current consumers of a product have nuanced reactions to a price change dependent of the particular product that has a price change) and zero cross price elasticity (i.e. consumers will not move their expenditure between products, regardless of price movements)
- **D** – assume zero own price elasticity (i.e. current consumers of a product will have no volume reaction to a price change) and detailed cross price elasticity (i.e. consumers will move their expenditure between products in reaction to price change)
- **E** – assume low own price elasticity (i.e. current consumers of a product will have a low volume reaction to a price change – we have used average elasticities for all spirits, rather than detailed product own price) and detailed cross price elasticity (i.e. consumers will move their expenditure between products in reaction to price change)
- **F** – assume detailed own price elasticity (i.e. current consumers of a product have nuanced reactions to a price change dependent of the particular product that has a price change) and detailed cross price elasticity (i.e. consumers will move their expenditure between products in reaction to price change)

Our recommended set of assumptions is F, for the following reasons:

- Although A is the most conservative, it shows no consumer response which is unrealistic, given several decades of Australian literature that at a minimum shows an own price reaction for all categories of alcohol. Similarly, D is not recommended as it does not leverage the strong evidence base of own price reactions.
- B and E are also not recommended because although they do show an own price response, they have a single spirits own price reaction (which is most prevalent in the literature) which understates individual category movements that are relevant for the options presented (i.e. options modelled above separate movements for brandy, bottled spirits and RTDs, for example option 1 has no movement for brandy). This is because estimates of own price elasticity that only have a single spirits category are lower as they treat cross substitutions between products as own price, instead of the substitution reaction they actually are.

Sensitivity tests for each of the three options are presented on the following pages. These show that without any cross product substitution, the net excise is always net negative, as without consumers moving into the now more attractively priced product, a discount applies only to current consumers, even if they increase consumption of that product. Change in pure alcohol consumption is generally higher with no cross price as there is no substitution out of non-spirits products which are both lower excise per litre alcohol and generally (though dependent on other factors) also higher all inclusive retail price higher per litre of pure alcohol. With lower own price elasticity, revenue responses are generally negative as there is not the increase in consumption to offset the discount effect.

Appendix - sensitivities

Sensitivity tests for option 1 – sums across four budget years

	No own price elasticity	Low own price elasticity (general spirits from Fogerty 2010)	Detailed own price elasticity (detailed categories from Monash)	
No cross price elasticity	Spirits and RTD excise change (\$ million)	A -1,678	B -1,042	C -287
	Other alcohol excise and WET change (\$ million)	0	0	0
	Total taxation revenue – excise and GST (\$ million)	-1,882	-1,116	-209
	Pure alcohol % change	0.00%	1.05%	2.30%
Monash substitution elasticities	Spirits and RTD excise change (\$ million)	D 1,069	E 1,857	F 2,796
	Other alcohol excise and WET change (\$ million)	-1,396	-1,396	-1,396
	Total taxation revenue – excise and GST (\$ million)	-888	58	1,182
	Pure alcohol % change	-2.29%	-0.98%	0.57%

Sensitivity tests for option 2 – sums across four budget years

	No own price elasticity	Low own price elasticity (general spirits from Fogerty 2010)	Detailed own price elasticity (detailed categories from Monash)	
No cross price elasticity	Spirits and RTD excise change (\$ million)	A -971	B -584	C -124
	Other alcohol excise and WET change (\$ million)	0	0	0
	Total taxation revenue – excise and GST (\$ million)	-1,089	-40	-73
	Pure alcohol % change	0.00%	0.61%	1.33%
Monash substitution elasticities	Spirits and RTD excise change (\$ million)	D 733	E 1,174	F 1,699
	Other alcohol excise and WET change (\$ million)	-805	-805	-805
	Total taxation revenue – excise and GST (\$ million)	-379	149	776
	Pure alcohol % change	-1.28%	-0.59%	0.24%

Appendix - sensitivities

Sensitivity tests for option 3 – sums across four budget years

	No own price elasticity	Low own price elasticity (general spirits from Fogerty 2010)	Detailed own price elasticity (detailed categories from Monash)	
No cross price elasticity	Spirits and RTD excise change (\$ million)	A -756	B -450	C -88
	Other alcohol excise and WET change (\$ million)	0	0	0
	Total taxation revenue – excise and GST (\$ million)	-848	-482	39
	Pure alcohol % change	0.00%	0.47%	1.03%
Monash substitution elasticities	Spirits and RTD excise change (\$ million)	D 588	E 931	F 1,339
	Other alcohol excise and WET change (\$ million)	-632	-632	-632
	Total taxation revenue – excise and GST (\$ million)	-283	128	615
	Pure alcohol % change	-0.99%	-0.46%	0.17%

Appendix – refund scheme amendments

Analysis of the refund scheme amendment was conducted separately to the other options in this report.

The other options have an excise change that can directly impact the price paid by the customer, so have been analysed incorporating consumer behaviour and elasticities. However, as a refund that is back dated and designed to address current cash flow issues, this is assumed to not be incorporated into prices and therefore have no consumer response.

Therefore, estimates of government impact incorporate just the cost of increased refund on activity that was already occurring.

The approach to that estimate was as follows:

- The cost of current excise refund scheme arrangements were taken from Treasury's *Tax Benchmarks and Variations 2019*.
- The components of that current cost that is paid to craft distillers and craft brewers was estimated using the following sources:
 - ATO data on the number of excise claimants across level of current excise paid
 - ABS *Count of Businesses* data on the number of business (by turnover size range) in the industry classes of 'Beer Manufacturing' and 'Spirits Manufacturing)
 - The relative proportions of excise to total turnover by alcohol type from base case modelling of excise scenarios above.
- That allowed for a profile of current excise claimants to be built over across the level of current excise paid, with craft brewers separate from craft distillers.
- Amendments were then modelled based on the profile of current excise paid across different bands for just craft distillers.

It should be noted that this approach requires each entry claiming the refund to be classed as either a brewer or a distiller and does not recognise that some organisations may be claiming refunds for excise charged on both beer and spirits. It is assumed for the craft component of the industry, which this analysis examines, this will be a negligible amount but it is still a caveat to note. This distinction is drawn using ABS *Count of Business* data which assigns businesses to an industry based on 'main activity'.

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