

PHASE 2: RESEARCH AND DRAFTING OF MINIMUM UNIT PRICE (MUP) IMPLEMENTATION GUIDELINES FOR WESTERN CAPE GOVERNMENT: PROACTIVELY REFLECTING ON COUNTER- ARGUMENTS TO THE MUP

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PROJECT BACKGROUND

In 2020, the Douglas Murray Trust (DGMT) commissioned the UCT Research Unit on the Economics of Excisable Products (REEP) department to conduct a study that would support the implementation of a MUP policy in South Africa. The study titled '*Research and Drafting of Minimum Unit Price Implementation Guidelines for Western Cape Government Report*' was divided into two distinct but interrelated phases.

Phase 1, modelled the impact of an MUP on alcohol consumption and alcohol-related harms, using two different approaches, and reflected on the implementation experience of 4 countries who have implemented MUP. Phase 1 was completed in 2021, and the reports presented to the DGMT and the Western Cape Government.

We are delighted to present the **Phase 2** report: ***Proactively reflecting on potential counterarguments to the implementation of a MUP.***

This report reflects on potential counterarguments to the implementation of a MUP. The different chapters were written independently and are as follows:

- Chapter 1:** Does the MUP have a disproportionate impact on the poor?
- Chapter 2:** Cheap illegal alcohol and home brews will become more prevalent with the introduction of an MUP
- Chapter 3:** The probability and impact of interprovincial purchases: the western cape experience
- Chapter 4:** The health and economic impacts of an MUP

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CHAPTER 1: WILL THE MINIMUM UNIT PRICE (MUP) ON ALCOHOL DISPROPORTIONATELY IMPACT THE POOR IN SOUTH AFRICA? A REVIEW OF INTERNATIONAL LITERATURE

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1.1. ABSTRACT

A common objection to alcohol pricing and taxation policies is that they fall disproportionately on poor (low-income) drinkers. We review the global evidence on whether MUP and other alcohol taxation policies disproportionately impact low-income drinkers. We further provide descriptive evidence of alcohol spending and consumption patterns of households categorised into drinking and income groups in South Africa. The literature on ex-post evidence suggests that the MUP is generally not regressive. Where it is regressive, it is limited to alcohol-dependent people, and the financial burden of an MUP would be lower than the financial burden of other alcohol taxes. Our descriptive evidence demonstrates that regular heavy drinking is common among the poorest families who prefer the cheapest alcohol. Thus, taking our evidence, together with the international literature, we expect MUP to be effective in reducing regular heavy drinking among the poorest, who are mostly exposed to alcohol burdens, without having significant disproportionate financial impacts. Despite the possibility of being regressive on alcohol-dependent people, the literature is clear that MUP should not only be judged by its financial regressivity effects, but by wider health benefits, especially among the poorest.

1.2. INTRODUCTION

In all six regions of the World Health Organization (WHO), the prevalence of alcohol drinking is high and positively associated with the wealth of the countries (WHO, 2021). Although heavy drinking is common in developing and developed countries, in Africa, heavy episodic drinking rates are higher in low-income countries than in higher-income countries (WHO, 2021). In South Africa, heavy drinking is common (Van Walbeek & Chelwa, 2021) and is high among the wealthier groups (Gibbs et al., 2022). South Africa's heavy drinking rate exposes society to significant problems, including, but not limited to, alcohol mortality (Probst et al., 2018). According to WHO (2018), the "harm per litre" of alcohol is

greater for the poor than the affluent in any given society. Equally important, the alcohol burden and harms associated with alcohol consumption are often more concentrated among low socioeconomic groups (WHO, 2022).

The global alcohol action strategy was developed by the WHO secretariat for 2022 -2030. The principal aim is to reduce the harmful use of alcohol and alcohol-related harms by “raising alcohol prices through excise taxes and other pricing policies” as one of the critical strategies (WHO, 2021). There are a number of common objections against higher alcohol taxes and prices that are frequently not based on empirical evidence (WHO, 2022). Of particular relevance to this report is the comment that excise taxes on alcohol are regressive in the sense that the tax burden, expressed as the tax amount as a proportion of income, is higher for low-income households than for higher-income households. An increase in the excise tax is then argued to increase the regressivity of the tax. The thinking is as follows: alcohol expenditure constitutes a bigger share of household/individual expenditure for low-income groups than for high-income groups. An increase in alcohol taxes is, therefore, likely to lead to an even bigger alcohol expenditure share for low-income groups than high-income groups.

Several countries that considered a Minimum Unit Price (MUP) policy for alcohol have faced concerns about the likely effects of these policies on low-income drinkers (Holmes et al., 2014). In jurisdictions such as Australia, Scotland and Wales, a frequent argument against MUP was that it would punish drinkers of lower socioeconomic status (Sassi et al., 2018; O'Donnell, 2019). The regressivity concern delayed MUP's implementation in Scotland by a number of years (O'Donnell, 2019). In England, the MUP policy was dropped entirely in 2013, primarily on the grounds that some people alleged that it would have a disproportionate impact on responsible poor drinkers (Sharma and Vandenberg, 2019). In South Africa, the Alcohol-Related Harms White Paper adopted by the Western Cape Government in 2017 recommended price-based interventions to reduce alcohol consumption and misuse (Van Walbeek and Chelwa, 2019). Specifically, the MUP is being considered in the Western Cape province. Like other jurisdictions that have implemented the policy, similar criticisms are likely to be directed to the MUP, since it targets more problematic/heavy drinkers. If those drinkers turn out to be low-income, the policy would probably be decried as regressive.

In this study, we address concerns about the likely regressivity effects of an MUP by doing the following. First, we engage in a literature review of research focused on the regressivity of the MUP and other alcohol tax policies in different parts of the world. There is now a significant body of work that either simulates the likely impacts of MUPs on regressivity or evaluates the MUPs in countries

that have already implemented such policies. This literature will inform the debate on whether an MUP is likely to be regressive in South Africa and the Western Cape.

Second, we descriptively assess household patterns of drinking, and spending of alcohol (i.e., who is drinking what and how much they pay for it) for different categories of alcohol drinkers split into income groups. This gives us an idea about which drinker categories in different income groups MUP would be affected most and least by the MUP.

The rest of this chapter is organised as follows. Section 1.3 documents the empirical literature on ex-post and ex-ante regressivity evaluations of MUP in various countries. It also considers the literature on the regressivity effects of various alcohol taxes. Section 2.4 provides a descriptive analysis of household drinking and spending patterns using National Income Dynamics Study (NIDS) Wave 4 data. Section 5 offers the concluding remarks.

1.3. EMPIRICAL LITERATURE REVIEW

Literature Search Methods

We completed literature searches using the following databases: Google Scholar, ScienceDirect, PubMed, ResearchGate, and Academia.edu. We used key search terms such as *regressive, regressivity, disproportionate, distributional effects, minimum unit pricing, MUP, alcohol pricing policies, alcohol taxation policies, alcohol consumption, alcohol expenditure, socioeconomic group, low-income groups, wealth quintile and poor*. We also restricted our search to jurisdictions that have implemented an MUP. These include *Scotland, Wales, England, Ireland, Australia, and Russian Federation*.

We also reviewed the Public Health Scotland website, which contains all the evaluations done on MUP in Scotland. To ensure that the studies related to the regressivity impact of the MUP are fully covered, we also did a direct search from Google using the above-mentioned keywords and countries. We did not impose any restrictions on time periods in our searches.

Alcohol Pricing Policy Options

There are a number of different alcohol taxation and pricing policies available to governments that aim to reduce alcohol consumption, improve public health and raise revenue (WHO, 2022). These different policies can work best as complements in achieving the desired goals. Countries with pricing

policies (Minimum Pricing and Minimum Unit Pricing) also have alcohol taxation (Excise taxes, volumetric taxes and others), and these policies work together (WHO, 2022).

Minimum pricing policies target the cheapest alcoholic products. These policies are of two types: minimum pricing and minimum unit pricing. Minimum pricing is levied at the wholesale and retail levels and sets the minimum price below which a particular *volume* of alcoholic drink cannot be sold (WHO, 2022). Minimum pricing policies are based on the liquid volume of the drink rather than the alcohol content. They are common in Canadian provinces, where minimum prices are separately set for beer, wine and spirits. By contrast, minimum unit pricing (MUP) is levied at the retail level and based on the volume of *pure alcohol* contained in the drink. MUPs in the jurisdictions that have implemented it, namely Scotland, Wales, Ireland, and the Northern Territory of Australia, have a single price per unit of pure alcohol across all alcoholic drinks (WHO, 2022).

Alcohol taxation, the most common pricing policy internationally, affects the prices of all alcoholic products across the price distribution. The extent to which taxes (and tax increases) affect the retail price of the alcohol product depends on how much the companies choose to pass the tax through to the final consumer (WHO, 2022).

International Literature on the Regressivity of the MUP

Although the MUP has been implemented in five countries: Scotland (May 2018), the Northern Territory in Australia (October 2018), Russia (May 2020), Wales (January 2020) and Ireland (January 2022), the available ex-post evidence for the regressivity of MUP is limited to Scotland and Wales only. The strong criticisms from opponents of alcohol taxation policies and pricing policies, particularly the MUP, have resulted in increased research into whether these policies are regressive. In jurisdictions that have implemented the MUP, particularly Scotland and Wales, there is strong evidence that the MUP had no regressive impacts on the poor or low-income groups *who drink responsibly*. Researchers that evaluated the MUP in Scotland found that it reduced heavy drinking but did not impose a significant additional financial burden on responsible drinkers (i.e., light and moderate drinkers) (O'Donnell et al., 2019; Khurxhi, 2020; Anderson et al., 2021). These findings are consistent even though the evaluations were conducted using different econometric and modelling techniques and datasets.

Scotland's evidence reveals that the MUP significantly impacted households with the largest alcohol purchases. There was no noticeable negative impact on families with low alcohol purchases in low-income groups (O'Donnel et al., 2019). Household expenditure on alcohol was also not consistently associated with income but rather with the quantity of alcohol purchased. In other words, the alcohol expenditure burden (in absolute terms) following MUP implementation was positively associated with the quantity of alcohol purchased, not the income level (O'Donnel et al., 2019).

The Scottish ex-post evidence (i.e. the evaluation of MUP after its implementation) further reveals that the MUP significantly impacted alcohol consumption of individuals of younger age groups (16 – 44) and older age groups (65+) since they are more sensitive to price changes than middle-aged (45–64) groups (Xhurxhi, 2020). The MUP had the largest impact on males who were drinking at harmful levels and who found themselves in the top 40% of the income distribution. Similarly, the MUP had the largest impact on females who were drinking at harmful levels, with incomes in the top 40% to 60% of the income distribution. Policy evaluations of the MUP of £0.50 (about R10) per unit of pure alcohol strongly refute allegations that MUP is a regressive policy for the moderately drinking poor (O'Donnell et al., 2019, Xhurxhi, 2020; Anderson et al., 2021).

Recent Scottish evidence shows that MUP is regressive for those who drink at harmful levels (Holmes et al, 2022). Qualitative interviews with alcohol-dependent drinkers suggested that some people with alcohol dependence reduced their expenditure on necessities and increased their debt to finance the additional cost of alcohol. Nonetheless, Holmes et al. (2022) found no evidence that the extra financial burden among alcohol-dependent people was associated with increased adverse outcomes such as criminal activities and illicit goods substitution.

Ex-ante evidence (simulation or policy appraisal) from Australia by Jiang et al. (2020) suggests that an MUP would reduce alcohol consumption among the poor more than the rich, but only for heavy-drinking consumers and not those who drink moderately. They also found that MUP could improve health and reduce health-related inequalities among poor people and households.

Another Australian study by Sharma and Vandenberg (2019) found no evidence that MUP would be regressive, estimating the MUP effect on consumers as independent of wealth/income group. They suggested that MUP creates substitution effects. When MUP increases prices, consumers substitute high-strength alcohol with lower-strength and non-alcoholic drinks, thereby reducing their pure alcohol intake. Consistent with the international literature, Vandenberg, Sharma, and Hollingsworth (2014) argue that MUP would have a substantially greater expenditure impact on heavy drinkers as opposed to light and moderate drinkers.

Poor individuals/households experience larger alcohol-related health harms than wealthy individuals/households who drink at the same level; a situation referred to as the “alcohol harm paradox”. One possible explanation for this paradox is that other risky activities like smoking and obesity are common among the poor and when they interact with alcohol drinking, they exacerbate the consequences of drinking (Probst et al., 2020). This is a policy concern for decision-makers.

Holmes et al. (2014) estimated that MUP would significantly reduce alcohol consumption of harmful drinkers in low-income groups, which would consequently improve their health. Recent epidemiological modelling evidence from South Africa by Gibbs et al. (2022) found that most health benefits from an MUP would accrue to the heavy drinking poor. Holmes et al. (2014) and Gibbs et al. (2022) emphasise that the MUP should not only be judged based on the alcohol expenditure of low-income groups but should also consider the distribution of health benefits and subsequent reduction in health inequalities (Jiang et al., 2020) driven by a reduction in alcohol-attributable mortality (Holmes et al., 2014; Gibbs et al., 2022). Gibbs et al. (2022) also point to financial benefits from an MUP, because drinkers who cut back their consumption will reduce their out-of-pocket medical expenditure on alcohol-related illnesses.

In summary, ex-post evidence is different from ex-ante evidence which estimates the potential impact on the poor. The ex-post available evidence (limited to Scotland and Wales) is clear that an MUP is not regressive, and certainly not among moderate drinkers, and where it may be regressive, the evidence is limited. Regarding the ex-ante evidence, even though different simulation techniques and datasets (surveys and scanner data) were used to explore the potential effect of an MUP in different jurisdictions (Scotland, Australia, and South Africa), the findings about the potential impact of MUP on the poor is consistent. MUP policies may have minor regressive effects or could not be regressive at all, depending on the level of drinking, whilst contributing to the reduction of alcohol-related illness and mortality, which are deeply rooted among poor drinkers.

Although the literature is mostly quiet about the regressivity impact of an MUP on poor people with alcohol dependence, a recent study by Holmes et al.(2022) found some evidence that indicates that an MUP is associated with small reductions in alcohol consumption among alcohol-dependent people. Also, there is some limited evidence that a minority of alcohol-dependent people switched to products with lower alcohol content. The small reduction in alcohol consumption and switching to other products increased the financial burden on these drinkers. Hence, this shows that an MUP has had a negative financial impact on alcohol-dependent people in Scotland.

Literature on the regressivity of other alcohol taxation policies

The international literature shows that MUP is more effective at targeting heavy drinkers than other alcohol taxation and pricing policies due to its impact on the cheapest drinks. Compared to the MUP, the literature on equity impacts of other alcohol taxing policies is mixed. In Australia, Jiang et al. (2020) found that a volumetric alcohol tax (i.e. where a specific uniform tax is levied on the volume of the drink) could reduce heavy drinking, in a similar way as the MUP would reduce heavy drinking. However, they suggest that the volumetric tax is highly regressive and does not reduce alcohol-induced health inequalities, because all alcohol consumers are affected by the tax. The MUP specifically targets consumers of cheap alcohol, which tend to be heavier drinkers. In addition, while the expenditure burdens of a volumetric tax on light and moderate alcohol consumers are minor, they exceed those of the MUP. Further Australian evidence by Vandenberg and Sharma (2016) found that a specific tax based on alcohol content is more regressive than an MUP, especially for wine drinkers. There is some contradiction in the evidence from high-income and low-income countries regarding the regressivity of other alcohol taxation and pricing policies. For instance, evidence from high-income countries (e.g., Australia) suggests that specific and volumetric alcohol taxes are highly regressive compared to MUP. On the other hand, in some selected low- and middle-income countries in America, Europe, Asia, and Sub-Saharan Africa, Sassi et al. (2018) found that excise taxes on alcohol have a larger impact on the expenditure of high-income households than on low-income households. This is explained by the fact that, in many of these countries, the prevalence of alcohol consumption is higher among the rich than the poor, and that the rich tend to reduce their consumption by a smaller percentage in response to a price change than the poor, when faced with a given price increase. Evidence from these countries indicates that alcohol excise taxes are generally not regressive (as commonly claimed), but rather progressive (see Sassi et al., 2018).

In addition, where alcohol taxes have been found to be regressive, as in South Africa (Inchauste et al., 2015; Fontes Marx et al., 2019), the regressivity of the excise tax declined over time (Fontes Marx et al., 2019). Since the early 2000s the real (inflation-adjusted) excise tax on alcohol has gradually increased. Given that the poor are more price sensitive than the rich, the poor have reduced their alcohol consumption by a greater percentage than the rich. This point is also made by Chaloupka, Powell and Warner (2019), who show that, other than the purely financial impact of an increase in the excise tax increase, tax increases have a disproportionately positive impact on the health of the poor.

Thus, while the financial aspect of an increase in the excise tax on alcohol may be ambiguous, the health impact is clearly progressive.

In Table 1, Panel A summarises ex-post evaluations of implemented MUP policies. Panel B summarises the policy appraisal estimates, based on ex-ante evidence, of a potential MUP in different countries. Table 2 summarises evaluations of the regressivity effects of other alcohol policies in different countries.

Table 1 Panel A: Summary of Ex post evaluation of implemented MUP policies

Authors	Country	Technique/Methodology	Main Findings
Holmes et al. (2022)	Scotland	Difference-in-differences (DID) technique	There is some evidence that MUP increased the financial burden for economically vulnerable people, especially those with alcohol dependence. There is no clear evidence that the increased financial burden imposed by the MUP resulted in adverse outcomes such as an increase in criminality and increased illicit substance consumption.
Anderson et al. (2021)	Scotland and Wales	Location-controlled interrupted time series analysis	For both Scotland and Wales, the MUP was associated with a large decrease in alcohol purchases, especially for households that spent most on alcohol. There was no evidence of increased alcohol expenditure by households that generally bought small amounts of alcohol and those with low incomes, implying MUP is not regressive in Scotland in Wales, among moderate drinkers.
Khurxhi (2020)	Scotland	Difference-in-differences (DID) technique	MUP mostly affected young (16-44 years) and older (65+) people who are highly responsive to alcohol price changes. MUP significantly impacted males who drink at harmful levels, whose income fell in the top 40% of the income distribution and female drinkers who drink moderately and whose incomes fell in the second and third quintiles (from the bottom), suggesting that the MUP is not regressive. Moderate drinkers in the bottom and upper quintiles did not experience any significant effect from the MUP, suggesting that it does not punish low-income moderate drinkers
O'Donnel et al. (2019)	Scotland	Controlled interrupted time series analysis	Immediate effects of the MUP were more pronounced in households with large purchases of alcohol (top 20% of alcohol purchasing households), with no evidence of a disproportionately negative impact on expenditure of lower income groups Changes in weekly alcohol expenditure were not significantly associated with household income but rather with the quantity of alcohol purchased.
Panel B: Summary of policy appraisal estimates of potential MUP			

Gibbs et al. (2022)	South Africa	Extended Cost-Effectiveness Analysis (ECEA) and epidemiological policy model	A R10 MUP is likely to be regressive, if the policy is assessed only in terms of alcohol expenditure and if the price elasticities of demand for alcohol¹ in the South African literature are accurate. The potential regressivity of MUP should not be judged on financial (i.e. expenditure) grounds only. The policy is associated with substantial health benefits (specifically reduced medical costs for alcohol-related ills and avoided alcohol-related deaths), which are received disproportionately by the poor.
Jiang et al. (2020)	Australia	Estimating elasticities and using potential policy conditions	A A\$1.50 MUP could significantly reduce heavy drinking, especially among harmful drinkers in low-income brackets, compared to a smaller reduction on moderate drinkers in the high-income group. An MUP could significantly impact low-income drinkers and are thus likely to be regressive from an expenditure perspective. A MUP could achieve substantial health benefits and reduce health inequalities among the Australian population.
Sharma and Vandenberg (2019)	Australia	Censored Quantile Regression	A A\$2 MUP policy has the potential to reduce heavy drinking. Wealth effects arising from high prices due to MUP are insignificant for the whole distribution of alcohol drinkers. There is no evidence that the MUP would be regressive.
Sharma, Etile, and Sinha (2016)	Australia	Counterfactual Analysis Techniques	A A\$2 MUP policy would significantly decrease the volume of off-trade alcohol purchases by households with heavy drinkers. There would be less effect on households who purchase low and moderate volumes of alcohol.

¹ In the literature, the most accurate price elasticities of demand for alcohol are obtained from the Scanner data, not the Survey data. Although South African price elasticities are computed from survey data, the elasticities derived by Van Walbeek and Blecher (2014) and Van Walbeek and Chelwa (2019) align with the international literature.

Holmes et al. (2014)	England	Sheffield Alcohol Policy Model (SAPM) Version 2.6	Regardless of income groups, an MUP of £0.45 (about R9) would have little effect on those who drink moderately, addressing the concerns that an MUP would punish responsible drinkers with low incomes. MUP would substantially reduce the alcohol consumption of harmful drinkers in low-income groups. To the extent that the MUP would reduce the alcohol consumption among harmful drinkers, the MUP would be associated with substantial health benefits, because it reduces alcohol mortality and morbidity.
Vandenberg and Sharma (2016)	Australia	Modelling policy to price and price to consumption effects of the MUP and SAPM Version 2.0	A A\$1 (about R11) MUP is likely to be mildly regressive, but any regressive effects would be small and concentrated on heavy drinkers. Although an MUP on beer could be more regressive than a specific alcohol tax, it would reduce heavy beer drinking more than a specific tax. An MUP can potentially reduce heavy drinking with minimal regressive effects.
Sharma, Vandenberg, and Hollingsworth (2014)	Victoria, Australia	Estimation of the distribution of alcohol consumption by consumption quintiles of households.	An MUP A\$1 (about R11) could substantially reduce heavy drinking without imposing excess costs on moderate and light drinkers. An MUP would result in a significant increase in alcohol expenditure for heavy drinkers and a slight increase in the alcohol expenditure of light and moderate consumers.

Source: Authors' own compilations

Table 2: Summary of the actual and likely regressivity evaluations of other alcohol taxation policies

Authors	Country	Technique	Main Findings
Jiang et al. (2020)	Australia	Estimating price elasticities and using potential uniform tax values	A uniform tax of \$A1.30 could reduce heavy drinking, but would impose a considerable burden on low-income drinkers. A uniform tax is unlikely to reduce health inequalities and alcohol-related problems among low-income groups.
Fontes Marx et al. (2019)	South Africa	Kwakwani index estimation	Although the alcohol excise tax is regressive, there was no evidence of increased regressivity between 1995 and 2010. In fact, the regressivity of alcohol taxation continued to decline.
Sassi et al. (2018)	Selected Low- and Middle-Income Countries (LMIC) ²	Estimation of patterns of expenditure on unhealthy alcoholic drinks by socioeconomic status	Alcohol tax policies have larger effects on alcohol consumption and spending of high-income households than low-income households in selected LMICs. Tax policies on alcoholic beverages affect affluent households more than poor households and the financial burden falls disproportionately on the rich. Any price increases are disproportionately borne by households in high-income brackets.
Vandenberg and Sharma (2016)	Australia	Modelling policy to price and price to consumption effects of the MUP	Specific alcohol taxation has some regressive effects at the aggregate level. Specific alcohol taxation is more regressive than a MUP on wine.
Inchauste et al. (2015)	South Africa	Kwakwani Index Estimation	All indirect taxes (e.g Value Added Tax [VAT] and fuel levies) in South Africa are progressive.

² Regions included in the study are Latin America, Central Eastern Europe, Central Asia, Sub-Saharan Africa (Tanzania), and West Africa (Niger and Nigeria)

			Only excise taxes on alcohol are slightly regressive.
Sharma, Vandenberg, and Hollingsworth (2014)	Victoria, Australia	Estimation of the distribution of alcohol consumption by Income quintiles	Expenditure burdens resulting from volumetric tax are higher on heavy drinkers than on light and moderate drinkers. Expenditure burdens of a volumetric tax on light and moderate consumers are minor but are greater than the burdens under MUP.
Organisation for Economic Cooperation and Development [OECD] (2014)	OECD Countries	Tax Incidence Estimation	The financial burdens of VAT and excise taxes on alcohol are generally regressive when measured as a percentage of income. Excise tax and VAT burdens are almost always progressive when measured as a percentage of expenditure.
Lyon and Schwab (1995)	United States (US)	Monte Carlo Simulations	The regressivity of alcohol tax depends on the type of household income (i.e. whether it is current or lifetime) used in the estimations. Alcohol tax is not regressive when measured with respect to lifetime income compared to current income (e.g. yearly income)

Source: Authors' own compilations

1.4. SITUATION IN SOUTH AFRICA

Patterns of drinking and spending by drinker category and income group

This section presents some descriptive statistics to better understand the alcohol consumption and expenditure patterns of different household drinker groups belonging to different income quintiles using the National Income Dynamics Study, Wave 4 data (2015). NIDS is a nationally representative panel study conducted by the Southern Africa Labour and Development Research Unit (SALDRU) based in the School of Economics at the University of Cape Town. NIDS tracks individuals and households on over time. NIDS started in 2008 (Wave 1) and ended in 2017 (Wave 5). We used NIDS Wave 4 data, because no alcohol-related questions were asked in Wave 5.

We urge caution in the interpretation of this analysis. Firstly, the data were collected in 2014, which means that it is becoming dated. Secondly, and more importantly, alcohol consumption and expenditure is often greatly under-reported (Vellios and Van Walbeek, 2018). Comparing the sum of total alcohol expenditure in the NIDS survey, with aggregate alcohol consumption figures, as derived from excise tax figures and/or the national accounts, suggests that the actual expenditure can be up to five times larger than what is reported here. We assume that this under-reporting is consistent across all drinking categories and income groups, but to the extent that it is not, it will bias the results. While we are confident in the finding that heavy drinkers in South Africa consume much cheaper alcohol than moderate drinkers, also because this finding has so much empirical support internationally, we do urge caution in the following section. Both the actual consumption and expenditure figures are likely to be much higher than what they are reported here. As such, readers should consider *relative* differences (across drinking and income categories) rather than absolute amounts.

In Wave 4 of NIDS Version 2, a total of 11 889 households were sampled. Out of this, a total of 9590 households reported their drinking status. Table 3 indicates that 47% of these households are drinking households. Among these households, drinking is more common among the highest-income households. Table 3 also shows that amongst *moderately drinking* households, the average monthly number of standard drinks³ consumed is similar across all five income groups, and average monthly alcohol

³ The NIDS questionnaire (2015) defines a standard drink as “a small glass of wine, a 330 mL can of regular beer, a tot of spirits, or a mixed drink”. Another South African definition for a standard drink is 15 millilitres (12 grams) of pure alcohol.

expenditure increases with income. Moderate drinkers also pay higher prices per standard drink than binge and heavy drinkers across all the income groups (See Figure 1).

Table 3: Descriptive Statistics of non-drinking and categories of drinking households split into income quintiles

		Drinking households in different income quintiles				
	Non-drinking	Quintile 1 [Lowest Income]	Quintile 2	Quintile 3	Quintile 4	Quintile 5 [Highest Income]
Households in the sample	5117	884	823	817	931	1007
Total households (%)	53.4	9.2	8.6	8.5	9.8	11.6
Total drinking households (%)	0	19.8	18.4	18.3	20.9	22.6
Moderate Drinking						
Average number of standard drinks per month per household	0	17	18	18	17	17
Average monthly spending on alcohol per household	0	R126	R175	R183	R232	R317
Binge Drinking						
Average number of standard drinks per month per household	0	71	74	84	89	89
Average monthly spending on alcohol per household	0	R 165	R 257	R 276	R 373	R431
Regular Heavy Drinking						
Average number of standard drinks per month per household	0	165	179	146	241	157
Average monthly spending on alcohol per household	0	R186	R339	R602	R395	R775

Source: Authors' computations from NIDS Wave 4 (2015) Version 2

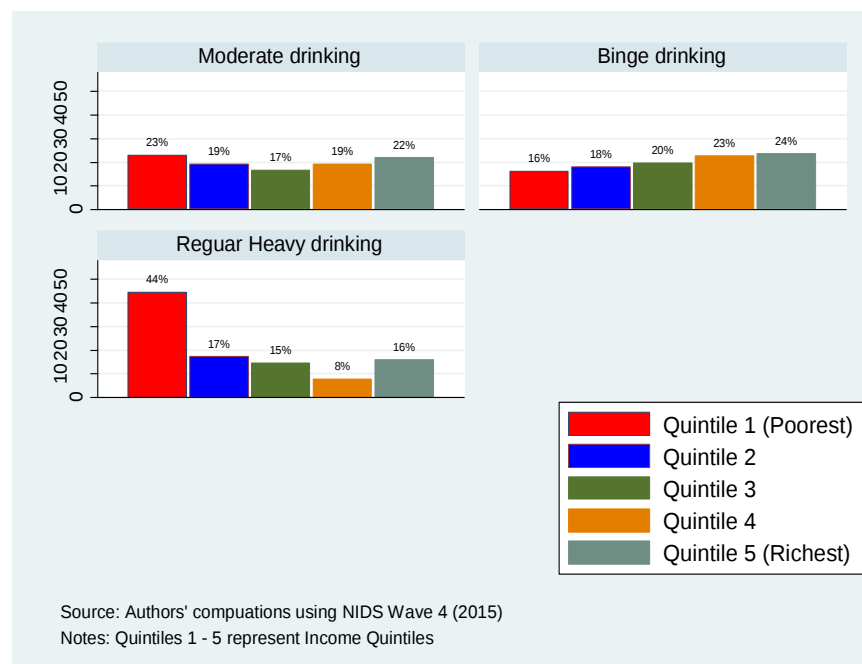
Notes: Monthly household alcohol spending (in 2015 prices) has been multiplied by the August 2022 inflation rate of 7.4% to approximately reflect the 2022 prices. The data are unweighted.

On average, the number of monthly standard drinks consumed by *binge-drinking* households increases as the level of income increases. Households' absolute spending on alcohol increases as income increases. Households who purchased alcohol and that were in the top income quintile, spent about 2.6 times the amount than similar households in the bottom income quintile (i.e. 430/165).

In the case of *regular heavy-drinking* households, the average number of standard drinks consumed per household is more than 140 per month, peaking at 240 standard drinks in households in the second-highest income quintile. Alcohol expenditure among regular heavy drinkers is more than 4 times higher among the richest quintile than the poorest quintile.

Figure 1 shows the distribution of drinker categories by income quintiles. Moderate drinking is roughly evenly distributed across all income groups. Binge drinking increases with the income group. However, regular heavy drinking is concentrated among low-income households. Forty-four percent (44%) of regular heavy drinking households are in the lowest income quintile; this indicates that the poorest families in South Africa are mostly exposed to the risk of alcohol-related burdens and diseases.

Figure 1: Distribution of the prevalence of drinker categories by income group



1.5. DISCUSSION AND CONCLUSION

In a previous study that considered drinking patterns in South Africa, we used Wave 4 of NIDS to demonstrate that, irrespective of income group, binge and other heavy-drinking, households prefer cheaper alcoholic products, while moderate drinkers prefer more expensive ones (Van Walbeek and Chelwa, 2019 and 2021). For all drinking categories, and despite likely flaws in the data, alcohol expenditure is higher among high-income households than low-income households. This follows from the fact that, within the same drinking category, high-income households pay more per standard drink, on average, than the poor.

Given that MUP primarily targets the cheapest alcohol, we expect that an MUP would be effective in reducing regular heavy drinking among the poor. Low-income drinkers and those from disadvantaged groups who engage in heavy drinking experience substantially greater health risks (WHO, 2022). Consequently, reductions in alcohol consumption in lower-income, regular, heavy and binge-drinking households would likely reduce their exposure to alcohol-related diseases and ultimately improve their health.

Regarding expenditure burdens, the ex-post literature on MUP from Scotland and Wales suggests that MUP is not regressive for moderate drinkers and would not punish them. It is reasonable to expect the same for South Africa.

The primary issue of concern is the regressivity impact on alcohol-dependent people. The evidence indicates that, in South Africa, regular heavy drinking is concentrated among the poor. It seems reasonable to assume that a substantial proportion of heavy-drinking poor households have members that are alcohol dependent. An MUP would impose a financial burden on these people. However, the Australian literature indicates that the financial burdens attributable to an MUP would be lower than the financial burdens arising from a similar increase in alcohol taxes. In South Africa, the real alcohol tax has been increasing slowly for the past two decades.

While the argument that the health benefits that accrue from an MUP accrue mainly to poor drinkers, this is likely to be cold comfort for alcohol-dependent people. To the extent that alcohol dependent people can be helped, this should be done. However, one should not buy the argument that, because an MUP is

likely to have a detrimental impact on one group of people (i.e. poor alcohol-dependent drinkers), one should not implement a policy that has been shown to be effective in reducing some of the negative health effects from alcohol use. The potential of an MUP to reduce health inequalities and substantially improve the health status of the poor, should be included into the calculus as well.

To sum up, the ex-post literature indicates that MUP has the potential to succeed in meeting its primary objective of reducing heavy drinking, especially among those in lower-income groups. This could be achieved without imposing a greater financial burden on responsible (moderate) drinkers in the lowest-income groups, with the exception of alcohol-dependent people. Despite being a well-targeted policy, MUP is not a silver bullet. It should be part of a comprehensive strategy to reduce the harmful use of alcohol. It should complement the already existing alcohol excise taxes in South Africa and be used in conjunction with non-price measures that are specifically targeted to vulnerable groups.

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CHAPTER 2: THE PROBABILITY AND IMPACT OF INTERPROVINCIAL LIQUOR PURCHASES: A WESTERN CAPE PERSPECTIVE⁴

Dr Laurine Platzky

2.1. INTRODUCTION

Governments around the world are concerned about the health and safety of their citizens. Following the World Health Organisation's (WHO) recommendations for reducing alcohol-related harms in society,⁵ more governments are considering increased tax and minimum pricing policies.⁶ To date, the only state intervention in South Africa (SA) that impacts the price of alcohol is excise tax. The SA government has begun increasing excise taxes on alcohol, and it is understood to be considering a less differentiated excise approach across wine, beer, and spirits, which appears to be supported by South African Breweries (SAB).⁷ As well as increasing taxes, a specific form of minimum pricing, known as Minimum Unit Pricing (MUP), which contributes to increasing the price of alcohol, has been found to be an effective measure for reducing consumption and, in turn, reducing alcohol-related harms.⁸

⁴ This paper is part of a collection of papers intended to advise the Western Cape Government on MUP. Other papers cover concerns which are often raised by MUP sceptics, including potentially negative responses to MUP, such as switching to illicit substances or non-beverage alcohol, increased crime, including stealing alcohol, and diverting spending from food and from dependent children.

⁵ The five action areas of the WHO-led SAFER initiative are: (1) Strengthen restrictions on alcohol availability; (2) Advance and enforce drink-driving countermeasures; (3) Facilitate access to screening, brief interventions, and treatment; (4) Enforce bans or comprehensive restrictions on alcohol advertising, sponsorship, and promotion; and (5) Raise prices on alcohol through excise taxes and pricing policies (WHO 2021).

⁶ WHO 2021, p viii: "Minimum pricing on an alcoholic beverage sets a fixed price level below which a specific volume of a[n]y finished [alcoholic] product cannot be sold, while MUP is more specific and sets a level below which a fixed volume of alcohol (such as a standard drink [%ABV]) cannot be sold. As MUP is linked to the alcohol content [%ABV] of the beverage [rather than only the volume] it will always be higher for higher-alcohol than for low-alcohol drinks, thereby incentivizing consumers and producers to favour lower-strength products." Minimum unit pricing legislates for a retail floor price *dependent on the alcohol content* of the drink. "MUP is a policy whereby a legal floor price is introduced, below which a fixed volume of ethanol cannot be sold to the public." (Gibbs, N. et al. 2021:1)

⁷ "Alcohol products with higher alcohol content should attract a higher excise tax burden. This would correctly influence consumers to reduce harmful consumption by purchasing cheaper, lower alcohol by volume (ABV) products." SAB post-budget presentation to parliament, <https://businesstech.co.za/news/lifestyle/564460/alcohol-price-and-tax-changes-proposed-for-south-africa/> (Accessed 4 April 2022). Currently different excise rates apply to beer, wine, and spirits. It is assumed that SAB made this supportive comment in preparation for a debate on Minimum Unit Pricing for SA.

⁸ Giles, L. et al 2021

Ideally MUP should be introduced by the national government, along with increased excise taxes, as implementing multiple approaches together has been found to reduce alcohol-related harms (WHO 2021). A national MUP would avoid interprovincial liquor purchases where price differentials are exploited, possibly undermining the effectiveness of MUP in reducing alcohol related harms in society. However, in SA, as retail trade in alcohol is regulated by the provincial governments,⁹ national government is constitutionally bound to limit its intervention to ‘national norms and standards’. At best, the national department¹⁰ responsible for alcohol regulation would only be able to issue national provincial guidelines in relation to introducing MUP.

The Western Cape Government (WCG) is considering introducing an innovative Minimum Unit Pricing (MUP) policy. As outlined in their Alcohol Harms Reduction White Paper:¹¹

Minimum unit pricing (MUP): *MUP at the point of retail is considered the most targeted way to tackle the affordability of cheap, strong alcohol consumed by heavy drinkers without penalising moderate drinkers. It also averts the possibility of alcohol being sold below cost, given away or subsidised.* (Provincial Gazette No. 7824, 2017:33)

South African provinces have limited constitutional power to tax. However, provinces are authorised to licence retail liquor outlets and micro-manufacturers, such as wineries and craft breweries. As a licencing condition, MUP would regulate prices below which alcohol could not be sold legally in the province. This would impact both licensed outlets and unlicensed outlets as, according to the Western Cape Liquor Authority (WCLA), most unlicensed traders purchase their products from licensed retailers.¹²

This paper addresses the probability and impact of interprovincial liquor purchases under a provincial MUP arrangement. It is part of a collection of papers addressing possible implications of MUP policy and implementation in preparation for the public consultation on MUP for the WCG. The paper examines the

⁹ Constitutional Court of South Africa, 1999: Case CCT 12/99

¹⁰ Department of Trade, Industry and Competition

¹¹ Provincial Gazette No. 7824, 11 September 2017 pages 6, 32, 33 and 74

¹² Interview with WCLA 12 July 2021

local context and considers lessons from around the world. The aim of this paper is to assess arguments against MUP in relation to cross-border purchases of alcohol in the Western Cape (WC).

On the first question of the probability of interprovincial alcohol purchases, it is argued that occurrences are likely to be low. The main reason is that 80% of the domestic wine market sells very cheap alcohol,¹³ well below what an MUP in the WC would be. In South Africa, the majority of wine farms and Sugar Fermented Beverage (SFB)¹⁴ producers are located in the WC. Wine and SFBs are the cheapest commercially produced liquor products in South Africa. Consequently, there would be little economic sense in transporting cheap alcohol into the WC, as it is already produced there. The only other likely commercial product to undercut MUP in the WC is beer sold in bulk.

The second issue, the impact of MUP in the WC through interprovincial transport, could result from 750ml or 1 litre containers of beer being brought from the nearest commercial brewery in the Eastern Cape (EC) for sale in the WC. A further possibility is that SFB producers relocate their plants out of the WC and truck their products back into the WC once MUP has been introduced. Thus, the impact examined in this paper focuses on commercial interprovincial trade, rather than small-scale operations, which would neither be particularly profitable, nor particularly undermining of MUP policy.

2.2. BACKGROUND

The literature indicates that MUP is not a “silver bullet” for reducing alcohol-related harms. It is one way of curbing alcohol access, along with reduced trading hours, reduced outlet densities, prohibiting advertising visible to those under 18, and increasing the price through excise taxes. Alongside interventions like MUP, limiting the size and the design of closing mechanisms for alcohol containers is also an effective way of reducing binge and heavy drinking, which negatively impact health and safety.

¹³ Interview with SAWIS 12 August 2021: 80% of wine by volume sells in the domestic market for under R30 per bottle (750ml).

¹⁴ The manufacture of SFB (some of which marked as 'ales' so as to be taxed at a lower rate than spirits despite typically having a high alcohol content) involves short chemical processes, rather than fermentation and aging methods used in the production of premium products (brandy, whisky and other spirits or fermented wines). This industrial process is quick and cheap. These popular products sell for as little as R35 for 5 litres in WC retail outlets. SFB manufacturers vary %ABV in order to avoid excise tax as spirits. Sometimes tests will show a %ABV as low as fortified wines or natural wines, sometimes up to 46%.

One of the most widespread arguments against MUP is that alcohol would be traded across borders, thereby undermining the intervention. However, virtually no evidence of extensive cross-border activity as a result of MUP exists globally (see below). The argument relies on the assumption that cross-border trading in alcohol would be more likely to occur should there be a large difference in the retail price of alcohol between one territory/province with MUP and another without it. In the most comprehensive evaluation of the impact of cross-border purchase of alcohol, Patterson et al. (2022:9), in a study which among other things examined whether the implementation of MUP in Scotland resulted in increased cross-border travel and purchases in northern England, note that “studies that have been done show that the extent of cross-border purchase depends on context: the price differential, ease of travel and crossing the border, distance in relation to how far people are used to travelling, the extent of crossing the border for other reasons such as work, and border regulations (hard border import quotas, etc.)”.

There are thus several factors which could contribute to the likelihood of cross-border trade from provinces not subject to MUP. Of particular importance for the WC context are the following:

1. Difference in retail prices;
2. Proximity of retail outlets in neighbouring provinces, where alcohol is cheaper or more easily accessible;
3. Price of transport (petrol, vehicle maintenance, tolls, drivers’ wages, risk of traffic fines and transgressions);
4. Ease of transport and delivery (time taken, risk of being caught, state of the roads and routes);
5. Availability of clandestine storage facilities.

2.3. COMPARATIVE EVIDENCE

Global

Various forms of minimum alcohol pricing have been adopted by countries around the world. One category refers to minimum pricing. Minimum pricing of alcohol has been in place in Canada¹⁵ since at least the 1990s and for many years in some states of the USA. Former members of the Soviet Union, including Belarus (1998), Kyrgyzstan (2013), the Republic of Moldova (2010), the Russian Federation

¹⁵ In 2012 all Canadian provinces except Alberta had minimum prices for alcohol (Stockwell 2012).

(2000), Uzbekistan (2010), and Ukraine (2008), introduced minimum prices.¹⁶ A category of minimum pricing is MUP. In the last decade, several countries have introduced MUP, including the Canadian province of Manitoba (2001), Armenia (2016), the Northern Territory of Australia (2018), Scotland (2018), Wales (2020), and Ireland (2022). Northern Ireland has recently consulted on the introduction of MUP, and the Netherlands is currently considering a proposal for MUP.¹⁷ In July 2022 the British House of Lords called for the UK government to consider MUP.¹⁸

From early in the 20th century, Nordic countries (except Denmark) have controlled alcohol prices mainly through retail state monopolies, following acute problems of heavy drinking amongst the population, and as a result of a strong temperance movement. While there is some dated literature from these contexts available on cross-border alcohol shopping, this comparison would not be readily applicable to SA. This is because the SA government does not control alcohol retail sales directly, as this is a provincial competency. The national government imposes excise taxes and regulates large-scale private sector alcohol production, distribution, and sales. Furthermore, because the cheapest alcohol is produced in the WC, it would not make economic sense to bring more expensive alcohol into the WC.

Canada

There are few studies on the impact of Canadian minimum pricing in the literature, perhaps because the Canadian intention of minimum pricing policies was to raise state revenue rather than to reduce alcohol-related harms. Stockwell and Thomas (2013) reported on a study¹⁹ which showed the effectiveness of minimum pricing in reducing mortality and poor health. Data on alcohol prices and sales for different beverages, provided by the British Columbia Liquor Distribution Branch for 1989–2010, showed the positive impact of minimum pricing on public health:

Data from Canadian provinces suggest that a 10% increase in average minimum price would result in the region of an 8% reduction in consumption, a 9% reduction in hospital admissions and a 32% reduction in wholly alcohol-caused deaths---with further benefits accruing two years later (Stockwell and Thomas, 2013: 2)

¹⁶ According to a 2016 WHO survey, in the former Soviet Union, there are minimum prices for alcoholic beverages in Belarus, Kazakhstan, Kyrgyzstan, Moldova, the Russian Federation, Slovakia, Ukraine, Uzbekistan and all Canadian provinces (by 2016).

¹⁷ WHO 2021, p 21.

¹⁸ House of Lords Report 2022, p 29.

¹⁹ Zhao, J. et al. 2013.

Unfortunately, no data on cross-border trade could be found, perhaps indicating that this is not a major issue between Canadian provinces.

MUP is a more targeted form of minimum pricing policy, being based on the percentage of ethanol by volume in the product. It is relatively new globally and comparative case studies are scarce. There is even less published evidence of cross-border sales of alcohol²⁰ as a result of the introduction of MUP.

Eastern Europe

Although the literature is limited on the consequences of introducing MUP in Eastern European countries, ‘increases in cross-border shopping were observed across Baltic countries after tax increases in Estonia and Lithuania had considerably increased their alcohol prices and more alcohol purchases from Latvia were recorded’ (Täht & Laarmann, 2019; Pärna, 2020; Neufeld et al., 2021). Illegal sales of cheap spirits smuggled from Kazakhstan were reported in some communities in the Russian Federation as the result of differences in price levels between the two countries (Neufeld, Wittchen & Rehm, 2017).

Illicit cross-border trade is complex, is determined by a variety of factors, including geography, the incidence of crime and corruption, and the strength of law enforcement and price differentials, and it tends to be a more significant issue in low- and middle-income countries (OECD, 2015). Care may be needed in planning enforcement if the introduction of MUP leads to price rises across a large section of the market. WHO, European Region, “No place for cheap alcohol: the potential value of minimum pricing for protecting lives.” 2022:28)

Lessons learned from low- and middle-income countries, as indicated above, would be useful for South Africa.

The Northern Territory of Australia

No data or analysis of Australian cross-border trade following the 2018 introduction of MUP in the Northern Territory could be found in the literature. Distances are vast between settlements, and between the Northern Territory and the rest of Australia, which might explain the lack of or need for research on

²⁰ Angus 2022, p 18

the topic. For example, the closest cross-border town to a Northern Territory town is Kununurra (Western Australia), requiring a six-hour car drive to the Northern Territory town of Top Springs.

Wales and Ireland

With the recent adoption of MUP in Wales (2 March 2020) and the Republic of Ireland (4 January 2022), and with Northern Ireland currently analysing comments from public consultation, relevant research on cross-border trade should be available within a few years.

Scotland

In the existing literature, only Scotland is undertaking a detailed evaluation of the impact of MUP policy. The strongest and best-documented case regarding the effects of MUP on cross-border purchasing of alcohol comes from Scotland, which has been analysed in detail and is reflected upon here in light of the proposed WC policy.

MUP was introduced in Scotland on 1 May 2018, and it is the only country or territory in which impact studies have been undertaken. An evaluation is required by Scottish Law after five years of implementation.²¹ In the long lead-up to the introduction of the 2012 Act, news reports reflected public scepticism and industry contempt toward the policy.²² As quoted in Hilton et al. (2014:162):

Some critics reasoned that increasing prices at legitimate retailers may result in a growth in black market and cross-border alcohol purchases, which may in turn cause further harm to retailers. The spokesperson of a retail industry group suggested that MUP will increase ‘illicit and cross-border sales to the detriment of indigenous Scottish retailers’ (Herald, 15th May 2012). A supermarket spokesperson listed the illicit and alternative trades that might develop: ‘black, grey, counterfeit, internet and cross-border’. (Herald, 18th January 2012)

²¹ Alcohol (Minimum Pricing) (Scotland) Act 2012, Section 3: Report on operation and effect of minimum pricing provisions. The WC is advised to follow this example of legislating for a review after five years of implementation.

²² MUP in Scotland was delayed for six years owing to legal challenges, including EU trade-related court cases.

One of the counterarguments was thus the threat of displacing alcohol sales and bypassing MUP through cross-border trade. However, there was little evidence of this after MUP came into effect. Public Health Scotland (2019:6) reported that “(T)here was no indication in the trade press of a shift towards online or cross-border shopping activity”. Indeed, commenting on Patterson et al. (2022), Sue Taylor, Head of Alcohol Policy for the health campaigning organisation *Balance* said:

When (MUP) was introduced in Scotland in 2018 there were claims that drinkers would bypass shops, but this does not appear to have happened. People were not travelling in any great numbers to buy cheaper alcohol elsewhere. Evidence already shows that MUP has already reduced consumption among the heaviest drinkers in Scotland and it is an effective policy at targeting those most at risk from alcohol harm.²³

A second argument was that an MUP would harm legal job creation and legitimate business. However, MUP seems to have had a negligible detrimental impact on the labour market. In a study for Public Health Scotland, Frontier Economics (2019: 11) reported that “(T)here was no evidence of MUP having a substantial impact on the profitability, turnover or employment of Scottish retailers located near the border”. As the Scottish MUP theory of change had predicted:

- “Consumers have responded to increased prices by reducing purchases.”
- “There has been an additional substitution towards lower ABV products, such that the impact on alcohol units is larger than the impact on litres.”
- “There has been an additional substitution towards smaller pack sizes, such that the impact on [the number of] packs sold is smaller than the impact on [the volume of] litres sold.”²⁴

The most recent and conclusive evidence comes from a comprehensive study released by Public Health Scotland (PHS) in March 2022 by Patterson et al.: “Evaluating the impact of Minimum Unit Pricing (MUP) of alcohol in Scotland on cross-border purchasing”, concluding that “whilst some cross-border purchasing is occurring, it is unlikely to be happening on a scale that would significantly affect consumption at a

²³ <http://www.balancenortheast.co.uk/latest-news/mup-did-not-lead-to-cross-border-purchasing-study> (Accessed 16 August 2022). The Public Health Scotland (PHS) overall final report on MUP evaluation is due mid-2023.

²⁴ Frontier Economics 2019 p. 64

population level nor materially affect other outcomes identified in the MUP theory of change.”²⁵ The Scottish case reveals no significant cross-border trade which would undermine the intention of the introduction of MUP.

Learning from the implementation of MUP in Scotland, before the Covid-19 pandemic,²⁶ the WC will have to increase its ability to collect and analyse data²⁷ in order to understand changes in consumer behaviour and trade patterns.

While lessons can be learned from international experiences, especially that of Scotland, the most relevant suggestion from the literature is that the context and domestic challenges of MUP implementation should be taken into consideration.

2.4. SOUTH AFRICAN CASE: WESTERN, NORTHERN AND EASTERN CAPE

The Western Cape is bordered by the Eastern Cape (EC) and the Northern Cape (NC). The case of MUP in Scotland indicates that there is unlikely to be substantial interprovincial liquor trading into the WC, but as Patterson et al. (2022) point out, context is important. The context and history of alcohol production and consumption in the former Cape Province (which included the WC, NC, EC and part of the North West) provide a backdrop to understanding possible conditions for a conducive climate for illicit interprovincial trade. Most movement of people between the WC and other provinces is between the WC and EC, for

²⁵ Patterson et al., 2022, p. 5 and “Analysis of online alcohol prices highlighted that, whilst it was possible to circumvent MUP price limits at the time of data collection by purchasing alcohol online, bulk purchasing of a considerable amount of alcohol would usually be required to make significant savings.” Patterson et al., 2022, p. 5.

²⁶ Professor Peter Rice, seminar Edinburgh 25 July 2022: Scotland allowed alcohol to be sold off-consumption throughout the Covid-19 pandemic but occasionally introduced bans of the on-consumption sale of alcohol. According to Hardie, I. et al 2022:1622: ‘Lockdown restrictions were also associated with later drinking start times, fewer occasions in someone else’s home and with friends/colleagues, more own-home drinking and (in Scotland only) more solitary drinking.’

²⁷ Data to be collected should include law enforcement (numbers of people transgressing MUP license conditions selling liquor below the MUP, numbers of people selling liquor below the MUP, where selling (licensed or unlicensed outlets), fines, conviction rates and sentences. Data on arrests and seizures for transporting illicit alcohol across provincial borders or within the province, conviction rates. Key informant and focus group interviews of people living in provincial border towns. Data on people bringing in alcohol duty free from airports and harbours. Type of alcohol brought in. Customs revenue gained from bringing in alcohol above the duty-free allowances (at airports and harbours in the WC). Information on where alcohol is sourced in provincial household surveys and prices paid. Excises taxes for alcohol paid by province.

geographical and historical reasons.²⁸ The busiest interprovincial routes between the WC and the EC are via the N1 through Beaufort West and to a lesser degree on the N2 via George in the Southern Cape.

The long-standing and close connections between the people of the former Cape Province result in the regular movement of people between the three 'new' provinces of the Northern, Eastern and Western Cape. Unlike the longstanding patterns of Scottish people living close to the English border and shopping in bulk in nearby English towns, the majority of those living in the WC who travel to the rural areas of the EC would shop in bulk in the WC, not vice versa. While it is common for those travelling to the EC to shop in the WC and take their purchases to the EC, under MUP in the WC, there is unlikely to be a switch to bulk shopping, including alcohol, in the EC to take purchases to the WC.²⁹ The current shopping patterns would indicate that a separate alcohol transport system would have to be created in order to smuggle³⁰ alcohol from the EC to the WC. Other than relatively modest amounts of alcohol bought in the EC and brought in taxis and buses on returning to the WC, low-priced wines and SFBs in the WC are likely to make large-scale smuggling unprofitable.

With the long history of the wine industry in the WC and the 'dop' system³¹ evident not only on the wine farms, but also as a form of payment on the Little Karoo fruit farms (in the EC), as well as on the Karoo wool and animal agricultural farms (NC), patterns of alcohol consumption are similar across all three provinces which formed the Cape Province prior to 1994. Networks and connections continue to be strong, which might be considered advantageous for cross-border trading in alcohol should MUP be introduced in the WC. The issues are explored below.

²⁸ Until it was abolished in 1984, the 1955 Coloured and White Labour Preference Policy had prevented black African people without permits from working in the western part of the Cape Province. They were forcibly removed and restricted east of the 'Eiselen Line' (named after the Secretary of Bantu Administration and Development at the time) (Platzky and Walker 1985). Even after the repeal of this policy, housing was not prioritized for black Africans in the western part of the Cape, thereby limiting the numbers of people who could move back from EC to WC. Following democratic elections in 1994 many people moved west from the newly formed Eastern Cape Province, but links remain strong and movement between the WC and EC increases, particularly before and after public holidays.

²⁹ Noting that the cheapest commercially produced alcohol (wine and SFBs) is manufactured in the WC not in the EC.

³⁰ Smuggling is the illegal trading of products across borders. (e.g., a truck of alcohol for sale from another province coming into the WC).

³¹ "The 'dop' system was a payment model used on South African farms where farm workers were paid part of their wages in the form of alcohol (usually wine). The payment system originated in colonial times and was aimed at inducing local indigenous people in the Cape to work for their masters. The 'dop' system played an important role in maintaining control over the labour force. Alcohol was usually supplied at the end of the working day or at the end of the week in later times. The 'dop' system is no longer legal, but cheap wine is still made available to workers on many farms – either directly or purchased on credit by employees" (<http://havenaddictionrecovery.com/290/> The Haven Addiction and Recovery Centre, 2013).

MUP will increase the price of the cheapest liquor the most, which will affect binge and heavy drinkers more than moderate drinkers. The most important difference from Scotland and the other cases examined is that 80% of the SA domestic wine market sells well below what an MUP in the WC would be. As well as SFB production, manufacturing plants for the chemical production of cheap spirits such as vodka³² are less location-bound than wine cellars. This makes such plants more likely to be in industrial areas, from which the products can be trucked across the country and beyond. As well as cheap wine and SFBs, quarts of beer purchased in bulk from retail outlets are favoured by WC heavy and binge drinkers, who will be most affected by MUP. Other than the brewery located in the Cape Town suburb of Newlands, the nearest large-scale commercial brewery is in Gqeberha, Eastern Cape.³³ There is thus a risk of commercial beer being trucked from the EC to the WC.

INFRASTRUCTURE AND ENFORCEMENT

Besides history and context, current weak governance and service delivery conditions, particularly in relation to infrastructure and enforcement could encourage smuggling. Infrastructure in the form of Weigh Bridges would be an important facility for ensuring MUP compliance, as vehicles are routinely taken off the national roads to check their weights in relation to their license conditions. Should they be carrying undue quantities of alcohol in terms of current WC liquor legislation,³⁴ they could be reported to the South African Police Service (SAPS) or WCLA inspectors and be required to explain the origin and destination of the liquor. Likewise, the toll plazas on the N1, N2 and N7 could also be the “eyes and ears” of SAPS and liquor inspectors, leading to inspections of vehicles and freight,³⁵ resulting in confiscation of alcohol and criminal proceedings.

An analysis of the roads entering the WC from the NC and the EC indicates that the most probable routes for inter-provincial liquor trade would be between the EC and the WC, with the two most convenient routes being:

- N1 and R61 from Aberdeen via Beaufort West (to Cape Town);

³² Retails at R150 for 1 litre ABV 43% .

³³ According to a 2018 SAB media release on the opening of a second production line in their Port Elizabeth brewery, “The new line currently produces SABs recently introduced 1-litre Castle Lager and Carling Black Label returnable glass bottles at 34 500 bottles per hour”. <https://www.sab.co.za/news/sab-invests-r438-million-new-production-line-port-elizabeth-brewery>.

³⁴ Section 85 of the WC Liquor Act (2008).

³⁵ Known by SAPS as VCPs (Vehicle Check Points) and used for checking suspicious vehicles for drugs, stolen property, etc.

- N2 from Humansdorp through the Tsitsikamma Toll road to the Garden Route towns of Plettenberg Bay, Knysna, George and Mossel Bay.

While there are several other lesser roads crossing the WC/EC border, numerous vehicles on these routes are more likely to be easily identified, stopped, and searched. The main arterial routes which would have to be carefully monitored are:

- Oudtshoorn/Joubertina R62
- Uniondale/Willowmore N9
- Klaarstroom/Willowmore R407
- Murraysberg/Graaff Reinet R63

Provincial and municipal traffic officers could be trained and empowered to confiscate alcohol coming into the province in significant amounts however Enforcement officers would not be able to prevent every bottle or box of liquor being brought illegally into the WC. As has been argued, almost all low-priced alcohol is already produced in the WC, which indicates that interprovincial trade is unlikely to be significant if MUP were to be introduced in the WC.³⁶

ILLCIT SALES

During the Covid-19 pandemic the smuggling of duty-free alcohol became an issue and several diplomats were arrested for the sale of alcohol they had purchased through duty-free allocations. Ports and airports in the WC would need to be monitored for the trafficking of cheap brands of spirits or fake copies of well-known foreign brands. These would be unlikely to compete with cheap SA wine or SFBs currently produced in the WC.

UNINTENDED CONSEQUENCES

³⁶ If all SFB manufacturers relocated to other provinces and if wine-grape growers trucked their harvests to be processed outside the WC for sale in other provinces, the WC would still benefit from MUP. With the production of SFBs and cheap wine outside WC, costs of relocation and transport would be likely to increase the price of these alcoholic beverages.

There are several other considerations for an MUP policy,³⁷ including the possibility of reverse cross-border sales. Wines that currently sell at very low prices would have to improve their quality in order to compete with wines which presently sell at higher (above MUP) prices. This might lead to the disappearance of very cheap wine, as seems to be happening in the Scottish domestic 'value' market in relation to cheap cider and vodka, some beers and blended whiskies.³⁸ Conversely, it is possible that low-priced WC wine could be transported to other parts of the country and sold below the MUP, if this pricing structure was limited to the WC rather than introduced nationally. Transporting low-cost and ultra-low-cost wine to the rest of SA (or even exporting it to other parts of Africa) might become a strategy for wine producers to compensate for lost sales in the WC as a result of MUP. Long-distance trucking of liquor products, not bound to a particular location for their manufacture,³⁹ might increase.

A further consideration is the political pressure to support emerging (especially black female) winemakers which has grown over the last decade. New entrants to the industry might find it difficult to compete in the premium wine market, which might also encourage them to distribute their wines to the rest of SA (and beyond).

2.5. CONCLUSION

In the WC, alcohol is cheap and readily available. Binge drinkers therefore have no incentive to reduce their consumption. MUP is a promising and innovative policy option that could reduce heavy and binge drinking in the province. While detractors of MUP argue that the intervention will merely stimulate cross-border trade in alcohol, there is little international evidence of increases in interprovincial/interregional purchases of alcohol following the introduction of MUP. Despite limited global data on interprovincial trade to avoid MUP, where there is any evidence (e.g. Scotland) it has not been evidence of a significant increase in cross border trade. What is available from Scotland shows that there has been very little evidence of increase in cross-border trade between the north of England and Scotland (Patterson et al., 2022).

³⁷ As this paper is part of a collection, other papers cover concerns which are often raised by MUP sceptics. All these issues were covered in Scotland's theory of change and were considered during the evaluation. Little evidence of any increase of these matters has been recorded in Scotland to date.

³⁸ Frontier Economics 2019, p. 67.

³⁹ Such as SFBs and cheap vodka, which can be manufactured regardless of location.

While the SA context is different, modelling has suggested that the long-term benefit of MUP being introduced into the WC would be an innovative and effective way of reducing harms related to alcohol (Gibbs, N. et al., 2021). If the price differential is not excessive,⁴⁰ the benefits of introducing MUP are likely to outweigh the short-term possibility of liquor products being purchased across provincial borders and brought into the WC for consumption. If such cross-border purchases are resold in the WC, the MUP would apply to those sales. This would have the same ultimate effect of making alcohol more costly to drinkers, resulting in public health and societal benefits.

Once MUP has been introduced, all WC liquor license holders (on and off consumption, big and small retailers) will have to abide by their license conditions, which will include complying with the MUP established by the WC Minister for Community Safety. From a practical perspective, there will have to be extensive publicity given to this new pricing intervention. All licensed outlets are likely to watch each other for undercutting of the MUP. Queues of consumers at liquor stores or retail outlets could signal transgressions. Given the limited capacity of the South African Police Service, the Western Cape Liquor Authority Inspectorate will have to shoulder most of the MUP monitoring. Focus should first be on large retailers, particularly in high-density urban areas, to monitor prices and volumes sold. All enforcement agencies will have to ensure compliance, and with the assistance of traffic officers, prospective cross-border smuggling should be minimised.

Besides amendments to the 2008 WC Liquor Act to enable MUP through licensing conditions, attention should be given to cooperative law enforcement through all the agents (SAPS, Municipal Police, national and provincial liquor inspectors, provincial and municipal traffic officials, etc.). QR codes affixed to alcohol containers would ensure tracking and tracing⁴¹ better to regulate alcohol trade and distribution. There would have to be systematic collection of data⁴² and rigorous analysis to ensure evidence-based decision-

⁴⁰ The initial MUP should not be too high, but should rather be increased gradually over time, in order not to trigger unintended outcomes.

⁴¹ WC White Paper 2017:30 recommendation to lobby national government to implement a tracking system of liquor products.

⁴² Data on law enforcement (numbers of people transgressing MUP license conditions by selling liquor below MUP, numbers of people selling liquor below MUP, where selling (licensed or unlicensed outlets), fines, conviction rates and sentences). Data on arrests and seizures for transporting illicit alcohol across provincial borders or within the province, conviction rates. Key informant and focus group interviews of people living in provincial border towns. Data on people bringing in alcohol duty free from airports and harbours. Type of alcohol brought in. Customs revenue gained from bringing in alcohol above the duty-free allowances (at airports and harbours in the WC). Information on where alcohol is sourced in provincial household surveys and prices paid. Excises taxes for alcohol paid by province.

making, in order to assess the impact (and future) of MUP. International comparative research to learn lessons that can be applied in the local context would be valuable.

Finally, the perceived risk of cross-border purchases would be significantly reduced if MUP were to be introduced countrywide, rather than only in the WC.

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CHAPTER 3: EFFECT OF MINIMUM UNIT PRICING ON CONSUMPTION OF UNRECORDED ALCOHOL IN SOUTH AFRICA AND THE WESTERN CAPE IN PARTICULAR

Professor Charles Parry

3.1. EXECUTIVE SUMMARY

This chapter focuses on:

- 1) the extent to which the introduction of MUP for alcohol in the Western Cape province, or in South Africa as a whole, is likely to impact the use of unrecorded alcohol and its associated harms, and
- 2) how MUP can be implemented in a way that would minimize any moves toward an increased use of unrecorded alcohol.

The five main sub-categories of unrecorded alcohol in South Africa are:

- Legal, but unrecorded alcohol products, i.e., home brewed/distilled alcohol products for home consumption and not for resale.
- Alcohol products recorded elsewhere but not in South Africa where they will be consumed. This is sometimes referred to as cross-border trading/shopping. These products are legal if they are within the duty-free allowance or duty has been paid.
- Surrogate alcohol. This refers to alcohol not primarily intended for human consumption, such as mouth-wash, perfumes, colognes, lotions, some cough syrups, denatured alcohol (products with additives making them unsuitable for human consumption), medicinal compounds, and hand sanitizers. Such products are generally not illegal unless they are sold as ethanol products (Lachenmeier et al., 2021).
- Illegal homemade artisanal production refers to homebrewed alcohol products, i.e., beer made from sorghum, pineapples, or other products, fruit-based spirits, and wine for home consumption, all of which become illegal when sold commercially.
- Illegal production and smuggling on a commercial scale. This includes:
 - alcohol made on an industrial scale outside the legal system;
 - alcohol declared for the export market (and not incurring excises taxes) and then either never exported or taken offshore and smuggled back into the country to be sold without paying excise taxes (Lachenmeier et al., 2021);
 - alcohol smuggled into SA from its country of origin and sold either as raw ethanol or as the finished product without paying duties or VAT; or
 - counterfeit products.

Fifteen to twenty per cent of SA's total alcohol consumption is unrecorded (2.0 to 2.5 L consumed per capita per annum). The two largest categories of unrecorded alcohol consumption are homemade alcohol, both legal and illegal, and illegal production, with lesser amounts for the other categories (Probst et al., 2019; South African Wine Industry Information and Systems, 2021).

Health effects of different sub-types of unrecorded alcohol and possible impacts following the imposition of MUP

Aside from the main harms from ethanol in itself, whether legal or illegal, unrecorded alcohol products are a health risk because 1) the low cost can lead people to drink more, 2) they lack adequate labelling and often contain a higher alcohol by volume (ABV) than recorded products and 3) they have poor production standards and may contain contaminants such as methanol (Lachenmeier, 2021).

At a population level, the illegal production of spirits and 'ales' and the smuggling of spirits on a commercial scale are likely to be the most harmful risks if the trade in unrecorded alcohol increased in response to MUP. Although additives to some surrogate products and artisanal products can contain harmful additives, surrogate alcohol is not widely used in South Africa and at a population level the harms associated with homebrews are more likely to come from the ethanol consumed than the contaminants (Lachenmeier et al., 2021).

Some smuggled or illegally produced products are not especially harmful to health, except for their increased affordability. Counterfeit products do potentially pose severe health risks because of their use of industrial alcohol, which is unfit for human consumption and can have serious effects on health and behaviour (Euromonitor International, 2021).

Economic effects of MUP on different sub-types of unrecorded alcohol

A recent study (Euromonitor International, 2021) found that the South African economy suffered a loss of R6.4 bn in 2017 due to illicit alcohol activities and that the illicit industry generates an annual revenue of R12.9 bn. The largest share of this was attributable to the smuggling of final alcohol products and raw ethanol. The study estimated that the fiscal loss from the illicit market had a compound annual growth rate (CAGR) of 10% between 2017 and 2020, reaching R11.3 bn in 2020, mainly from unpaid excise and customs duties. However, many of the assumptions underlying Euromonitor's estimates are vaguely defined and the origin of their underlying data is not clear. The report was compiled for the South African Liquor Brand Owners' Association (SALBA), the Beer Association of South Africa (BASA), and VINPRO and should be viewed with some skepticism.

The extent to which MUP will exacerbate the problem of unrecorded alcohol varies with the different types and the level of the MUP, as well as the extent to which other mitigating strategies are implemented. An increase in unrecorded alcohol would mean a decrease in excise tax paid, and possibly in VAT on lower-cost products. These would be offset by VAT from other sources, such as the raw material for some

homebrews, surrogate alcohol products, import duties from cross-border shopping, and VAT on the increased price of low-cost alcohol when the MUP is applied.

Increased smuggling and illicit production could lead to a decrease in excise taxes and VAT if they occur on a sufficiently large scale. However, this would be compensated for at an MUP level of R10 per standard drink, which is also likely to lead to a substantial reduction in health harms and their associated costs (Gibbs et al., 2021).

Estimate of the current extent of unrecorded alcohol in South Africa by sub-type and the possible effect of implementing MUP on the volumetric use of each sub-type

The WHO estimated unrecorded alcohol consumption in South Africa at 23.7% (WHO, 2018a), and subsequently at 19% (2020) (South African Wine Industry Information and Systems, 2021). The percentages of the alcohol market by volume or the proportion of the alcohol consumed that is unrecorded thus varies between about 19% and 24%, but these figures must be read with caution as they are derived from industry estimates and may be inflated to support the industry's argument against tax increases.

The effects of MUP on the five categories of unrecorded alcohol will vary between categories and will depend on the level of MUP and the effectiveness of the mitigation strategies implemented.

Legal, but unrecorded alcohol products. Home brewing is already widespread and it is mostly consumed by poorer consumers and rural populations. The 2021 WHO Delphi Survey (WHO, 2021) on unrecorded alcohol in South Africa in 2019 estimated a median of 27% for homebrewed alcohol. This would mean that just over 6% of alcohol consumed in SA is homebrewed. Homebrews are also sold informally. There is a risk (Rehm et al., 2022) of drinkers moving to unrecorded alcohol in response to higher prices if the consumption of unrecorded alcohol is legal or is widely accepted behaviour. This would apply to South Africa, but the increase would be off a very low base.

Alcohol products recorded elsewhere, but not in South Africa where they will be consumed. Most of the existing cross-border shopping between South Africa and neighbouring countries is of South African goods going out, but a substantial difference in alcohol prices between countries could lead to movement in the other direction. The 2021 WHO Delphi Survey on unrecorded alcohol in South Africa in 2019 estimated

that alcohol being transported over the local borders, through shopping or smuggling, was between 1% and 31% of the total unrecorded alcohol volume, with a median of 30%. Of this, 0% to 20% was being brought in duty free or with duty paid (median 6.5%) and the remainder was smuggled or contraband liquor.

It is unlikely that there will be a substantial increase in unrecorded alcohol from (legal) cross-border shopping should MUP be introduced in South Africa, given current limits and travel costs. The distances from the Western Cape to international borders make it even less likely to be an issue in this province. The experience from other countries is that changes in taxation levels have not necessarily been accompanied by changes in unrecorded consumption (Giles et al., 2019; Rehm et al., 2022).

Surrogate alcohol. The 2021 WHO Delphi Survey provided estimates of the use of surrogate alcohol that ranged from 0% to 10% of all unrecorded alcohol (median 0.5%) (WHO, 2021). In South Africa, surrogate products such as perfumes and hand sanitizers are not routinely substituted for ethanol as ethanol is cheap and readily available. Should alcohol become unaffordable to some drinkers after the implementation of MUP, the most likely substitutes are methanol or mouthwash, or cough syrups containing codeine and alcohol. Some people might switch to other substances, such as cannabis, which is both legal (for private use) and cheap. The risks of increased surrogate alcohol use are likely to be similar in South Africa to those in the NT of Australia and Scotland (Buykx et al., 2021; Faulkner et al., 2015), and substitution to drugs or non-liquor alcohol products on a large scale is unlikely.

Illegal homemade artisanal production. Increased home brewing for resale might seem to be a risk if MUP was implemented in South Africa, as small-scale brewing and selling is tolerated although technically illegal. However, younger, urban populations see drinking homebrewed alcohol as not aspirational, the alcohol content of these products is generally low, and they need to be consumed soon after production., limiting their trade potential. An increase in the use of homebrewed alcohol would not result in substantial public health problems, although some individuals may suffer because of contaminated products. Any loss in excise revenue would be offset by the increased VAT on products being sold above the MUP (Gibbs et al., 2021).

Illegal production and smuggling on a commercial scale. There is a wide discrepancy about the proportion of unrecorded alcohol that is illicit, varying from 23% to ~76%. The illicit alcohol market by volume is dominated by spirits because of the higher profit margins they offer.

The extent to which smuggling alcohol, particularly spirits, would increase would depend on the level of the MUP and the costs of the transport and smuggling operation. The MUP would primarily affect beer and cheap wines rather than spirits. Counterfeit spirit-based products and tax evasion strategies are a problem, but would not be made worse by MUP.

Mitigation strategies

The increased use of unrecorded alcohol is a risk if MUP is instituted. However, illicit activities related to spirits are less of a risk as most spirit products would be sold above the MUP, which would mainly affect beer, ale, and cheap wine. The health harms associated with unrecorded alcohol are likely to be greatest for homebrewed and counterfeit alcohol, especially if methanol and other harmful products are added. Illegal wine products could also be sold illegally below the MUP level in South Africa, especially in the Western and Northern Cape. Efforts to counter these will be needed on several levels:

Home-brewed alcohol

- Educate home brewers about the dangers of additives, and the public on the risks associated with consuming homebrew and how to identify contaminated products.
- Introduce a variety of schemes to bring homebrewed products for resale into the regulated market and improve their quality.

Surrogate alcohol

- Prohibit substances that include toxic materials and find alternative ways to manufacture products that use industrial alcohol.
- Develop and introduce low-cost methanol detection systems to allow both producers and consumers to avoid lethally contaminated alcohol.
- Require retail outlets place items such as methylated spirits or mouthwash containing alcohol "behind the counter".

- Introduce minimum prices at the same level as beverage alcohol for cosmetic lotions containing more than a certain percentage of alcohol, or tax such products at the same price as alcohol, or abolish tax exemption for denatured alcohol.
- Reduce the availability of surrogate alcohols.

Cross-border smuggling

- Improve efforts to reduce cross-border smuggling through sharing data and intelligence with customs agencies in neighbouring countries, investing in scanning equipment, allocating border control personnel/anti-smuggling teams to police borders, addressing corruption at border posts, assigning dedicated prosecutors to cases involving illicit trade and ensuring consistency in consequences for those convicted.

Illicit local alcohol production and trade

- Introduce electronic surveillance systems to track alcohol trade.
- Using intelligence-driven policing, target large-scale operations producing and selling illegal alcohol.
- Institute severe penalties for counterfeiting alcohol and ensure that cases are prosecuted.

Conclusion

The imposition of MUP in a country like South Africa, which has high levels of unemployment and corruption, make the increased use of unrecorded alcohol a possibility, as was seen with the alcohol sales bans during the Covid19 pandemic. However, with planning, better enforcement of liquor trading regulations, and new systems such as tracking and tracing, there could be a reduction in unrecorded alcohol use.

While some unintended negative consequences from introducing MUP are likely, these need to be seen in the context of its demonstrated benefits. The cost savings and increased government revenue could enable measures to be taken to offset any negative impacts on low-income groups. The negative consequences for vulnerable populations of heavy drinkers may be minor and manageable.

To reduce the likelihood of substantial moves towards the consumption of unrecorded alcohol of any kind, the MUP should be initially set at a low level and increased gradually over time. Inspection levels for licensed outlets should be high enough to ensure that products are not being sold below the MUP and

that those that do are adequately sanctioned. The existing regulations prohibiting the production and sale of illicit alcohol need to be enforced more stringently.

Although 20%-25% of the alcohol consumed in South Africa is unrecorded, the risk of an increase in unrecorded alcohol if MUP were implemented should not be an argument against further alcohol control measures, whether MUP or controlling the availability or marketing of alcohol. The issue of unrecorded alcohol and any possible increase in its use following the implementation of control measures should be considered in the context of the broader benefits such measures can bring. Particular care should be taken in the South African context not to criminalize the behaviour of small home-based brewers selling small quantities of unrecorded alcohol. Finally, it is essential to monitor the use of unrecorded alcohol products and any associated negative health consequences that follow the introduction of MUP so that the effects of policy changes on unrecorded alcohol use and its associated harms can be measured and adjustments made where necessary.

3.2. INTRODUCTION

The World Health Organization's influential 2010 *Global Strategy to Reduce the Harmful Use of Alcohol* (World Health Organization, 2010) set out target ten areas for member states to take action on:

- Area 1. Leadership, awareness, and commitment.
- Area 2. Health services' response.
- Area 3. Community action.
- Area 4. Drink-driving policies and countermeasures.
- Area 5. Availability of alcohol.
- Area 6. Marketing of alcoholic beverages.
- Area 7. Pricing policies.
- Area 8. Reducing the negative consequences of drinking and alcohol intoxication.
- Area 9. Reducing the public health impact of illicit alcohol and informally produced alcohol.
- Area 10. Monitoring and surveillance.

For Area 7, a number of policy options and interventions were identified, including establishing a system for specific domestic taxation on alcohol, accompanied by an effective enforcement system, which may take into account, as appropriate:

- the alcoholic content of the beverage;
- regularly reviewing prices in relation to the level of inflation and income;
- banning or restricting the use of direct and indirect price promotions, discount sales, sales below cost and flat rates for unlimited drinking or other types of volume sales;
- establishing minimum prices for alcohol where applicable;
- providing price incentives for non-alcoholic beverages and
- reducing or stopping subsidies to economic operators in the alcohol trade

(WHO, 2010, p. 16).

In the section on “Reducing the public health impact of illicit alcohol and informally produced alcohol” (Area 9), recognition is given to both the possibility that the consumption of illicitly or informally produced alcohol will have negative health consequences due to a higher ethanol content and potential contamination with toxic substances, such as methanol, and that it might also hinder governments’ abilities to tax and control legally produced alcohol. To address these negative effects, the 2010 WHO Global Strategy stresses the importance of an appropriate legislative framework and active enforcement, together with awareness raising, community mobilization, and stimulating alternative sources of income for persons currently earning an income from informal or illicit alcohol (WHO, 2010, p. 17). Policy options and interventions suggested for this area include:

- having good quality control for the production and distribution of alcoholic beverages;
- regulating sales of informally produced alcohol and bringing it into the taxation system;
- having an efficient control and enforcement system, including tax stamps;
- developing or strengthening tracking and tracing systems for illicit alcohol;
- ensuring necessary cooperation among authorities and the exchange of relevant information at national and international levels on combating illicit alcohol ;
- issuing relevant public warnings about contaminants and other health threats from informal or illicit alcohol (WHO, 2010, p. 18).

Since 2010, there has been greater emphasis on the WHO “best buys” for addressing the harmful use of alcohol, and the WHO’S 2018 SAFER Initiative (WHO, 2018b), in particular, emphasises five key areas for

action by countries. The last of these is “Raise prices on alcohol through excise tax and pricing policies”. There has been increasing emphasis since 2018 on minimum unit pricing (MUP) of alcohol products as a strategy, and it has to date been implemented in at least five countries, or provinces/territories within countries, including Australia’s Northern Territory, Canada (the provinces of Ontario and Saskatchewan), Russia, Scotland, Wales, and Ireland).

MUP establishes a 'floor price' below which alcohol cannot be legally sold. This price is based on the amount of alcohol in a product and is measured in grams of absolute (pure) alcohol. The rationale behind MUP is to decrease alcohol consumption, and particularly the harmful use of alcohol, through increasing the price of the cheapest alcoholic beverages, as these tend to be consumed by the heaviest drinkers (O’Donnell et al., 2019). In South Africa, the cheapest commercially (i.e., legally) sold alcoholic beverages tend to be ales called “rooi-proppies” (red-lids), which are made from cheap wine or fermented sugar products, bag-in-box wines, or homebrews. Many of these products are sold for less than R5 per standard unit (12 g or 15 ml of absolute alcohol) of pure alcohol. Large containers of beer (12 bottles of 750 ml beer) can also sometimes be purchased for off-premise consumption at prices below R5 per standard unit.

Concerns raised by the alcohol industry and others in countries where MUP has been implemented typically include the view that raising the price of the cheapest alcohol will inevitably lead to an increase in illicit alcohol, especially potentially harmful homebrews, in illegal smuggling from neighbouring countries or areas where MUP is not implemented, in the use of surrogate alcohol (defined below), cross-border shopping for alcohol products in jurisdictions where alcohol can be purchased more cheaply, which is then transported over the border, an increase in the production and sale of counterfeit products (defined below), excise tax evasion, and so-called ‘third shift products’ (where alcohol is produced in traditionally legal environments, but sold in ways that evade tax).

These are potentially legitimate concerns, and the rest of this paper will focus on:

- (1) defining unrecorded alcohol;
- (2) addressing the legality, and the health and economic effects of the different sub-types of unrecorded alcohol;
- (3) the current extent of each of these sub-types of unrecorded alcohol (see Figure 1), and the possible impact of implementing MUP in the Western Cape Province, by reference to particular contextual issues in South Africa or the Western Cape and to the

experience of other countries and jurisdictions that have implemented MUP or increased prices based on the imposition of an additional levy (e.g., Botswana) and

- (4) presenting possible strategies for mitigating increases in different types of unrecorded alcohol, and of harmful health and economic effects, with particular reference to those that have worked in other countries or jurisdictions.

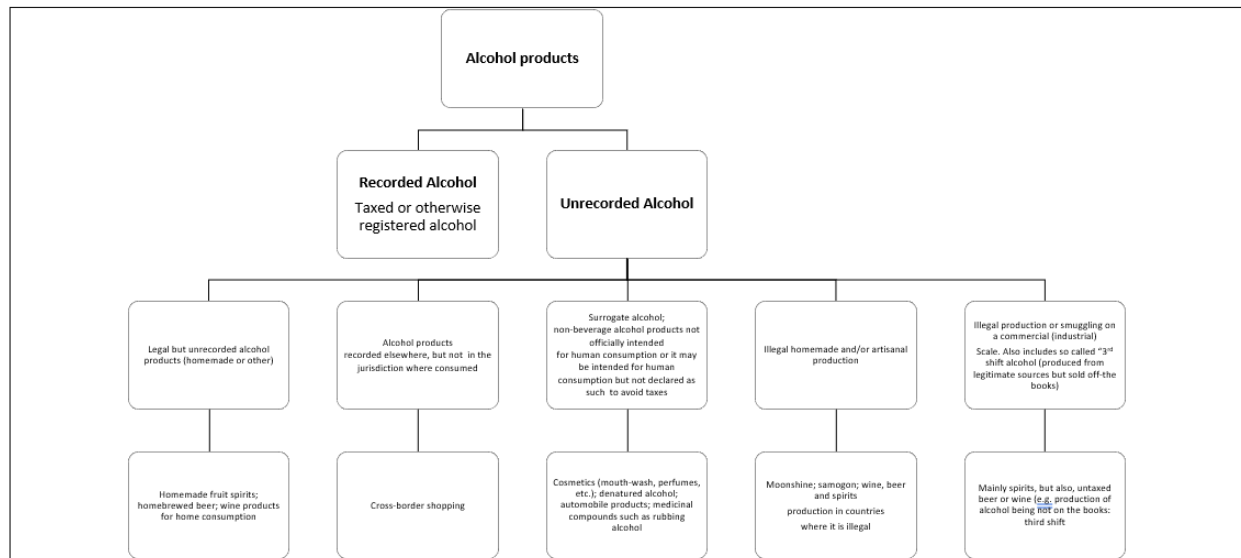
This paper has two central questions: of

- 1) “To what extent is the introduction of MUP in the Western Cape province or South Africa as a whole likely to impact the use of unrecorded alcohol and associated harms?” and
- 2) How can MUP be implemented in a way that will minimize any moves toward an increased use of unrecorded alcohol (and specifically unrecorded alcohol that is illicit and/or harmful beyond the usual negative consequences of consuming ethanol)?”

Sub-types of unrecorded alcohol and their legality

Unrecorded alcohol, defined as “alcohol not registered in official statistics for sales, production or trade in the country where it is consumed”, contributes 25% - 30% of all alcohol consumed worldwide (Lachenmeier et al., 2011; Probst et al., 2019; WHO, 2018a). There are substantial regional differences in the extent of unrecorded alcohol, with levels highest in the Eastern Mediterranean Region (57% of the total alcohol), followed by South-East Asia (45%), and Africa (32%) (Probst et al., 2019). Figure 1 below indicates the five categories of unrecorded alcohol. A review of data from the WHO STEPwise approach to surveillance surveys (16 countries, 66,188 participants), estimates from the routine WHO reporting on key indicators of alcohol use (189 countries), and a expert group expert assessment (42 countries, 129 experts) found that, in countries with available data, homemade alcohol was a major source of unrecorded alcohol (Probst et al., 2019).

Figure 1: Categories of unrecorded alcohol



Source: Rehm et al. (2022)

Countries differ substantially in terms of the proportion and volume of unrecorded alcohol consumed (Figures 2 and 3) and also in the spread of unrecorded alcohol across the various categories of unrecorded alcohol (Figure 4).

South Africa falls into the category of countries having 20%-30% of their total alcohol consumption unrecorded, with 2.0 to 2.5 L of unrecorded alcohol consumed per capita per annum, and in which the two largest categories of unrecorded alcohol consumption are homemade alcohol (#1) and illegal production (#2), followed by lesser amounts of alcohol bought over the border and surrogate alcohol (Probst et al., 2019).

Unrecorded alcohol can be legal or illegal. It should be noted, however, that the distinction between categories is not always clear. For example, homebrewed alcohol can fall into the category of legal but unrecorded alcohol and also into the category of illegal homemade and/or artisanal production, depending on whether the homebrew is sold or not. In general, unrecorded alcohol is cheaper than recorded alcohol, and as Rehm et al. (2022) make clear, “As a result of this price differential, any policy

which aims to use tax increases on recorded alcohol in an effort to reduce consumption will only reach its full potential if there is little switching by drinkers to the less expensive unrecorded alcohol as a result of the tax hike” (p. 3). Alcohol intended for industrial or medical purposes and alcohol obtained through cross-border shopping are also examples of legal, but unrecorded alcohol. Another problem with unrecorded alcohol, besides it being cheaper, is that it is sometimes less healthy (see Section 3). It should, however, be noted that cheap, recorded alcohol can also be unhealthy (London et al., 2006), and MUP is also designed to move such products out of the market.

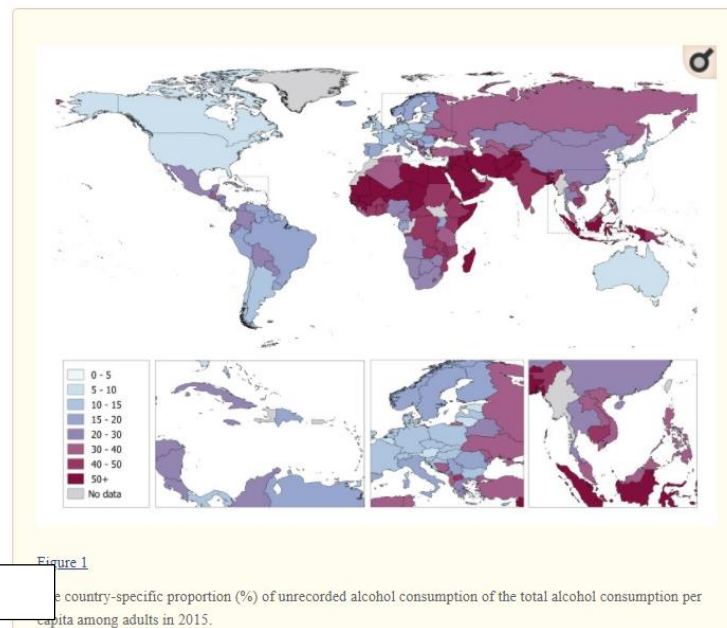


Figure 2

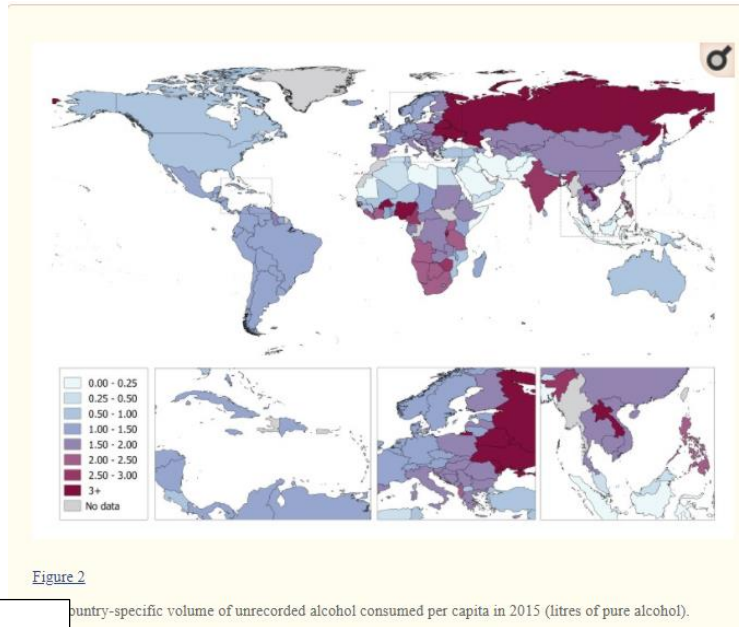


Figure 3

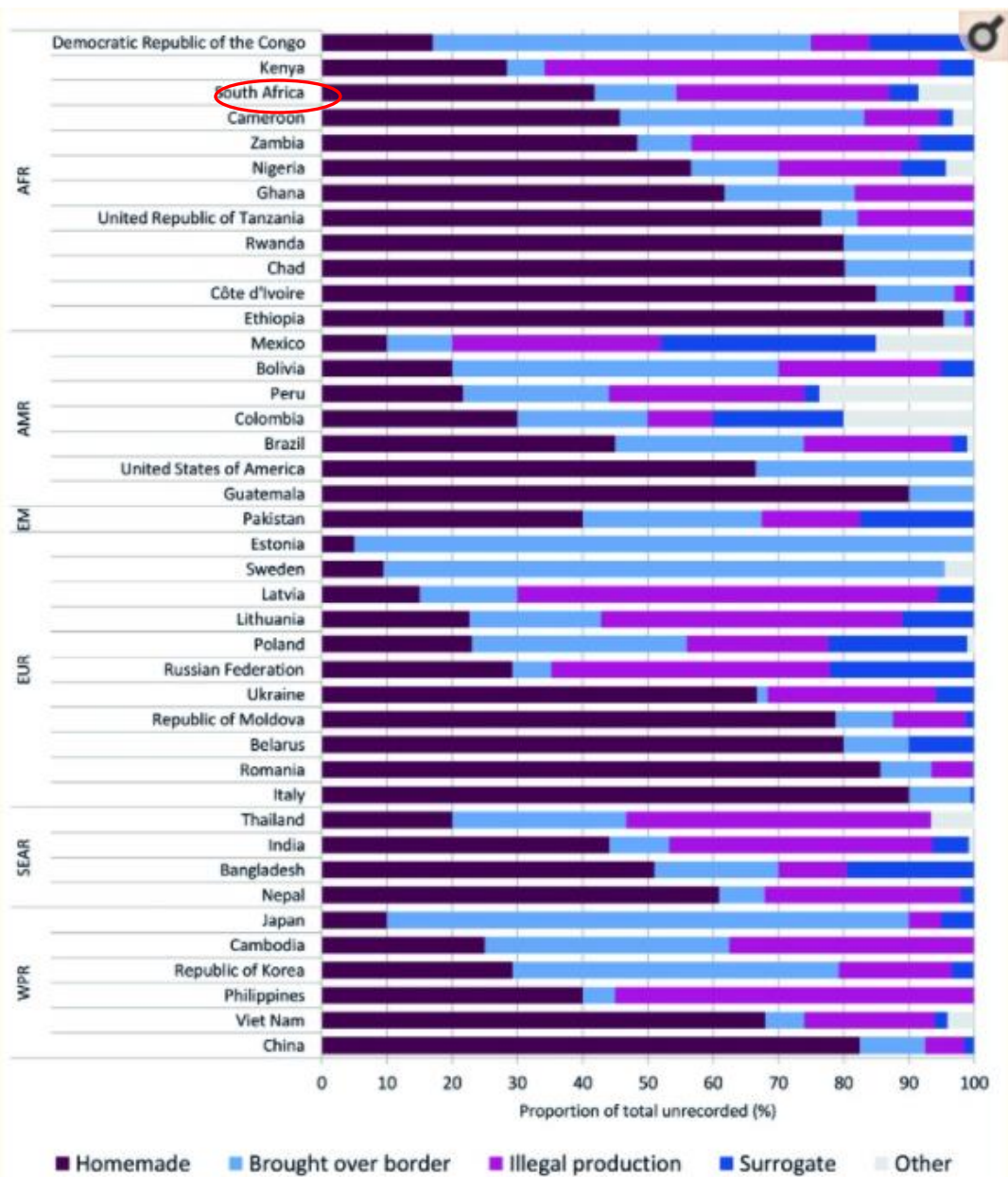


Figure 3

Sources of unrecorded alcohol in 2015 based on the nominal group expert assessment, by World Health Organization region, AFR – African Region, AMR – Region of the Americas, EM – Eastern Mediterranean Region, EUR – European Region, SEAR – South East Asian Region, WPR – Western Pacific Region.

Figure 4

Source

for Figures 2-4: Probst et al., 2019:

Legal but unrecorded alcohol products in South Africa

This essentially refers to homebrewed/home distilled alcohol products, i.e., beer made from sorghum, pineapples, or other products (beer-powder), fruit-based spirits, and wine for home consumption. If these products are made for home consumption or given as gifts, they are not illegal.

Alcohol products recorded elsewhere but not in South Africa where they will be consumed (cross-border trading/shopping)

This category refers primarily to recorded alcohol products purchased in neighbouring countries and imported into South Africa. While there are limits on the quantities of different alcohol products that can be brought into the country by an adult resident or non-resident without incurring import duties (see below), these products are legal if they are within the duty-free allowance or duty has been paid.

Surrogate alcohol

This category refers to alcohol not intended, or not officially intended, for human consumption and includes products containing alcohol, such as mouth-wash, perfumes, colognes, lotions, and codeine-based cough syrup containing 18% alcohol by volume; denatured alcohol, i.e. alcohol products adulterated with toxic and/or bad tasting additives (e.g., methanol, benzene, pyridine, castor oil, gasoline, isopropyl alcohol, and acetone) making them unsuitable for human consumption; medicinal compounds, such as rubbing alcohol or other products that in some countries contain alcohol, such as windshield washer antifreeze liquids and alcohol-based hand sanitizers. Such products are generally not illegal unless they are sold to others as ethanol products (Lachenmeier et al., 2021).

Illegal homemade artisanal production

This essentially refers to homebrewed alcohol products, i.e., beer made from sorghum, pineapples, or other produce, fruit-based spirits, and wine for home consumption, which becomes illegal when sold commercially. This production is often on a small scale by subsistence producers, typically women from poorer communities. Sorghum beer is estimated to comprise 86% of the illicit homebrew market, followed by other fermented beer at 14% (Euromonitor International, 2021). Sorghum-based beer is popular

among older generations with less income and in rural areas (+45 years) whereas pineapple beer consumption occurs across income ranges.

Illegal production and smuggling on a commercial scale

As the heading implies, this refers to the illegal production of alcohol for commercial purposes and includes alcohol made on an industrial scale outside of the legal system, i.e. without a manufacturing license, or made through legal outlets but then diverted for resale outside of the legal market through being diverted “out the back door” to avoid taxation (“third shift”), or through being destined for the export market (and not incurring excises taxes) and either never exported or taken off-shore and then smuggled back into the country and sold without the excise duties being added (Lachenmeier et al., 2021). This category also includes alcohol originating from outside the country but smuggled in for resale either as ethanol as a raw material or as the finished product (at a similar price point as the original product), without the necessary import duties being paid or VAT added. It also includes counterfeit products which mimic the original product, often even in the same container, but consisting of a watered down or adulterated version. Spirits (especially vodka, whiskeys, and cane spirits) are the most counterfeited alcohol, as their production is relatively easier than that of fermented alcohol such as beer. These counterfeit products are usually priced lower than the legal ones according to a 2020 Euromonitor Survey (Khoza, 2021), driving demand for these products among lower-income groups in South Africa. Counterfeit, or so-called “knock-off”, products occur relatively infrequently according to industry sources because criminals do not yet have the specialist equipment and knowledge to make such products on a large scale (Moodley, 2021). Cross-border smuggling of alcohol can occur through both land and sea borders. It does not have to be the result of avoiding official border crossings but can also occur through the bribing of customs officials at borders.

Another problem is tax leakage. This refers to legally produced alcohol on which the required taxes have not been paid in the country of production. This would be the case when products are destined for export are either not exported or smuggled back into the country (called “round-tripping”) or when alcohol is produced locally but is diverted before it can be counted for taxation (called “third shift product”). It also occurs as a result of producers of sugar-fermented ales falsely declaring their products as fruit-based beverages or not declaring production volumes in order to avoid excise duties. It is hoped that the enactment and implementation of the 2021 Liquor Products Amendment Act will help to reduce this

problem (Ministry of Agriculture, Forestry and Fisheries 2021). Almost all of the tax leakage (99%) occur with sugar-fermented ales which are non-compliant in terms of the tariff classification of fruit-based beverages. Only 1% is estimated to come from low-cost wine (Euromonitor International, 2021). Sales of these products are concentrated in the Western Cape, Eastern Cape and Northern Cape, in areas located near vineyards and rural settlements and areas with high levels of poverty. Sugar-fermented beverages are generally positioned as low-cost wines but are around 60% cheaper.

3.3. HEALTH EFFECTS OF DIFFERENT SUB-TYPES OF UNRECORDED ALCOHOL AND POSSIBLE IMPACTS FOLLOWING THE IMPOSITION OF MUP

Sixty-two per cent of experts consulted in a global study reported that they viewed unrecorded alcohol as a public health problem (Probst et al., 2019). A systematic review of the epidemiology and chemical composition of unrecorded alcohol found that the public health concerns associated with the consumption of unrecorded alcohol are primarily due to the ethanol content and because of lower prices than recorded alcohol, which enables people to consume higher average levels of alcohol and to binge drink more often and more heavily (Rehm et al. 2014). However, some forms of unrecorded alcohol may also have a higher ethanol content and contain potential contaminants (WHO, 2010), and, as stated above, the low cost can promote heavy drinking (Babor, 2010). It has been estimated that, of the approximately 3 million deaths attributable to alcohol each year globally, 74.2% can be ascribed to recorded alcohol and the remainder to methanol (5%) and other unrecorded alcohol (20.8%) (Lachenmeier, 2021).

The five categories of unrecorded alcohol can be distinguished in terms of their potential health-related harms. By definition, unrecorded alcohol does not allow for quality control of its ingredients by health authorities. While some have argued that unrecorded alcohol consumption incurs more harm per litre of pure alcohol than does recorded consumption (Skehan et al., 2016), a recent review indicated that in most cases it does not pose a threat to health above the effects of ethanol itself (Lachenmeier et al., 2021). A major exception is the addition of methanol (Rehm et al., 2014) (see §4. 3 below). Any discussion of the possible negative effects of an increase in unrecorded alcohol use following the imposition of MUP must take into account the counter-balancing positive effects of a reduction in consumption, and especially a reduction in heavy drinking, resulting from the MUP.

As a result, it is important to consider both the varying possible harms of each category of unrecorded alcohol and the extent to which each category is likely to increase if MUP were to be implemented in the Western Cape/South Africa (see Table 1). The section below focuses on the former and §5 on the latter.

Legal but unrecorded alcohol products in South Africa

The harms associated with homebrews produced for own consumption, sharing with friends, or perhaps selling to neighbours (on a small scale) are far more likely to be from the ethanol consumed than as a result of contaminants, including products used to make the alcohol more potent, though this may occur (Lachenmeier et al., 2021). The main risk therefore would come if some consumers turned to homebrewing because the price of low-price alcohol products increased as a result of MUP and they found that the lower price of home-brewed products enables them to consume more ethanol, leading to more negative health effects.

Alcohol products recorded elsewhere but not in South Africa where they will be consumed

These products do not pose a health issue beyond the harms associated with persons consuming more alcohol because they have been able to obtain it more cheaply than they would be able to from local sources. Given the existing limits on the amount of alcohol that can be legally brought into South Africa without the imposition of import tariffs, the only negative health effects will accrue if the import duties do not keep pace with minimum unit pricing imposed in the Western Cape or the country as a whole (together with the added cost of paying for transportation from the place of origin) and thus make it cheaper to pay these extra costs than to purchase alcohol at the MUP or above.

Table 1. Overview table: Unrecorded alcohol: Legal status, health and economic effects should there be an increase in different forms of unrecorded alcohol with the introduction of MUP

Description	Legal	Effects	
		Health	Economic
Legal but unrecorded alcohol products in SA	Y	Consumers may consume more ethanol if the home-brewed products they turn to as a result of MUP cost substantially less	Lower revenue to govt since value added comes after point of sale.
Alcohol products recorded elsewhere but not in SA	Y	Similar to normal alcohol products, but people may consume more because they are cheaper	Loss of sales revenue Loss of local jobs Avoids local VAT

			Unlikely to avoid excise tax because of the common customs union unless from SACU (SACU)
Surrogate alcohol Example: products containing Methanol, ethylenedichloride and ethyleneglycol	N	Blindness Death Increased incidence of liver diseases More than 50 different major disease conditions, including some cancer types such as esophageal cancer, have been reported	Health costs associated with some products and loss of VAT for products sold illegally.
Illegal homemade artisanal production	N	Can result in negative health effects including liver disease and death if mixed with contaminants added to increase potency	Loss of sales revenue Health costs Loss of excise tax and VAT
Illegal production & smuggling on a commercial scale	N	- May contain additional toxic compound that can cause subsequent harm, predominantly to vulnerable populations ¹ - As with normal alcohol products, people may consume more because it is cheaper ¹	Loss of sales revenue Loss of excise tax and VAT Health costs if not produced according to normal product standards

Surrogate alcohol

The industry will, no doubt, argue that instituting MUP will lead to an increase in unrecorded alcohol use and that this will lead to an increase in alcohol-related harms from unrecorded alcohol, including in this case surrogates. While it is somewhat harmful to use perfumes and cough mixtures for purposes other than intended and it is especially harmful to use products containing methanol, ethylenedichloride, and ethyleneglycol (Lachenmeier, 2021), the use of surrogate alcohol is not high in South Africa (see §5 below) and there is no reason to think that instituting MUP will lead to a substantial increase in the use of surrogates (see §5.3).

There were several reported cases of the use of surrogate alcohol during the four periods in 2020 and 2021 during which alcohol sales were banned in South Africa to reduce community transmission and lower the burden of alcohol-related trauma on hospital capacity during the Covid19 pandemic. These included two cases of suspected fatal methanol poisoning at Port Nolloth (Chothia, 2020) and approximately eight in KwaZulu Natal (Khoza, 2021), but as Rehm et al. (2014) concluded in their systematic review, methanol deaths appear to be primarily individual tragedies and globally fewer than 0.1% of the global alcohol-attributable deaths are due to methanol. There is little reason to suspect that the percentage of methanol poisonings is any higher in South Africa. Given that a full ban on alcohol sales is likely to make alcohol far less available than price increase for cheaper alcohol as a result of MUP would, a substantial move towards the use of surrogate alcohol is unlikely if MUP is introduced. Furthermore, the health benefits of instituting MUP will undoubtedly outweigh any health harms associated with surrogate products.

Illegal homemade artisanal production

Homebrews are sometimes not produced in sanitary conditions and may in some cases contain lethal additives to strengthen the alcohol content. For example, methanol, methylated spirits, or battery acid are added to the concoctions. The alcohol industry will argue that instituting MUP will lead to an increase in this form of illicit/unrecorded alcohol use and lead to an increase in alcohol-related harms from methanol poisoning and particularly from other contaminants such as battery acid. However, during the more extreme total ban on alcohol sales for 164 days in 2020 and 2021, the number of people recorded as dying from methanol poisoning or suffering other negative health effects was not significant. A number of fatalities were reported in the press, including 7 at one incident in Cape Town (Ludidi, 2020) and two in the Northern Cape (Chothia, 2020). Fatalities were mentioned in a Euromonitor International (2021) study, but numbers were not given. It should be noted that these occurred during a complete ban on alcohol sales, which would not be the case if MUP was instituted. Some deaths would have been the result of people making their own contaminated concoctions and some the result of purchasing contaminated brews. The effect of a price increase for the lowest-priced alcohol is likely to be considerably less severe than a full ban on all alcohol sales, and while such harms do sometimes in the press, the harms associated with homebrews are far more likely to be from the quantity of ethanol consumed than from contaminants (Lachenmeier et al., 2021).

Illegal production and smuggling on a commercial scale

Some products that are smuggled or produced illegally (e.g. third-shift products) are not especially harmful to health in South Africa other than that people might be able to afford more, because they have not been produced under hygienic conditions. or because of harmful additives. Such harms, however, are unlikely at a population level to outweigh the health benefits resulting from instituting MUP and decreasing heavy alcohol (ethanol) use, especially among poorer sectors of society where harms tend to be greater (Probst et al., 2018). However, according to the Euromonitor International (2021) report, counterfeit products pose severe health risks because of the use of industrial alcohol (e.g., methanol) that is unfit for human consumption, and causes violence and cognitive impairment (such as vision and hearing problems). The natural experiment of the total ban on alcohol sales during the Covid19 pandemic suggests that the health risks are unlikely to be severe.

In summary, the main harms associated with unrecorded alcohol arise principally from the fact that these products contain ethanol, as do recorded alcohol products. Such products are a risk to individual and public health because:

- 1) They are typically cheaper than recorded alcohol products, enabling people to drink more.
- 2) They often have irregular or no labelling and contain alcohol of unknown strength, sometimes having a higher alcohol by volume (ABV) than recorded products. This is done to promote sales or because of lower manufacturing standards.
- 3) They have poor production standards, and in some cases contain contaminating toxins such as methanol) (Lachenmeier, 2021).

3.4. ECONOMIC EFFECTS OF MUP ON DIFFERENT SUB-TYPES OF UNRECORDED ALCOHOL

In 2015, South Africa's legal alcohol industry was estimated to contribute approximately R88 bn to the country's GDP and to directly and indirectly employ about 244,000 people (Short et al., 2017). A recent Euromonitor study (Euromonitor International, 2021) found that the South African economy suffered a loss of R6.4 bn in 2017 due to the activities of an illicit and unregulated alcohol industry that generates an annual revenue of R12.9 bn. According to the report, the largest share of the fiscal loss was attributable to the smuggling amounting to R2.4 bn of final alcohol products and raw ethanol used in the production of alcohol. The Euromonitor study further claimed that consumption of illicit alcohol in South Africa reached 498-million litres, or 14.5% of the total combined illicit and licit alcohol volume consumed in 2017. This represents an annual growth rate of around 4.3% between 2012 and 2017. As stated earlier, the Euromonitor International (2021) study estimated that the fiscal loss from the illicit market had a CAGR of 10% between 2017 and 2020, reaching R11.3 bn in 2020. This came mainly from unpaid excise and customs duties.

This section looks at the economic effects of MUP on different sub-types of unrecorded alcohol (see Table 1). The Euromonitor (2021) report gives some insight into the extent of the unrecorded market in South Africa, but it must be remembered that Euromonitor undertook this research on behalf of the South Africa Liquor Brand Owners Association (SALBA), the Beer Association of South Africa (BASA) and VINPRO, and it therefore may not be unbiased. The difficulties associated with collecting good information on what an illicit activity must also be taken into account, as well as the liquor industry's interest in overstating the extent of the illicit trade in alcohol to support their argument for less government regulation of the legal trade (including lower excise taxes).

This report will not include a detailed economic assessment of the impact of different levels of MUP on the economy and particularly on government revenue. The latter has already been done by Gibbs et al. (2021). They found that, overall, there is likely to be a loss in excise taxes due to the drop in consumption resulting from MUP, but this is likely to be countered to varying degrees by increases in VAT. At VAT rates of R5, R8, and R10 MUP, it has been estimated that the overall income from taxes (VAT + excise) would be greater than any losses in excise tax revenue.

As they did during the 2020 and 2021 bans on alcohol sales, the industry is likely to claim that MUP will result in an increase in illicit alcohol and consequent loss of revenue to the government. This claim will be examined for each of the different types of unrecorded alcohol set out in the Rehm et al.'s typology (Rehm et al., 2022), recognizing that government restrictions on alcohol sales in response to the Covid19 pandemic were a far more stringent intervention than raising the floor price of alcohol products at the lower end of the price spectrum.

Legal but unrecorded alcohol products in South Africa

Homebrewed products are not subject to excise tax, but some of the ingredients used in the production of these products are subject to VAT (e.g., sugar, but not fruit) and the establishments that sell these products may be subject to company taxes (on profits) depending on where the products are purchased. Furthermore, in the 2022 Budget Speech the Minister of Finance announced that a new tax will also be introduced on beer powders (Minister of Finance, 2022). Sorghum beer is also subject to a low rate of excise tax (34.70c/kg beer powder and 7.82c/litre of beer) and it is generally recognized that such products have been in decline for some time. Should there be an increase in home brewing as a result of the imposition of MUP there would inevitably be a relative decrease in excise tax, but this would in all likelihood be offset by an increase in VAT on alcohol products whose prices have increased because of the MUP (Gibbs et al., 2021).

Alcohol products recorded elsewhere but not in South Africa where they will be consumed

Products brought over land borders avoid direct excise tax in South Africa, but they provide revenue in neighbouring countries that are part of the South African Customs Union (SACU) and South Africa benefits economically from SACU revenue. If amounts over the duty-free allocation are brought in, then the government will gain revenue from import duties, and these are likely to offset any loss in excise taxes that would have resulted if the products were purchased locally. The economic effects, should there be

an increase in cross-border shopping for alcohol as a result of introduction of MUP, would therefore mainly be in loss of jobs, sales revenue and VAT.

Surrogate alcohol

These products, if purchased through legal channels, are subject to VAT which is likely to be less than the level of alcohol excise duties on regular alcohol products. As a result, there would be a drop in revenue accruing to the state if MUP leads to a drop in the purchasing of alcohol products and an increase in the use of surrogate alcohol. As explained earlier, a substantial increase in the use of surrogate alcohol is not expected if MUP is implemented in the Western Cape or in South Africa as a whole. Nevertheless, surrogate products not sold through legal channels would avoid VAT and some products might be harmful, resulting in health costs to individuals and/or the state.

Illegal homemade artisanal production

While some of the ingredients used in making these products and the containers in which they are sold attract VAT, in general the existence of these products in the market takes away from legally produced alcohol and this results in no excise taxes and less VAT than if they were replaced by recorded alcohol products. According to the Euromonitor International (2021) report, in 2020 illicit homebrew products cost the country just over R500m, mostly from fruit-based homebrews as the excise tax on traditional African beer is marginal.

Illegal production and smuggling on a commercial scale

Similarly, if the illegal production and smuggling of alcohol increased substantially after the introduction of MUP, this would also result in less excises tax and VAT being brought into the fiscus. According to the Euromonitor International (2021) report in 2020, alcohol smuggling cost the country almost R4.5 bn and counterfeit and illicit brands just over R3 bn. Tax leakage, as defined previously, was estimated to cost the country over R3 bn in 2020.

In summary, to varying degrees depending on the different types of unrecorded alcohol, should the introduction of MUP result in the increased use of unrecorded alcohol, there would undoubtedly be a decrease in excise tax especially, and to a lesser extent VAT. However, such losses should be weighed against the increase in VAT that would result from drinkers having to buy alcohol at the MUP. The introduction of MUP would also result in a reduction in health harms and associated costs borne by individuals and by society. These topics have been addressed by Gibbs et al. (2021). Their model estimated that there would be an increase in individual spending on alcohol of R32.77 billion in the year following the introduction of MUP in South Africa at R10 per unit, and that the government would see an increase in VAT as a result of the increased prices but a reduction in excise tax due to the reduced volume of alcohol sold. Retail revenue would also increase. Any consideration of the economic effect of an introduction of MUP should also consider its possible effect on volumetric increases in different types of unrecorded alcohol. This is the topic of §5.

3.5. ESTIMATE OF CURRENT EXTENT OF UNRECORDED ALCOHOL IN SOUTH AFRICA BY SUB-TYPE AND POSSIBLE EFFECT OF IMPLEMENTING MUP ON VOLUMETRIC USE OF EACH

Unrecorded alcohol is notoriously difficult to estimate accurately (van Walbeek et al., 2021). In 2015 it was estimated that the proportion of unrecorded alcohol consumed in Africa was 32.1% (or on average 1.9 L per capita of absolute alcohol), higher than the global average of 25.0% (1.6 L per capita) (Probst et al., 2019). It has also been estimated by the WHO that 23.7% of the alcohol consumed in South Africa is unrecorded (2.2 L of 9.3L AA per capita (WHO, 2018a)), with a more recent (2020) estimate somewhat lower at 19.0% (South African Wine Industry Information and Systems, 2021). The estimate for South Africa is therefore substantially lower than the estimate for Africa as a whole, as a percentage of alcohol that is consumed, and is close to the global average. A more recent WHO Delphi survey of seven key informants in South Africa (WHO, 2021), however, provided estimates of unrecorded alcohol in the country ranging between 10% and 23%, with a mean of 15.7% and a median 15%. The Euromonitor International (2021) report claimed that, in 2020, 22% of the alcohol market by volume in South Africa was illicit and 12% of the total market by value. It further contended that between 2017 and 2020 the illicit market had a 10% CAGR. This definition of illicit alcohol excludes homebrewed alcohol for own use, although it is included in discussions of unrecorded alcohol. Reviewing the methodology used by

Euromonitor, it is hard to see what assumptions they used to arrive at their estimates and it is surprising that they did not put any confidence intervals around the figures they included in their report. As with the WHO Delphi figures, the numbers should be seen more as illustrative and having a more qualitative than quantitative meaning, rather than having a high degree of accuracy. It should be reiterated that the industry estimates differ substantially from consumer surveys like the International Alcohol Control Study conducted in Tshwane where, for example, only 1% (95% confidence interval: 0.4% - 2.3%) reported drinking homebrewed beer as their primary beverage (Trangenstein et al., 2018).

A recent paper by Rehm et al. (2021), after reviewing the evidence from a number of case studies, concluded that the impact of MUP in a country depends on various factors, including:

- The level and price of unrecorded consumption in the society and by the people who are currently consuming it or those who might consider consuming it.
- The availability of unrecorded alcohol products for the people most affected.
- Government countermeasures against unrecorded alcohol (see §6).
- The presence of large-scale producers of certain types of unrecorded alcohol, and a legislative framework that leaves room for tax evasion and the production of counterfeit alcohol, surrogates and other products which are not taxed or regulated.

Research conducted in the UK and other countries, which has looked at the effects of implementing MUP and of other tax increases, has generally not found a substantial move towards unrecorded alcohol or other negative behaviour. Livingston et al. (2021), for example, studied the possible effects of implementing MUP in Wales. The results of a survey they undertook found that, for low to medium risk drinkers and those with sufficient income, any increase in expenditure resulting from MUP is likely to be absorbed into existing budgets. For persons drinking at high risk levels and those with particularly low incomes, various possible coping strategies were proposed by those surveyed: going without or not paying some bills, borrowing from family members or friends, buying on credit (if possible), and cross-border shopping and purchasing of cheaper products in other countries. Only a few said they would cut down or seek professional support.

Buykx et al. (2021) studied actual behaviour of persons dependent on alcohol and seeking treatment in Scotland after implementation of MUP, as opposed to Livingston et al.'s study which looked at hypothetical behaviour in response to MUP being introduced. Two-thirds said they drank the same as

before and about half had sought treatment. A sizeable minority reported reduced alcohol consumption after implementation of MUP and about one-fifth said they had reduced expenditure on other things to allow them to buy alcohol at a higher price. Another study of persons in Scotland who drank at harmful levels, including those with alcohol dependence, found that, while in this population there was no clear evidence that MUP reduced alcohol consumption or the severity of dependence, only a minority experienced increased financial strain after the introduction of MUP (Holmes et al., 20220).

In general, research has found that in countries where the price of alcohol has been increased (through taxation or MUP) harmful coping strategies such as stealing alcohol, committing income-generating crimes, and substituting alcohol for non-alcoholic beverages or illicit drugs are relatively uncommon (Black et al., 2011; Falkner et al., 2015, Holmes et al., 2022). However, it should be noted that almost all the research has been conducted in wealthier countries in the northern hemisphere. Closer to home, Kenya has recently increased alcohol excise taxes and this has not been found to result in substantial increases in either unrecorded consumption or a decrease in government revenue (Rehm et al., 2022).

The focus of this section is on

- 1) the extent of unrecorded alcohol falling into each of the five categories outlined above and
- 2) the extent to which implementation of MUP in the Western Cape, or South Africa as a whole, is likely to increase the volume of unrecorded alcohol consumed in each category.

With regard to the first of these two issues, as indicated by Rehm et al. (2022) and WHO (2018a), unrecorded alcohol is by its definition “unrecorded” and not easy to measure but an attempt will be made to do this using data from a process used in South Africa in 2021 by WHO Delphi and from data provided by industry sources or sources funded by the alcohol industry (see Table 2).

Table 2. Estimate of unrecorded (or illicit) alcohol from different sources

	Estimate of unrecorded alcohol	Estimate of illicit alcohol
Type	WHO Delphi Survey, 2021 (median %)	Euromonitor International, 2021 (%)
Homebrewed alcohol for own consumption	A small proportion of the 27% brewed locally	

Alcohol sourced from cross-border shopping	2%	
Alcohol sourced from cross-border smuggling	28%	31%
Surrogate alcohol	0.5%	Not specified
Illegal homemade artisanal production	A large proportion of the 27% brewed locally	24%
Illicit production/counterfeit products	23%	23%
Tax leakage	22%	22%
Over all categories	23.7*	22%

*-from WHO, 2018

Legal but unrecorded alcohol products in South Africa

In South Africa, a substantial amount of home brewing is already taking place and is mostly consumed by less well-off consumers and rural populations. The 2021 WHO Delphi Survey (WHO, 2021) on unrecorded alcohol in South Africa in 2019 (prior to Covid19) provided estimates of homebrewed alcohol of between 20% and 97.5% of the unrecorded alcohol, with a median of 27%. Of the homebrewed alcohol, key informants estimated that between 4% and 30% was spirits (median 10%), 50%-93% beer (median 68%), 2% to 20% wine (median 5%) and 1% to 20% designated as 'other' (median of 14.5%). Twenty-seven per cent of the estimated 23.7% of alcohol that is unrecorded would suggest that just over 6% of the alcohol consumed in South Africa is from homebrews. Some of these homebrews are used for own consumption, but a substantial proportion is also sold informally (see §5.4). As part of the International Alcohol Control Study there was an investigation into the manufacturing of homemade alcohol in the Tshwane metropole around Pretoria. Nine per cent of the sample of adult drinkers in this representative household survey of persons 18 to 64 years reported brewing alcohol in their homes (Londani et al., 2019). Brewers were found to be more likely to be unemployed (AOR: 2.47, 95% CI: 0.99-6.20, p=0.049). Consumers of homebrewed alcohol were viewed as being mostly male, aged between 25 and 59 years old, and of low socio-economic status, with many being dependent on alcohol and generally coming from more rural populations, and persons designated as "hobby-ists" (Londani et al., 2019).

According to Rehm et al. (2022), if unrecorded consumption in society is legal or socially widely-accepted behaviour, then the risk of drinkers moving to unrecorded alcohol is greater if prices rise. This is supported by Livingston et al.'s survey (2021) into the possible effects of introducing MUP in Wales, as several interviewees said they might start home brewing. This was confirmed in Russia by Radaev (2015) which found that social networks and the availability of unrecorded alcohol were more important predictors of homemade alcohol consumption than was recorded alcohol price increase. The risk of an increased use of legal but unrecorded products if MUP is instituted is thus certainly a factor in South Africa where people are permitted to make and consume their own alcohol.

As reported in the media, when South Africa instituted full liquor sales bans as part of its Covid19 restrictions, home brewing for own consumption (and reselling) increased even among groups that previously had not been involved in home brewing, and shortages of pineapples were reported due to people making pineapple beer (Dall, 2020). A telephone survey of men with substance-use disorders also reported that homebrewing increased during the time of the alcohol sales ban (Morojele et al., 2022). In addition, a survey of 1500 respondents conducted by Euromonitor in South Africa in 2020 found that over half of the respondents ran out of alcohol during the first hard lockdown and 15% of consumers admitted making their own alcohol due to the sales ban (Euromonitor, 2021).

Alcohol products recorded elsewhere but not in South Africa where they will be consumed

There is a substantial amount of cross-border shopping between South Africa and neighbouring countries such as Lesotho, Swaziland, Botswana, Zimbabwe, and Mozambique. Most of this comes from goods being purchased in South Africa, but if alcohol prices were substantially less in neighbouring countries there could be movement in the other direction and a consequent increase in this form of unrecorded alcohol consumption.

Small quantities of alcohol (no more than 2 litres of wine and no more than 1 litre in total of other alcoholic beverages per person over the age of 18 years) may be legally purchased outside the country and brought back into South Africa without the payment of customs duty and VAT as accompanied baggage. Each traveller is entitled to these allowances once during a period of 30 days after an absence of 48 hours from

South Africa. Crew members are not entitled to any consumable allowances (South African Revenue Service, 2021).

The 2021 WHO Delphi Survey on unrecorded alcohol in South Africa in 2019 (prior to Covid19) provided estimates, for alcohol being transported over local borders through shopping or smuggling, of between 1% and 31% of the total volume of unrecorded alcohol (in 2019) with a median of 30%. Of alcohol brought over the border, 0% to 20% was estimated being brought in duty free (median 6.5%) with the remainder being smuggled or contraband liquor or being brought in with duty paid. The participants in the Delphi study identified those engaged in cross-border shopping of alcohol as mainly male, aged between 25 and 59 years of age, of varying socioeconomic levels, and generally not dependent on alcohol (WHO, 2021)

Livingston et al.'s (2021) survey of the possible effect of an imposition of MUP in Wales reported that some respondents said they would engage in cross-border shopping, presumably in England which borders Wales, and with which there are no formal border crossing points, but it could also involve countries like France and Ireland which are just a ferry ride away. Given the limits on the quantities of alcohol that are legally permitted duty and VAT free when travelling across borders into South Africa (and which are recorded elsewhere) and the travel costs of cross-border shopping, it is unlikely that there will be a substantial increase in unrecorded alcohol from cross-border shopping should MUP be introduced in South Africa. Given the distance from the Western Cape to international borders, it is even less likely to be an issue in this province. Cross-border shopping for alcohol is more likely to be a factor in a country like Lithuania, where there is easy access to neighbouring countries and already considerable cross-border trade (Rehm et al., 2022). The experience from Finland and other Nordic EU countries, where most of the unrecorded consumption comes from cross-border shopping, corroborates the argument that changes in taxation levels are not necessarily accompanied by changes in unrecorded consumption in the expected direction (Rehm et al., 2022).

The issue of cross-border purchases of lower-priced alcohol if MUP is introduced is not only an issue at a national level, but would also need to be considered if MUP was implemented in some but not all of South Africa's provinces. This would be especially relevant in provinces where liquor outlets in provinces without MUP were close to major population hubs in provinces with MUP. It stands to reason that if an MUP were implemented in the Western Cape, the price of low-quality and cheap alcohol would be greater in the Western Cape than in the neighbouring provinces of the Eastern and Northern Capes. This could lead to

interprovincial purchases, with cheap alcohol from the two neighbouring provinces being brought into the Western Cape. The districts closest to the provincial borders would be most vulnerable. Cities like Cape Town, and other areas further away from the provincial borders would be less vulnerable, given that the cost of transporting alcohol increases with distance from provincial borders. The Garden Route (as part of the Western Cape), however, would be exposed to cross-border purchases because it is home to a very large number of domestic migrants from the Eastern Cape and it is the main thoroughfare for people travelling between Cape Town and the Eastern Cape.

There is no information available on the impact of the alcohol bans in South Africa during 2020 and 2021 on cross-border shopping for alcohol, but as the transportation of alcohol during these bans was generally outlawed at the individual level, and in some periods even for alcohol producers, it is unlikely that it occurred to any great extent and certainly would not have happened legally.

Some lessons can, however, be taken from the countries reviewed in this report, their experience of cross-border activity, and what the authorities have done to curb this. In Scotland, although off-sales of some alcoholic drinks increased following MUP implementation, there was no evidence of large-scale cross-border activity (buying alcohol from nearby border towns in England for consumption in Scotland) (Giles et al., 2019; Patterson et al., 2022). However, there was some evidence of cross-border purchasing behaviour among individuals living within 15 km of the English border, and in particular those living near sizable English towns. Interviews with retailers indicated that cross-border purchasing was infrequent. Licensing near the border did not show a shift from Scotland to England following the introduction of MUP legislation. The interrupted time series analysis of off-trade alcohol sales data from 2013 to 2019 showed a small increase (less than 1.5%) in total alcohol sales in the north of England in the 12 months following the implementation of MUP, controlled for sales in the rest of England and Wales. Analysis also showed that large quantities of alcohol would need to be purchased to make significant savings, after meeting the costs of travelling from between 25 and 100 miles to the border (Patterson et al., 2022).

The northern territory (NT) of Australia had some concerns about inter-provincial trade following the implementation of an MUP. The NT is mostly a remote province, and this impacted cross-border sales. The NT Liquor Act 2019 prohibits the purchasing of liquor from outside the NT for sale to a person or venue in the NT without a license. Retailers outside the NT who wished to sell alcohol within it were subjected to the same laws as licensees within the NT. The distances that would need to be covered to

obtain cheaper alcohol generally discouraged the attempt, as did the associated extra freight costs (Clifford et al., 2020).

Increased smuggling following the imposition of MUP is more likely than cross-border shopping and will be addressed in §5.5.

Surrogate alcohol

The 2021 WHO Delphi Survey on unrecorded alcohol in South Africa in 2019 provided estimates of the use of surrogate alcohol ranging from 0% to 10% of all unrecorded alcohol (median 0.5%), with users of surrogate alcohol most likely to be males, aged between 25 and 59 years, of low socioeconomic status, and with many being dependent on alcohol (WHO, 2021). Livingston et al.'s research on the likely impact of MUP on drinkers (predominantly harmful drinkers and persons seeking treatment) in Wales found that the likelihood of switching substances was related to their existing behaviour patterns. Where drinkers did not use other drugs, the perceived likely consequence of MUP was switching from one brand of alcohol to another. For those with prior experience of drug use, switching away from alcohol was more likely, and this would most likely be to substances that mimic the effects of alcohol, such as benzodiazepines. Cannabis emerged as another possible substitute. There were also occasional references to the possible substitution to non-beverage alcohol (hand sanitizers or methylated spirits).

Opponents to the MUP in the NT of Australia argued that there would be substantial transference from alcohol to non-liquor items. The main argument related to harmful drinkers mitigating the increases in price through either substituting to cheaper alcohol or to non-liquor alcohol products (such as methylated spirits or mouthwash) (van Walbeek et al., 2021). However, little evidence of transference between beverages targeted by the MUP and those not targeted by it was found.

Buykx et al. (2021) studied Scotland post-implementation of MUP. They also found little evidence of substitution to other substances or the consumption of stolen or black-market alcohol, despite the prior warnings that an MUP would lead to switching in Scotland. Faulkner et al. (2015) studied 155 severely dependent drinkers undergoing detoxification in New Zealand. Many said that when they could not afford alcohol, they would seek treatment or go without. Only a few said they would steal or seek out non-beverage alcohol. A number said they would use illicit drugs, mainly cannabis, which is less harmful than

alcohol. A more recent study of persons in Scotland (Holmes et al., 2022) who drank at harmful levels, including persons with alcohol dependence, found little evidence of increased consumption of non-beverage alcohol after the introduction of MUP.

Erikson et al. (2018) investigated possible effects of MUP in Canada among homeless persons with alcohol dependence. When such persons could not afford alcohol, the most common reported coping strategies were identified as re-budgeting (53%), waiting for money (49%), or going without alcohol (48%). However, a significant proportion used illicit drugs (41%) and/or drank non-beverage alcohol (41%).

In South Africa, products such as perfumes and hand sanitizers are not routinely substituted for ethanol on a large scale, as ethanol is cheap and readily available, and these products are often more expensive. Should alcohol become affordable to some drinkers following the implementation of MUP, the most likely substitutes for ethanol are likely to be mouthwash, cough syrups containing codeine and alcohol, and hand sanitizers. It is also possible that should low-cost alcohol not be available that some people might switch to other substances such as cannabis, which is both legal (for private use) and also cheap. There were certainly anecdotal reports of a few instances when these products were used during the periods when alcohol was not available for 164 days in 2020 and 2021 because of the Covid19 bans. With regard to methanol in particular, a relatively small number of fatalities were reported in the press during the liquor sales bans of 2020 (Ludidi, 2020; Tracit, 2021). The Euromonitor International (2021) report referred to 14 methanol related deaths in one month in 2020 and indicated a 4.3% CAGR in total surrogate consumption between 2017 and 2020 to 10.013 hectolitres. However, in general, the risk of increased surrogate alcohol use is likely to be similar for low-income drinkers in South Africa and in the Western Cape province to those in the NT of Australia and Scotland, and the substitution from low-cost alcohol to drugs or non-liquor alcohol products is unlikely to occur on a large scale in South African jurisdictions.

Illegal homemade artisanal production

Radaev's research in Russia found that the character of social networks and the availability of unrecorded alcohol for sale were more important predictors of homemade alcohol consumption than price increases in recorded alcohol (Radaev, 2015). In Thailand, an increase in taxation on spirits resulted in only slight increases in illegally distilled spirits, and only in communities where such distilling was common before

the tax increase, supporting Radaev's findings. At a country level, the overall impact on unrecorded consumption from tax increases in Thailand was negligible (Chaiyasong et al., 2011).

There is a fair amount of illegal homebrew production and sale in South Africa. As mentioned in §5.1, the 2021 WHO Delphi Survey provided estimates of homebrewed alcohol comprising between 20% and 97.5% of the unrecorded alcohol, with a median of 27%. Some of these homebrews are used for own consumption, but a substantial proportion is sold informally. According to Euromonitor International (2021), 24% of the illicit alcohol market consists of homebrew (or 21% of the rand value of the illicit alcohol market — R4.3 bn). Other sources have suggested that illicit home brew comprises up to 86% of the total illicit market in South Africa (van Walbeek & Blecher, 2014). Increased homebrewing for resale would certainly be a risk if MUP was implemented in South Africa, especially as the small-scale brewing and selling of homebrew alcohol, particularly by women, is commonplace and tolerated by the authorities even if technically illegal. However, drinking homebrewed alcohol is not generally aspirational in South Africa, especially for younger, urban populations. A representative household survey conducted in Tshwane, for example, found that only 1% (95% confidence interval: 0.4% - 2.3%) reported drinking homebrewed beer as their primary beverage (Trangenstein et al., 2018). Furthermore, the alcohol-content of home brews is generally lower than many forms of industrially or semi-industrially produced alcohol products and they “spoil” quite quickly if not drunk soon, which limits their potential both for trade and for harm.

This view is somewhat counter to that of the industry-funded Euromonitor Study, which has suggested an increasing popularity of illicit homebrewed alcohol, with an estimated CAGR of 12.5% in volume between 2017 and 2020 (Euromonitor International, 2021). The possibility of transference from commercially produced alcohol to homemade brews or illegal purchases following the imposition of MUP will definitely be raised as a concern in the South African context by the alcohol industry, given its response to the periodic bans on alcohol sales during the Covid19 lockdown. Perhaps the more important questions to ask are,

- 1) will an increase in the use of homebrewed alcohol (even if some is illicitly sold) be particularly harmful from a public health point of view, and
- 2) will it result in a substantial reduction in tax revenue for the fiscus?

The answer to the first question is likely to be “no” in terms of broader public health, though a few individuals will get sick and possibly even die from contaminated alcohol products (but negligible

compared to the +/-40,000 deaths from alcohol each year (Matzopoulos et al., in press). To the second question, the answer is that any loss in excise revenue is likely to be recovered from increased VAT received on other products being sold above the MUP (Gibbs et al., 2021).

Illegal production and smuggling on a commercial scale

Between 1% and 30% (median 23%) of all unrecorded alcohol in South Africa in 2019 was estimated to result from illegal production, with users of illegally produced alcohol being described as most likely to be males, between 25 and 59 years, of low socioeconomic status, of whom some are dependent on alcohol and others not. The remainder (~77%) relates to unrecorded alcohol that is not illicit, i.e., homebrews, cross-border shopping, and surrogate alcohol (WHO, 2021). According to Euromonitor International (2021), 23% of the illicit alcohol market consists of counterfeit products (or 21% of the rand value of the illicit alcohol market - R4.7 bn), 31% comes from smuggling (R6.4 bn), and 22% from tax leakage (R4.5 bn). The remaining 24% was estimated to come from illicit sales of homebrewed alcohol. There is thus a wide discrepancy of views regarding the proportion of unrecorded alcohol that is illicit, varying from 23% to ~76%. Of the different alcohol types, the illicit alcohol market by volume is dominated by spirits due to the higher profit margin. This market is estimated to be made up spirits (48%), homebrews (beer and fruit-based beverages, 24%), sugar fermented ales (22%), ethanol (4%), wine (1.7%), beer (0.1%) and cider/RTDs (0.001%) (Euromonitor International, 2021).

One of the alcohol industry's main contentions in Scotland was that the MUP would harm businesses, as they argued that a large section of the alcohol market would be lost and that the MUP would fuel a growing illicit alcohol trade. Opponents to an MUP in the Western Cape and South Africa are likely to make the same claim, given the high levels of unemployment in the country and the previous use of this argument by the industry. One of the alcohol industry's most persistent criticisms of the South Africa's recurring alcohol sales bans in 2020 and 2021 was that they would fuel the illicit market (van Walbeek et al., 2021).

As a large proportion of the alcohol sold in South Africa is purchased from legal outlets (wholesalers and taverns) but sold through unlicensed shebeens at a slight mark-up, the effect of MUP on this situation needs to be considered. If the price of lower-priced alcohol increases due to MUP and it is sold at a slight premium through unlicensed outlets, this might undermine the business model of such outlets. It might

force their clients to drink less, but they might also look to illegal sources to supply cheaper, stolen alcohol, counterfeit alcohol, alcohol smuggled across borders into the country, or alcohol produced by 'third shifts' or obtained by diverting liquor destined for the export market and thus avoiding taxes. This will be discussed below.

Alcohol smuggled across borders

As mentioned above, the 2021 WHO Delphi Survey of unrecorded alcohol in South Africa in 2019 provided estimates of alcohol being transported over provincial borders, through shopping or smuggling, of between 1% and 31% of the total volume of unrecorded alcohol (in 2019), with a median of 30%. Between 80-100% of alcohol brought over the border was estimated to be smuggled or contraband liquor (median 93.6%). By implication, the remainder (0%-20%) was brought across borders legally. According to Euromonitor International (2021), smuggled alcohol was reported to be the category of illicit alcohol having the largest CAGR between 2017 and 2020, at 13.4%, versus 12.5% for illicit homebrew, 8.6% for counterfeit and illicit brands, and 5.2% for tax leakage.

The extent to which there would be an increase in the smuggling of alcohol across borders (particularly spirits) would depend on whether minimum prices were raised sufficiently high to make it worthwhile to purchase alcohol in a neighbouring country and pay for it to be smuggled across the border (involving both the transport costs and the costs of the smuggling operation). This would certainly be a risk if the minimum price was raised to a very high level, but such increases are unlikely, given that spirits are generally priced higher than beer or cheap wines, which are the items most likely to be affected by the imposition of MUP. Beer and wine products are, however, bulkier to transport and have smaller amounts of pure alcohol by volume. It is worth noting that the risk of smuggled alcohol might be mitigated by the uptake of MUP in neighbouring territories. South Africa carries considerable weight in deciding the SADC alcohol policy and one would hope that implementation in the Western Cape could prompt uptake in other provinces and then in neighbouring countries.

However, it should be noted that the introduction of a levy on alcohol products in Botswana in 2008 and its gradual increase might have led, anecdotally at least, to an increase in smuggling of alcohol into the country, driven in part by the lower price of alcoholic beverages in South Africa. However, with decreases reported for household spending on alcohol, any increase in unrecorded alcohol from smuggling was not

at all likely to increase the level of consumption from the introduction of the levy or other measures introduced at the same time (Rehm et al., 2022). With MUP in South Africa or the Western Cape likely to be R6-R10 per 12 g unit of alcohol, the differential in prices is not likely to be as great as it was between Botswana and South Africa, where the levy at times added 55% to the price of beverages.

According to the Euromonitor International (2021) report, there was a 9 percentage point increase in the volume of alcohol smuggled into South Africa in 2020 compared to 2017. This particularly involved finished products such as brown spirits (whiskies and brandy) and white spirits (vodka and gin). West African countries (Ghana and Nigeria) were particularly mentioned as sources of cheap smuggled spirits (particularly sachets). This report referred to 15% of smuggled products consisting of ethanol that was subsequently used to make fake alcohol products. While fermented products generally see much lower volumes of smuggling as they have lower profit margins than spirits, the Euromonitor report also mentioned homebrew being smuggled from Zimbabwe during the 2020 lockdown. According to a newspaper report, the police minister was cited as saying that in May 2020 there had been an increase in alcohol smuggled into the country from Eswatini, Zimbabwe, Lesotho, and Mozambique (Dolley, 2021), but it should be noted that this was during a period when no alcohol sales were permitted rather than in response to an increase in the price of low-cost alcohol such as would occur with MUP.

Theft of alcohol for resale

A further issue that would, however, need to be borne in mind in the South African context should MUP be instituted is the theft of alcohol for resale at below the MUP. This was an issue during the 2020 and 2021 full liquor sales bans (Dolley, 2021), but it should also be taken into account that job losses were extremely high during this time and that it was not just lower-priced alcohol that was not available for sale during this time, but all alcohol. A recent study of persons in Scotland (Holmes et al., 2022) who drank at harmful levels, including persons with alcohol dependence, found little evidence of theft or other crime after the introduction of MUP.

Counterfeit and illicit alcohol products

According to the Euromonitor International (2021) report, there was a 7 percentage point increase in the volume of counterfeit and illicit alcohol brands in South Africa in 2020 compared to 2017 (from 15% to

22%). Spirits (especially vodka, whiskies, and cane spirits) are the most counterfeited alcoholic drinks, as they are relatively easier to produce than fermented alcohol such as beer. These counterfeit products are usually priced lower than the legal ones, driving demand among lower-income groups in South Africa. The liquor industry is likely to imply that these alcohol-related criminal activities could increase if minimum pricing is instituted. This is certainly a possibility, but the financial opportunities of making alcohol available at the lower end of the market would be substantially less than was the case when alcohol sales were banned completely during the four periods of alcohol sales bans in 2020 and 2021. Holmes et al.'s recent study (2022) of drinkers in Scotland who drank at harmful levels, including persons with alcohol dependence, found little evidence of an increased consumption of illicit alcohol after the introduction of MUP.

It is hard to say whether increasing the MUP of alcohol products would lead to an increase in counterfeit products appearing on the market. Spirits are the product most likely to be counterfeited, but these are usually sold above the minimum unit price, which is more likely to affect cheap beers and wines. Instances of counterfeit products, such as Smirnoff Vodka, appearing on the market were reported during the lockdown periods in 2020/2021 (Tracit, 2021), but, again, it should be noted that this was during a complete ban on alcohol sales.

As for cheap wine products, these are already available in the form of bag-in-box wines. Given the current surplus of wine in South Africa as a consequence of the government stopping wine exports in 2020 and the possibility of this continuing because of, among other things, a serious recession in the Russian economy and the difficulties associated with transporting wine to that country, wine may well be sold illegally locally in order to get rid of the surplus wine.

Tax-leakage and avoidance of excite tax duties

In principle this could be an issue, especially with regard to spirits, should MUP be implemented in South Africa. There is already a risk of duty-free liquor (destined for the export market) being diverted to the local market and sold at lower prices. In September 2021, there were reports of the South African Revenue Service and the South African Police Service seizing in excess of 12,700 cases of duty-free liquor from a warehouse in Mpumalanga (Van der Merwe, 2021). This may have been destined for the local market where it would be sold cheaply. In general, as already stated, spirits are likely to be less affected by MUP

because the current price per unit is generally high because of higher excise duties on spirits, and from other factors. As a result, MUP is likely to have much less effect on prices paid by spirit drinkers, and MUP is unlikely in itself to contribute substantially to greater excise tax avoidance. In addition, the introduction of MUP would make the sale of such spirits below the MUP threshold more noticeable..

3.6. POSSIBLE MITIGATING STRATEGIES BY SUB-TYPES OF UNRECORDED ALCOHOL

Various strategies have been put forward in the literature to reduce unrecorded alcohol or mitigate its effects. However, as indicated by Lachenmeier et al. (2011), many of these approaches are not as sophisticated or evidenced-based as the options for recorded alcohol and are often based on the experience of a single country. It has been proposed by the alcohol industry that reducing the price of alcohol by, for example, reducing excises taxes would reduce unrecorded alcohol. This strategy will not be considered here as it is antithetical to minimum unit pricing and is likely to lead to an increase in alcohol consumption and associated harms, as well a decrease in tax revenue (Lachenmeier et al., 2011). It is also possible that if recorded prices were lowered that producers of unrecorded alcohol would also lower their prices, leading to even greater consumption of alcohol (Lachenmeier et al., 2011).

In general, introducing MUP in gradual increments over time (e.g., annually), rather than by a large initial increase, is likely to decrease the likelihood of alcohol consumers at the lower end moving to unrecorded alcohol. An important challenge is to find the optimal starting level for the MUP, and not to necessarily stop there, but to increase MUP levels over time. In addition, increased policing of existing measures around the production and sale of unrecorded alcohol and the swifter imposition of sanctions on offenders are also likely to discourage the use of such products. The imposition of sanctions is broadly agreed upon as a way to decrease alcohol-related harms from both recorded and unrecorded alcohol and it will not be given specific attention in this paper.

Table 3 provides a more detailed list of measures that have appeared in the literature categorised by the different types of unrecorded alcohol. These have been colour-coded, with those in green showing the greatest promise and those in red the least. This determination is based on research data (where available) and, where the research base is weak or non-existent, on logic.

Legal but unrecorded alcohol products in South Africa

In terms of volume, one of the most problematic categories of unrecorded alcohol in a country like South Africa is home and small-scale artisanal production coming from thousands of small-scale producers

(Lachenmeier et al., 2011; Rehm et al., 2014). Addressing these is more complicated than addressing large-scale criminal entities that produce illegal alcohol on an industrial scale. It may also be ill-advised for government to interfere with small-scale and artisanal production as these may be seen as part of the national or sub-regional heritage and a valuable home-based industry, especially for poor women. As a result, what is likely to be more useful here than shutting down such enterprises is better regulation of this sector and improving the quality of the product. The most promising option for this type of unrecorded alcohol may be to offer financial incentives to the producers for registration and quality control (Lachenmeier et al., 2011; Rehm et al., 2014) (see Table 3).

Another option is to educate people about the harms of homebrew alcohol, including the dangers of additives such as battery acid or methanol, and the risk of very high alcohol levels due to an unregulated fermentation process, though in reality the beverage is often consumed before alcohol levels get too high. Educational campaigns could certainly be part of a basket of interventions, but as there is not much empirical support for educational campaigns in general as a means of reducing alcohol harms (Anderson et al., 2009), this should not be relied on. It might also be valuable to institute competitions and awards for quality as incentives for legal home producers to produce beverages of a consistently higher standard, but the impact is likely to be small because this would only target a small part of home production (Lachenmeier et al., 2011).

Alcohol products recorded elsewhere but not in South Africa where they will be consumed

This is less likely to be a major issue in most parts of the world, including southern in Africa, unlike regions such as northern Europe (Rehm et al., 2022). Cross-border shopping can be reduced by lowering individual travel allowances (Rehm et al., 2014) (see Table 3). Currently we have very low limits on the amount of alcohol that can be brought in duty free, so these are likely to be sufficient, but this does not address the risk of alcohol being smuggled over porous borders or border guards being bribed to look the other way (see §6.5).

Another solution would be to institute bilateral or multilateral harmonization of taxes by neighbouring countries that are affected (Rehm et al., 2022). We already have the Southern African Customs Union (SACU) so there is a forum in which to persuade neighbouring countries to agree to MUP on alcohol products, but there is no guarantee that they would. Furthermore, as Rehm et al. (2022) indicated, the

tax rates do not need to be exactly the same in all participating countries, as prices would inevitably be increased by trade across borders because of additional transportation expenses. At the very least, if MUP is instituted at a national level it would be helpful to ensure that import tariffs for people transporting alcohol into the country from a neighbouring country are increased if this is necessary to ensure that alcohol cannot legally be brought in more cheaply than the minimum unit price imposed nationally or in a given province.

The issue of cross-border purchases to bring in alcohol at lower prices is not only an issue should MUP be implemented at a national level, but would also need to be considered if MUP was only implemented in some, but not all, of South Africa's provinces. To address this, the provinces considering introducing MUP should consider encouraging neighbouring provinces to introduce MUP at the same level.

Based on international experience, if MUP is instituted in the Western Cape province there is a risk of cross-border shopping happening in areas close to provincial borders in order to obtain alcohol more cheaply. However, given the transportation and time costs for individual consumers doing this, unless they live close to provinces without MUP, this is more likely to be undertaken by people seeking to move larger quantities of alcohol over the border for resale on the black market at a profit. This could be addressed by imposing restrictions on the transportation of alcohol above a certain quantity without a trading license, doing random searches of vehicles on roads near provincial borders, and seizing any liquor over the allowable limits where the proper paperwork cannot be produced.

Surrogate alcohol

There are a number of strategies that have been applied to reduce the production and consumption of surrogate alcohol in different countries (see Table 3). These include:

- Prohibiting substances with an unfavourable toxic profile that cannot be tasted in alcohol, which are used to denature non-beverage alcohol, and substitute with suitable substances, e.g., bittering agents (for example in Russia).
- Introducing minimum prices at the same level as beverage alcohol for cosmetic lotions containing more than a certain percentage of alcohol; alternatively, taxing such products at the same price as alcohol or abolishing tax exemption for denatured alcohol (Russia).

- Instituting regulations to reduce the container size of surrogate alcohol products or restricting the number of bottles that can be sold per person, or in other ways reducing the availability of surrogate alcohols, e.g., by prohibiting their sale in vending machines and in windscreen wiper fluid (Russia).
- Developing and introducing low-cost methanol detection systems to allow both producers and consumers the opportunity to avoid lethally contaminated alcohol (Kenya).
- Requiring retail outlets to place items such as methylated spirits or mouthwash containing alcohol "behind the counter" (Australia).

There is some evidence for the effectiveness of strategies implemented in Russia and Kenya and there is surface validity and few costs to considering the approaches that taken in Australia and Kenya (Carey et al., 2015; Khaltourina, 2021; Lachenmeier et al., 2011; Rehm et al., 2014/2022; Van Walbeek et al., 2021).

Illegal home-made artisanal production

There is, however, less evidence of the effectiveness of strategies aimed at addressing illegal home-made artisanal production for sale. Strategies proposed or considered elsewhere are set out in Table 3. They include:

- Integrating some types of unrecorded alcohol supply, such as traditional alcoholic beverages, into the commercial sector by offering financial incentives to home and small-scale artisanal producers for registration and quality control (Rehm et al., 2022).
- Providing alternative employment for those engaged in illegal alcohol production and distribution (Gururaj et al., 2021). This should certainly be considered as it is included in the Western Cape's Alcohol Harm Reduction White Paper (Western Cape Provincial Government, 2017), but it is likely to be very challenging to implement, it will take a long time to realize any benefit, and any home-brewers who are absorbed into other occupations are likely to be quickly replaced by others entering the illegal homebrew for sale sector.
- Actions to limit illegal trade and counterfeiting include the introduction of tax stamps and electronic surveillance systems of the alcohol trade (Rehm et al., 2014). This is also likely to be impossible to implement, especially as much of the illegal home-made artisanal production is beer, which is not sold in bottles or other containers to which tax stamps, barcodes, or QR codes can easily be affixed.

- It is also important to educate consumers about the risk of buying very cheap alcohol that may be adulterated.
- Obviously, intelligence-driven policing is important, as is ensuring the successful prosecution of those found to be engaging in illegal practices on a large scale, with appropriate sanctions applied swiftly. However, care should be taken not to punish small-scale producers and sellers of homebrews, typically poor women who have been making a living by selling homebrewed alcohol for decades (Schmidt & Room, 2012) unless they substantially increase their production in a way that would undermine the broader goals of MUP on a population level.

Illegal production and smuggling on a commercial scale

Several strategies have been proposed to reduce illegal production and smuggling on a commercial scale and associated harms (see Table 3):

- Put in place electronic surveillance systems to track the alcohol trade (Khaltourina & Korotayev, 2015; Lachenmeier et al., 2011).
- Use excise stamps that should be issued by the government and affixed to bottles of alcohol to indicate that excise duties have been paid. They also signal that the products are not counterfeit (Godden & Allen, 2017; Lachenmeier et al., 2011).
- Education, e.g., mass media campaigns (Lachenmeier et al., 2011).
- Pass a law placing minimal capital requirements on alcohol producers (Lachenmeier et al., 2011). There is unlikely to be support for this in South Africa as it goes against the principle of supporting small, medium, and micro-enterprises.
- Institute harsh penalties for counterfeiting alcohol (Neufeld et al., 2020).
- Support local authorities in conducting random tests to identify contaminated and counterfeit products and to identify sources of production (Lachenmeier et al., 2011).

Improve efforts to reduce cross-border smuggling by methods such as sharing data and intelligence among customs agencies in different countries, investing in scanning equipment, allocating of border control personnel/anti-smuggling teams to police borders, addressing corruption at border posts , assigning dedicated prosecutors to cases involving illicit trade and ensuring consistency of sanctions in cases where illicit traders are found guilty (Lester et al., 2012).Of these, perhaps the most attention has been given to the introduction of tax stamps, electronic surveillance systems, and increased enforcement

against illegal activities (Rehm et al., 2022). Russia was able to curb the large-scale production of unregistered alcohol substantially by means of the Unified State Automated Information System (EGAIS), which increased transparency and accountability.⁴³

According to Neufeld et al. (2020, page 13):

- Starting in 2016, EGAIS was introduced in a stepwise fashion for wholesale and retail sales of alcohol, including raw pharmaceutical alcohol, in urban and rural settings, covering all alcoholic beverages, although there were some limitations on tracking beer, cider, and mead.
- Producers and distributors had to buy EGAIS equipment and register with the system, which pushed many of the smaller companies and retailers suspected of selling illegally produced and/or untaxed alcoholic beverages out of the market.
- The implementation of EGAIS in the retail sector made illegal sales much more difficult as it allowed monitoring of the entire supply chain, enabling the final consumer to track the bottle purchased from the production plant to the point of sale using a mobile application that tracked a QR code on their purchase receipt.
- Today, EGAIS is one of the most advanced monitoring systems globally, processing data in real time, and although it does not cover the production and sales of cosmetic and medicinal alcoholic products, which are often misused as surrogates, its implementation was associated with decreasing mortality rates of alcohol-attributable deaths, as well as all-cause mortality.

In 2017, food supplements in Russia containing alcohol were banned and limits were placed on the quantity of some ethanol-containing medicines that could be sold to one person (Khaltourina 2021). In all, 144 countries reported having a system to track informally produced and illicit alcohol. The most common methods of tracking informal or illicit alcohol are police investigations (121 responding countries), complaint systems (83 countries), and case-by-case reporting (80 countries). Active surveillance (67 responding countries) and tracking by the liquor licensing authority (66 countries) were less commonly used methods (WHO, 2018a).

⁴³ <https://center-inform.ru/upload/iblock/ba8/%D0%A1%D1%82%D0%B0%D1%82%D1%8C%D1%8F%20%D0%BD%D0%B0%20%D0%B0%D0%BD%D0%B3%D0%BB%D0%B8%D0%B9%D1%81%D0%BA%D0%BE%D0%BC.pdf>

For South Africa, the main challenges to introducing a system like EGAIS to control sales of unrecorded alcohol are likely to be that homebrewed beer is the most common type of alcohol consumed, and especially of unrecorded alcohol, and that such products are not always sold in containers that can easily have a QR or barcode affixed. To enable a system like EGAIS, it would be necessary to outlaw the sale of beer in containers other than bottles or cans, and to actively enforce this policy. It does not make sense to pursue small home-based sellers of homebrewed beer, and the focus should be rather on targeting large-scale, commercial outfits.

The reduction in unregistered alcohol consumption over time in Russia has been partially ascribed to the implementation of the EGAIS system (Khaltourina & Korotayev, 2015), which increased transparency and accountability. EGAIS required that all sales outlets to be equipped with special cash registers that had to be licensed (Rehm et al., 2022). Systems like EGAIS include, but are not limited to, the use of proper tax stamps that allow the detection of unrecorded alcohol in the distribution system and give customers control over what they are buying (Rehm et al., 2022). The success of such systems will depend on the strength of the enforcement. This requires the development and maintenance of complex logistic and IT control networks to be effective (Godden & Allen, 2017). Many countries have track and trace systems. In fact, the South African Revenue Service (SARS) contemplated introducing such a system in South Africa for tobacco products in 2019 (Van Walbeek et al., 2021). A track and trace system can easily be extended to alcohol products, as has been done in numerous countries (Godden & Allen, 2017). Scanning equipment would also have to be installed in all licensed outlets where alcohol is sold. Any outlet found to be selling products without the necessary barcodes or QR codes could have their trading license suspended or be shut down if unlicensed. The cost of the scanning equipment could be made a condition of getting a liquor license and added to the cost of selling alcohol, which is after all not an ordinary commodity.

Coinciding with the implementation of the EGAIS system in 2006 in Russia was the introduction of new excise stamps, which were harder to counterfeit and replaced the old excise stamps. Government-issued excise stamps are affixed to bottles of alcohol to indicate that the appropriate taxes have been paid and to signal that the products are genuine (van Walbeek et al., 2021). However, stamps can also be susceptible to counterfeiting and may act as a cover for other fraudulent practices, such as the refilling of stamped bottles with illicit alcohol (Godden & Allen, 2017). Owing to the high cost of setting up such a system and the bureaucracy needed, excise stamps are not considered particularly effective (Lachenmeier

et al., 2011). To be effective, it is important to ensure that tax stamps are difficult to counterfeit and not overly costly, and that procedures are in place to prevent other potential abuses of the stamp system.

In Kenya, the only African country for which information is available, it was found that electronic stamps may have helped to combat some of the illicit trade in alcohol, but the alcohol industry has raised concerns about the cost. These may be genuine, or just a tactic to block alcohol policy reforms that are likely to reduce consumption. The use of tax stamps has been extended to beer, but no data are available on how effective this has been (Godden & Allen 2017). In November 2021, the Kenyan Revenue Authority introduced a new generation of excise stamps for excisable goods as part of its strategy of continuously reviewing and improving the security features of excise stamps to deter counterfeiting. The new security features can be verified using stamp verification tools provided to enforcement officers. Members of the public can also verify the stamps using the Soma label mobile phone app available on Google Play Store or Apple Store. The rollout will be implemented in three phases, with the first one targeting wines, spirits, ready-to-drink beverages, and beer. Keg beer will be covered in Phase 3 which began in February 2022 (Kenya Revenue Authority, 2021). In Morocco, the introduction of an advanced tracking system is credited by some with containing illicit activity in general, but a positive impact specifically for alcohol has not yet been indicated (Godden & Allen, 2017).

Also in 2006, the Russian government passed a law that placed minimum capital requirements on alcohol producers (Lachenmeier et al., 2011). This effectively drove smaller producers, many of whom contributed to the problem of unregistered alcohol production, out of the market. Implementing something similar in South Africa might also work if there was a commitment to enforcing such a policy, but politically it would be hard to sell in a country with high levels of unemployment and an interest in supporting small business development. As a counter to this, it should be remembered that MUP would result in increased revenue for the liquor trade. At some point Russia also instituted harsh penalties for counterfeiting alcohol (Neufeld et al., 2020).

Consumers also need to be educated on how to spot counterfeit alcohol products, focusing on the four “Ps”: place, price, packaging, and product (Moodley, 2021). It is not clear how effective education is in reducing the use of counterfeit products or associated harms, but the public should have this information and such campaigns are unlikely to be harmful unless governments think that this is all they need to do. The four “Ps” are indicated below:

- Place: Only buy alcohol from a reputable store or manufacturer.
- Price: Illegal alcohol is often sold at below-market prices. These prices are low for one of two reasons. Either the alcohol was smuggled into the country illegally without paying taxes or it has been stolen in a hijacking.
- Packaging: Look carefully at the label for duller and less accurate paintwork. Bottle tops are often made of inferior material and tend to bend or crumble on opening. Be wary of loose bottle tops and broken seals because this indicates a product that has been tampered with or is an inferior product.
- Product: Look out for fake versions that sport misspelt names of popular brands. Examine the bottle. Vodka is the most counterfeited spirit. If there is any sediment, or white particles floating in the bottle, it could point to a drink that has been diluted with tap water.

In summary, the increased use of unrecorded alcohol, especially homebrewing for personal use, homebrewing for resale, smuggling of alcohol (especially spirits) across porous borders, illicit production, and excise tax evasion are all very real risks should MUP be instituted. However, given that the cheapest alcohol is wine and beer, the illegal trade in spirits is likely to be less of a risk as most spirits products would normally be priced above the level of MUP. The health harms are likely to be greatest for homebrewed and counterfeit alcohol, especially if methanol and other harmful products are added. Illegal wine products below the MUP level are also likely to be sold underground. These would need to be countered in several ways:

Home-brewed alcohol

- Educate home brewers of the dangers of including certain products in their concoctions, and the public in how to identify unrecorded alcohol products and the risks associated with consuming such products.
- Increase efforts to bring more products brewed at home for resale into the regulated market, possibly through offering financial incentives for producers to register with the government, setting up systems that offer tax exemption for a transitional period for businesses that register, and conducting quality control tests and possibly offering incentives to legal home producers to improve the quality of their product through competitions and awards.

Surrogate alcohol

- Prohibit substances containing flavourless toxins, which have been introduced to denature non-beverage alcohol (e.g. bittering agents and colourants) and which must be applied to all forms of industrial alcohol, and find alternative ways to manufacture products that use industrial alcohol, such as windscreen washer fluids.
- Develop and introduce low-cost methanol detection systems to allow both producers and consumers to avoid lethally contaminated alcohol.
- Require retail outlets to place items such as methylated spirits or mouthwash containing alcohol "behind the counter".
- Introduce minimum prices at the same level as beverage alcohol for cosmetic lotions containing more than a certain percentage of alcohol, tax such products at the same price as alcohol, or abolish the tax exemption for denatured alcohol.
- Reduce the container size of surrogate alcohol products or restrict number of bottles to be sold per person, or in general reduce the availability of surrogate alcohols, e.g., by prohibiting their sale in vending machines and in windscreen wiper fluid.

Cross-border-smuggling

- Improve efforts to reduce cross-border smuggling by sharing data and intelligence between customs agencies in different countries, investing in scanning equipment, and allocating border control personnel/anti-smuggling teams to police borders, addressing corruption at border posts, and assigning dedicated prosecutors to cases involving illicit trade, and ensuring consistency in punishment in cases where illicit traders are convicted.

Illicit local alcohol production and trade

- Put in place electronic surveillance systems to track alcohol trade requiring a QR code to be placed on all products which must be scanned at key points along the distribution and sale chain before alcohol products can be sold in South Africa.
- Implement intelligence-driven policing to facilitate the targeting of large-scale operations that produce and sell unrecorded alcohol, possibly including hotlines with rewards.
- Institute harsh penalties for counterfeiting alcohol and ensure that cases are prosecuted.

3.7. CONCLUSION

As mentioned, the WHO estimate of unrecorded alcohol consumption for South Africa of 23.7% is substantially lower than the estimate for Africa as a whole, and close to the global average, and it may well be closer to 15% to 20% of all alcohol consumption. This is important when considering the base from which there might be an increase should MUP be implemented in the country. If the unrecorded alcohol consumption is, for example, 18%, even a 20% to 30% increase following the introduction of MUP would only result in 22% to 23% of alcohol being unrecorded. There is also no certainty that any increase in unrecorded alcohol would continue, especially if interventions such as those listed in the section above are instituted at the same time. Furthermore, it must be remembered that the Western Cape province has no land borders with foreign countries, which reduces the risk, and increases the expense, of overland transport for both legal and illegal imports and the transportation of illegally produced alcohol from other provinces.

There will be economic losses to the fiscus from any increased consumption of illicit (and unrecorded) alcohol, but these must be considered in the context of decreased economic costs as a result of decreased consumption overall from MUP, and of increased VAT from higher-priced alcohol in the retail market (Gibbs et al., 2021). As indicated in §6, there are a number of mitigation strategies that should be considered when implementing MUP at either a provincial or national level. If implemented properly, they are also likely to decrease the consumption of unrecorded alcohol.

An important mitigation strategy is frequent inspection of licensed outlets to ensure that products are not being sold below the MUP, and the imposition of sufficiently severe sanctions in cases that breach the regulations. In addition, the regulations prohibiting the production and sales of alcohol products without the necessary manufacturing and retail sales licenses need to be enforced. The focus should be particularly on industrial or semi-industrial production of illicit alcohol and the sale thereof.

The experience of implementing MUP in more developed contexts like Canada and Scotland is only of limited application to South Africa, but that of the Northern Territory of Australia, Kenya and Russia is more relevant. It would be naïve to think that there would not be some movement toward the use of unrecorded alcohol in a country like South Africa, with its high unemployment, and in a context where the rule of law is frequently not respected officials are known to be bribed. Some of these things are known

to have happened when alcohol sales were stopped during the Covid19 pandemic in 2020 and 2021 (see for example, Morojele et al., 2022). However, with planning, better enforcement of liquor trading regulations, and the introduction of new systems like tracking and tracing, there might well be a reduction of unrecorded alcohol use from current levels. If other proposed interventions were introduced, such as lower maximum blood-alcohol concentration levels for drivers, further controls on unlicensed outlets, better enforcement of existing regulations on hours of sale and the sale of alcohol to underage persons, and further restrictions on alcohol marketing, MUP can be an important component in a comprehensive strategy to reduce heavy drinking and its associated harms in South Africa.

As Stockwell (2015, p6) stated, it is important to stress that while it is likely that there will be some unintended negative consequences from introducing MUP, these need to be compared to the demonstrated benefits of MUP. Given the cost savings and increased revenue opportunities for governments that implement alcohol pricing policies, measures could be taken to offset negative impacts on low-income groups. The negative consequences that are feared for vulnerable populations of heavy drinkers may be minor and manageable.

To reduce the likelihood of substantial moves towards the consumption of unrecorded alcohol of any kind, consideration should be given to the appropriate level of the MUP, not beginning at too high a level but instead adjusting upwards over time. An important lesson from the temporary bans on the sale of alcohol in South Africa in 2020 and 2021 is that a sudden large decrease in the supply of alcohol (and similarly a very dramatic increase in the price of alcohol) would lead to an increase in the demand for illicit substitutes and incentivize illicit suppliers to enter the market to meet the new demand (Tracit, 2021).

While unrecorded alcohol is a major source of alcohol, comprising perhaps 15% to 20% of the alcohol consumed in South Africa, its existence, and even the risk of a likely increase in unrecorded alcohol should MUP be implemented, should not be an argument against further alcohol control measures being implemented, whether increasing excises taxes, introducing MUP, or measures to control further alcohol availability or marketing. Instead, countering unrecorded alcohol and any possible increase in its use following the implementation of control measures should be considered in light of the broader benefits of the implementation of the policy/control measures, and a concerted effort be made to implement a basket of mitigation strategies such as those listed in Section 6. Care should particularly be taken in the South African context not to criminalize the behaviour of small home-based brewers (often women) who

typically sell small quantities of unrecorded alcohol. Furthermore, it will be essential to set up systems to monitor the use of unrecorded alcohol products and any associated negative health consequences following the imposition of MUP (ideally to have these in place before it is implemented) so that the effects of policy changes on unrecorded alcohol and associated harms can be measured and adjustments made where necessary.

Table 3. Strategies for reducing the availability of unrecorded alcohol products and associated harms

Type of illicit alcohol	Mitigation strategy to reduce unrecorded alcohol or its negative effects	Countries where used (if any)	Evidence of effectiveness or general comment on effectiveness	Reference (primary or secondary) – by country	Priority*
Legal but unrecorded products (home and small-scale artisanal alcohol production)	Offer financial incentives for registration of producers, conduct quality control and purification of the alcohol (e.g. if spirits) and control the sale to the end consumer	Germany	No clear proof of effectiveness for countries other than Germany (during World War I). Expensive and less effective if main homebrewed product is beer	Lachenmeier et al., 2011	3
	Institute competitions and awards for quality as incentives for legal home producers to raise and maintain the standards of their beverages. Could also be an educational campaign to support this.	-	Will probably on a target a small part of home production so impact likely to be small but it has potential	Lachenmeier et al., 2011	1
	Set up a system that offers tax exemption for a transitional time period for businesses that register with the government and conduct quality control	-	Make logical sense but further research needed to evaluate this intervention plus it would require a long transition period and as a result, positive impacts would take a long time to be realised	Lachenmeier et al., 2011; Rehm et al., 2014	2
Cross-border shopping	Work to narrow or tax differences between neighbouring countries	-	May lead to harmonization at the lower level which is not a good thing but could in areas with a common customs union like Southern African Customs Union (SACU)	Lachenmeier et al., 2011	2
	Stricter controls on border crossings, small quotas for travelers' tax-free imports and increase import duties	-		Lachenmeier et al., 2011	1
Surrogate alcohol - toxic compounds (methanol, diethyl phthalate) used to denature alcohol for human	Prohibit substances with unfavourable toxic profile that cannot be tasted in alcohol as a way to denature non beverage alcohol (e.g. bittering agents and colourants) and which must be applied to all forms of industrial alcohol and	Russia	Worked to prevent intoxication or fatal poisonings from methanol and chronic toxic effects from other denaturing compounds	Lachenmeier et al., 2011; Rehm et al., 2014/2022	1

Type of illicit alcohol	Mitigation strategy to reduce unrecorded alcohol or its negative effects	Countries where used (if any)	Evidence of effectiveness or general comment on effectiveness	Reference (primary or secondary) – by country	Priority*
consumption and use of medicinal alcohol as surrogate alcohol	find alternative ways to manufacture products like windscreen washer fluids that use industrial alcohol.				
	Introducing minimum prices at the same level as beverage alcohol for cosmetic lotions containing more than 28% alcohol, alternatively taxing such products at the same price as alcohol or at the very least abolish tax exemption for denatured alcohol	Russia	Leads to price increase of consumer products containing denatured and decreased use	Lachenmeier et al., 2011; Rehm et al., 2022	1
	Reduce container size of surrogate alcohol products or restrict number of bottles allowed to be sold per person or in other ways reduce availability of surrogate alcohols e.g., by prohibiting their sale in vending machines and in windscreen wiper fluid	Russia	Results in loss of financial incentive to use surrogate alcohol	Lachenmeier et al., 2011; Rehm et al., 2022	1
	Develop and introduce of low-cost methanol detection systems to allow both producers and consumers the opportunity to avoid lethally contaminated alcohol	Kenya	Some evidence of effectiveness	Carey et al., 2015	2
	Require retail outlets place items such as methylated spirits or mouthwash containing alcohol "behind the counter"	Australia	None	Van Wabeek et al., 2021	2
	In 2017 alcohol-containing food supplements in Russia were banned and that same year limits were placed on the amount of some ethanol-containing medicines that could be sold to one person	Russia	-		2
	Restrict access to methanol	-	None		2
Illegal homemade artisanal production for resale	Educate people about the risks associated with illegal alcohol	-	None	Lachenmeier et al., 2011	2
	Offer financial incentives to the producers for registration and quality control	-	None	Lachenmeier et al., 2011;	2

Type of illicit alcohol	Mitigation strategy to reduce unrecorded alcohol or its negative effects	Countries where used (if any)	Evidence of effectiveness or general comment on effectiveness	Reference (primary or secondary) – by country	Priority*
				Rehm et al., 2022	
	Providing alternative employment for those engaged in illegal alcohol production and distribution	-	None	Gururaj et al., 2021	3
	Policing to close down		Will require a lot of resources and not necessarily culturally sensitive approach	Schmidt & Room, 2012	3
	Introduction of tax stamps and electronic surveillance systems of alcohol trade	Russia	Unlikely to work as well with myriad of small home producers and when main product is beer as opposed to spirits	Rehm et al., 2014	3
Illegal production & smuggling on a commercial scale	Put in place electronic surveillance systems to track alcohol trade	Russia	Reduction in unregistered alcohol consumption over time has been partially ascribed to the implementation of the EGAIS system. Will involve costs to implement (scanning equipment & software)	Khaltourina & Korotayev, 2015; Lachenmeier et al., 2011	1
	Excise stamps are issued by the government and are affixed to bottles of alcohol to indicate that excise duties have been paid and they also signal that the products are not counterfeit.	Russia, Denmark, Turkey, South Korea, UK, Kenya, Colombia, Morocco	Not so effective. High costs and bureaucracy	Godden & Allen, 2017; Lachenmeier et al., 2011	3
	Education (e.g. mass media campaigns)	-	Probably low effectiveness	Lachenmeier et al., 2011	3
	Pass a law placing minimal capital requirements on alcohol producers	Russia	This effectively drove smaller producers, many of whom contributed to the	Lachenmeier et al., 2011	3

Type of illicit alcohol	Mitigation strategy to reduce unrecorded alcohol or its negative effects	Countries where used (if any)	Evidence of effectiveness or general comment on effectiveness	Reference (primary or secondary) – by country	Priority*
			problem of unregistered alcohol production, out of the market		
	Institute harsh penalties for counterfeiting alcohol	Russia	-	Neufeld et al., 2020	2
	Support local authorities in conducting random tests to identify contaminated and counterfeit products and to identify sources of production	-	Cost effectiveness of random testing questionable	Lachenmeier et al., 2011	3
	Improving efforts to reduce cross-border smuggling through means such as sharing data and intelligence across customs agencies in different countries, investment in scanning equipment, and allocation of border control personnel/anti-smuggling teams to police borders, address corruption at border posts and in general assign dedicated prosecutors on cases involving illicit trade and ensure consistency in sanctions in cases where illicit traders are found guilty	-	-	Lester et al., 2012	2

*Priority: 1=high chance of being effective based on prior research or logic, 2= has potential as a strategy for reducing unrecorded alcohol use or associated harms, 3=little evidence of effectiveness or likely to be hurdles to implementing or having an impact

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